

1989

Distance education in the teacher education program of Zimbabwe

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**Distance education in the teacher education program of
Zimbabwe**

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Iowa State University, 1989

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Distance education in the
teacher education program of Zimbabwe

by

Susan Marie Zvacek

A Dissertation Submitted to the
Graduate Faculty in Partial Fulfillment of the
Requirements for the Degree of
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Iowa State University
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1989

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PREFACE

Dissertation research in the field of educational technology, traditionally, has been conducted in the objective, positivistic paradigm. This document is unlike that traditional model and may, therefore, seem unusual to the reader.

Because there was no standard format for dissertations involving naturalistic inquiry, a format was developed by the author that would allow a complete description of the research project without departing drastically from the familiar arrangement of information. Chapter One, Introduction, provides a background for the study. Chapter Two is a review of the current literature in the field, and also includes a discussion of the development of the Triad Perspective Model of Distance Education (TPMDE) that was created by the author out of the research and the three theoretical bases that guided this study. Chapter Three, Methodology, describes the data collection measures used, and Chapter Four is a summary of the data gathered. Chapter Five, Evaluative Description, is a discussion of the data, organized according to the TPMDE structure. Chapter Six is a discussion of the relevance of the project's results and the recommendations that were developed from those results. Five appendices contain the notes, responses,

and documentation from each of the data collection measures.

Although not a frequently used model in educational technology, naturalistic inquiry was the most appropriate choice for this study. By developing a comprehensive foundation of knowledge about the Zimbabwean distance education program, additional research will be facilitated. Research emphasizing objective, quantitative results or subjective, qualitative information will increase the level of understanding regarding distance education in the discipline. This study thus contributes to the field's knowledge-building process.

CHAPTER ONE

INTRODUCTION

This chapter is an introduction to the role and structure of distance education in Zimbabwe's teacher education program. The first section includes an overview of the recent history of teacher education as well as a description of the current program's status. The second section contains background information on distance education in Zimbabwe, in the teacher education program and in other educational settings, with a brief discussion of the many challenges surrounding the use of distance education in a developing nation. The chapter concludes with a statement of the problem and corresponding research questions are followed by the objectives, limitations, and significance of this study.

Teacher Education in Zimbabwe

History

The current educational structure in Zimbabwe reflects a shift from the British colonial influence present before independence was achieved. At that time, public education was divided along racial lines, and schools were strictly segregated. The educational system was a way of "establishing and maintaining the social and economic differences between the black majority and the

white minority" (Kadhani & Riddell, 1981, p. 58). Separate divisions in the Ministry of Education -- one for Africans and one for Europeans (as whites were locally known), Coloreds (people of mixed race), and Asians -- functioned as independent administrative entities to implement programs.

In the rural areas, African people were the least educated, but in spite of this they consistently demonstrated a strong desire for educational opportunity for their children. Conversely, these were the people least able to afford education because each school was expected to be partially supported by its local community -- a community that may have had few residents with a steady source of income.

Unlike European, Colored, and Asian children, African children were not required to attend school. Those Africans that did competed for relatively few available secondary school openings, while non-Africans were given almost automatic entry.

Black Africans constituted such a large percentage of the total population of the country that even though school attendance for Africans was not mandatory, African pupils that were enrolled constituted 93% of the total Zimbabwean school population during the 1976-77 academic year. The per capita support for non-Africans, however,

was many times greater than that for Africans. As a result, education was free for all Europeans but many African schools had to be fee-based in order to exist.

Political upheaval eventually brought about major changes in the country's educational priorities. In 1965, Prime Minister Ian Smith declared a Unilateral Declaration of Independence (UDI) from Great Britain, and from that time Southern Rhodesia (as Zimbabwe was known) was considered in a state of rebellion. Smith's move was considered a blow to progress toward eventual majority rule and two major dissident groups began guerrilla tactics against the Smith regime. The Zimbabwe African People's Union (ZAPU) and Zimbabwe African National Union (ZANU) formed groups of political dissidents and, from bases in Zambia and Mozambique, engaged Rhodesian forces in combat.

By 1979, after more than ten years of international economic sanctions, Smith conceded to black majority rule and a transitional period of British colonial rule led into formal independence. On April 18, 1980, Zimbabwe became an independent country, with Robert Mugabe (leader of the ZANU party) elected as its first prime minister.

Zimbabwe was now in a position to offer educational opportunity to all of its citizens, regardless of color. Unfortunately, the radical changes brought about by a new

political philosophy could not be immediately assimilated in this "infant country" and the resulting complications continued to challenge the resourcefulness and ingenuity of Zimbabwean educators.

The number of professionally-qualified teachers employed in the Zimbabwean educational system did not begin to approach the need. In 1985, over 66% of the secondary school teachers were untrained or underqualified, and the situation was considered "critical" at the primary school level, as well (Chivore, 1986a).

This shortage of teachers was the result of a rapid increase in the number of pupils enrolled in public education after independence. Between 1979 (before independence) and 1984, there was a 166% increase in the number of primary schools in operation (from 2401 to 3984), with a corresponding increase of 262% in the number of students enrolled in primary education (from 819,586 to 2,147,898) (Chivore, 1986a).

The expansion at the secondary level was even greater. There were 177 schools operating in 1979, and this number had increased a substantial 729% by 1984, when there were 1291 secondary institutions. The number of secondary enrollments increased by 638% in that same period, from 66,215 to 422,584 pupils (Chivore, 1986a).

The supply of professionally-trained teachers at both levels, however, did not increase proportionally to meet this sizable demand.

Teacher education in Zimbabwe

Traditional models The original, pre-independence model for teacher education was quite similar to traditional American models. Teacher training consisted of a three-year campus-based program that included periods of "teaching practice" (T.P.), a field experience similar to student teaching, with increasing classroom responsibilities each session of T.P. under the direct supervision of a full-time classroom teacher.

In 1981, after independence, this model was altered to help alleviate the teacher shortage crisis. A program known as the "5-7-9 pattern" was adopted. The program was still three years in length (with three terms per year), but the structure of the teaching practice sessions changed dramatically. Teaching practice was assigned for the entire 5th, 7th, and 9th terms of the student's matriculation period, and students were now expected to take on the full responsibilities of classroom teaching without any direct supervision. Because this program was logistically cumbersome it soon became difficult for the individual teachers' colleges to administer.

The next modification to teacher education was made in 1983 and was a simplified version of the 5-7-9 program. This four-year sequence gave students one year of on-campus instruction, one year of T.P., the third year was devoted to on-campus instruction, and T.P. was assigned the fourth and final year. Again, teaching practice was a full-time commitment and was used as a way to put teachers into classrooms in order to accommodate the rapid expansion of the student population. This model failed due to the general consensus among both students and college lecturers that the fourth year (teaching practice) was "wasted" time and an unnecessary cause of additional paperwork and administrative detail.

The most recent alteration to the four-year plan occurred in 1988. The teacher education program was reduced back to a three-year commitment by dropping the final teaching practice year, so that the new plan included one year of on-campus instruction, one year of T.P., and the final year on-campus. According to Tom Bourdillion, Acting Chair of the Associate College Centre (A.C.C.), the teachers' colleges and the A.C.C. were opposed to the model and considered it instructionally unsound, but accepted it in light of the practical realities of the teacher shortage.

ZINTEC model The ZINTEC (Zimbabwe Integrated National Teacher Education Course) program was created in 1980 with the help of UNICEF funds and was intended to provide education to children whose schooling had been interrupted by war. Four new teacher education colleges were built and a program was designed that would put large numbers of teachers into classrooms after a short training period.

This four-year program was split into three phases. The first phase, lasting one term (four months), consisted of an intensive on-campus course in classroom teaching skills. Phase two was the teaching practice portion of the program. Students were placed in schools, usually in rural areas, where they assumed the duties and responsibilities of full-time teachers. During this time, students continued their academic studies through individualized distance education activities designed by the ZINTEC National Centre, a centralized agency charged with the responsibility for producing self-instructional "modules." After ten terms (three years plus) of teaching practice, students would return to the college campus for one final term to consolidate theory and practice and to complete their written examinations to qualify for teacher certification.

The ZINTEC program operated in this manner for eight years, and as of April 1988 changed to a new structure. (Two of the original four ZINTEC schools converted to conventional programs, so only the remaining two colleges adopted the new plan.) ZINTEC continued as a four-year program, but the length of the teaching practice assignment was reduced by two terms, increasing the on-campus instruction to two terms at the beginning and two terms at the end.

The ZINTEC National Centre, later known as the Distance Education Centre (D.E.C.), prepared distance education modules for both ZINTEC and conventional teachers' colleges. The D.E.C. was staffed by writers, typists, and printing production workers and was run by a chairman (as of this report, Dr. Arnold Masunungure) who reported directly to the Minister of Teacher Education.

Role of the University of Zimbabwe

Students completing "O-Level" schooling in Zimbabwe (similar to a high school education in the U.S.) who wished to become teachers did not attend the University of Zimbabwe for their training. Teacher education was offered at fourteen teachers' colleges throughout the country; students completing the program received a teaching certificate granted by the University, but did not receive a degree. Because the University issued the

certificates, an effort was made by the University to ensure quality, accountability, and consistency across teacher education programs.

The Associate College Centre (A.C.C.) was created as a department in the Faculty of Education (analogous to our College of Education structure in the United States) at the University of Zimbabwe in 1982 for this purpose and in 1989 had six full-time, on-campus faculty members.

The A.C.C. fulfilled three primary functions in regard to the teacher education programs implemented by the colleges. The first of these roles was to monitor the curricula at the teachers' colleges by reviewing syllabi and examinations on a regular basis. Another important task for the A.C.C. was to act as auditors for accreditation purposes. Teachers' colleges were accredited by the University of Zimbabwe. This was to ensure quality and consistency among programs and to provide accountability when the University issued teaching certificates to students successfully completing the teacher education program of study. The third function of the A.C.C. was to publish a professional-quality journal that included articles of interest to and written by faculty members at the teachers' colleges.

The fourteen teachers' colleges were independent institutions under the guidance of the Associate College Centre, but they reported directly to the Minister of Teacher Education within the Ministry of Education. The Ministry was responsible for administering all public education programs within Zimbabwe and any activities of an administrative nature, such as budgeting or personnel actions, were routed through this agency.

Distance Education in Zimbabwe

Distance education

The term "distance education" will be used consistently throughout this document to refer to any form of instruction not occurring in a traditional, face-to-face mode. This term brings together both the learning and teaching aspects of this field of education and is neither student-oriented nor teacher-oriented.

In The Foundations of Distance Education, Keegan (1986) synthesized several definitions of distance education and developed a list of six "defining elements." These he considered the basic characteristics of any established distance education program.

The first element was that of a physical separation of the teacher and the learner, distinguishing it markedly from traditional, lecture-based instruction. The second was the influence of an educational

organization. Distance education differs from home study of a private nature in which in "home study" one chooses to learn without the guidance of an educational institution. The use of technical media was the third defining element of distance education. Media carry the instructional content as well as unite teacher and learner. The fourth element in Keegan's list was the provision for two-way communication between teacher and learner, ideally with the potential for student-initiated contact. Occasional meetings, face-to-face, was the fifth characteristic, although this was optional or even non-existent in many established programs. The final element in Keegan's definition has been debated as optional by many researchers. This is the "industrialization" of education -- a concept based on the administrative and management aspects of teaching and learning at a distance. These six defining elements will form the basis for the distance education terminology employed in this document.

Applications of distance education in Zimbabwe

Distance education as a method of instruction has been used in Zimbabwe for several years. One example was the Zimbabwe Distance Education College (ZDECO), a private institution offering instruction via correspondence (print), lecture, audio cassette, and

tutorial sessions. According to Dr. S.D. Ndlovu, President of ZDECO, there may be from 20,000-25,000 students enrolled at any one time, studying in a flexibly-paced program in academic or commercial subjects. ZDECO was not a degree-granting institution, although it prepared students for the exams for the Zimbabwe Junior Certificate, analogous to the Associate Degree granted in the U.S. by community and junior colleges or vocational schools.

Another example of distance education in Zimbabwe was found at the University of Zimbabwe. The Extension program offered both credit and non-credit courses using a combination of print materials and audio cassettes for instruction. This program generated a great deal of enthusiasm from the Ministry of Education and the general public, but in an interview in June, 1988, Dr. M.J. Matshazi, the Chairman of Adult Education, stated that "some resistance from faculty" had been encountered. The additional work required by faculty involved in distance education programs was compensated, therefore, with academic load reductions, recognition of distance education materials as publications, and financial remuneration.

An essential and far-reaching application of distance education has been its use in the Zimbabwean

teacher education program. Because of the critical shortage of qualified teachers for the public school system, the use of distance education has enabled teacher candidates to be placed in schools earlier, thus alleviating the severe strain of overcrowded classes taught by untrained or underqualified teachers.

This application of distance education has been primarily a print-based system. Students worked from learning packages they received upon assignment to teaching practice and returned assignments when visiting the campus for seminars during school breaks or at the end of their teaching practice session when they returned for on-campus study.

These packages were prepared by the Distance Education Centre, with the assistance of teaching college faculty who are released on "sabbatical" to act as subject specialists. These faculty help write the instructional content of the distance education packages. The available learning packages must be used term after term without revision. According to lecturers at several teachers' colleges, this has led, unfortunately, to students simply re-copying and submitting previous students' work given to them by friends. Revising the modules on a regular basis would help to solve this problem, but with the budgetary cutbacks of the past few

-

years, the resources (financial and human) have not been available to attempt this.

The learning packages were all based on a similar structure with goals and objectives stated at the beginning of each unit, followed by readings, illustrations, problems, and suggested assignments. Self-test questions were included at the end of each unit. The packages were not intended to replace a traditional textbook, but instead acted as a supplementary guide to learning the course material.

Challenges of distance education in a developing nation

There are many challenges facing the current distance education system in the Zimbabwean teacher education program. These can be divided into two categories: those that, to some degree, could be influenced by the parties involved in the program, and those problems that, as part of the external environment, must be accepted (at least for the time being) as "givens" around which the distance education program must operate. The problems directly related to the program will be discussed first, followed by the external problems.

Program During an initial fact-finding trip to several teachers' colleges in Zimbabwe, the author heard many of the same concerns voiced repeatedly by faculty

members. The major complaint was that of inadequate student/faculty interaction. Math instructors, for example, commented on their hesitancy to introduce new material using distance education because they had no way to assess their students' understanding and readiness to move on to more complex concepts. If a student were to get off-track or have problems with the distance education activities, or simply was not motivated to complete them, he or she would have little chance to get help or encouragement from the appropriate lecturer. The main cause of this problem was considered to be the understaffing at the teachers' colleges. Lecturers were expected to visit each teaching practice student five times per year, but because of the number of students and the difficulty of travel in some regions, many lecturers fell far short of this goal. Also, visits were intended primarily to assist students in their teaching practice duties, not their academic distance education activities. This lack of student/teacher interaction resulted in, according to several teachers' college principals, an unacceptable number of students failing to complete the program or being delayed in their graduation.

Another problem frequently mentioned was isolation from peers. This was experienced both by students on teaching practice and faculty at the teachers' colleges.

Because many students were in remote areas, their contact with other students was quite limited. Such isolation deprived them of intellectual and social stimulation that could be motivational. Similarly, few faculty members had the opportunity to share ideas or discuss current research with their peers on a regular basis. The lack of professional development inhibited innovation and professional growth in both the lecturers and their students.

The instructional packages produced by the D.E.C. that students on teaching practice were expected to complete were a source of concern, also. Many lecturers expressed frustration at the lack of input from college faculty and one lecturer openly stated that he had designed his own distance education activities, and the D.E.C. packets were stored in a closet, unopened. Clearly, this was not an efficient use of resources.

Many of the difficulties with the distance education courses originated out of a lack of consensus regarding the goals and purposes of the original program. In a June, 1988 interview with Mr. K. Muchemwa, the Chief Education Officer of Teacher Education, Ministry of Higher Education, the author was told that the distance education program had been designed to continue the academic instruction in content areas begun the first

term of the program. However, in conversations with faculty members at the colleges, during June, 1988 and January, 1989, the responses were often different. Some lecturers considered the distance education activities a way to put into practice the concepts learned while on campus -- an "applications" approach to teacher education. Some of the lecturers felt that the distance education activities were supposed to enhance the teaching abilities of the students, contributing directly to classroom activities undertaken during the teaching practice session. Only a few of the lecturers' responses agreed with the official position stated by the Deputy Minister.

Environment Many "external" problems within the greater environment contributed to the difficulties of operating the distance education program. Lack of resources -- human and capital -- were the most pressing and had the most far-reaching effects on the program. There were not enough college lecturers to maintain the program according to its original design; there had not been enough money to hire additional lecturers; there had not been adequate facilities for students on teaching practice to conduct meaningful distance education activities; and, because there had not been enough professional schoolteachers, teacher education students

often were required not only to work as full-time teachers, but also to handle extracurricular activities, serve on committees, and, in some cases, even act as a school's headmaster, while simultaneously working on distance education assignments. These were constraints around which this program operated.

Another problem beyond the control of the teachers' colleges was the primitive conditions found at many of the "host" schools at which students were assigned for their teaching practice tenure. Some of the schools could not easily be reached by automobile, some did not have electricity or running water, and some were in areas with (at best) unreliable postal service. Something as deceptively simple as reading can be difficult to accomplish when one's spare time is in the dark of evening and there are no electric lights.

Growth in the student population promises to continue to be a major problem for several years. The principal at Gwanda ZINTEC stated that projections for the next four years show, at the minimum, a 300% increase over the number currently enrolled. The demand for higher education outstrips the current and potential supply of lecturers, facilities, and materials.

Statement of the Problem

Distance education is a crucial component of the Zimbabwean teacher education program. This continuation of academic involvement using distance education procedures during teaching practice, originating from admirable intent and practical necessity, has been fraught with problems of design, implementation, administration, and circumstance, leading to overall dissatisfaction with the program among students, faculty, and administrators. The problem with which this study is concerned is that the original goals of the distance education program have not yet been fully realized at a time that Zimbabwe needs a competent, well-prepared teaching force.

Research Questions

To fully understand the distance education system currently in use in the Zimbabwean teachers' colleges, a theoretical framework for an evaluative description was developed. Three research perspectives -- systems theory, curriculum development theory, and adoption/diffusion theory -- were chosen as organizational bases to form the narrative structure.

The systems theory view was based on the work of Banathy (1973). Banathy's "Systems-Model Approach" presents three ways of examining a total educational

system -- structurally, environmentally, and procedurally. The structural model prompts research questions such as:

- 1) What are the components of the (distance education) system?
- 2) Are the goals of the system clear?
- 3) Are the system components all contributing toward realization of the goals?
- 4) Are there any components "missing?"

The environment/context model, dealing with how a system interacts with and adapts to its environment, requires answers to questions such as:

- 1) What are the needs of the environment?
- 2) How can this system meet (or help to meet) those needs?
- 3) Are the goals of the system based on those needs?
- 4) What relationships exist between the system and the environment?

The third model presented by Banathy, the process model, examines the behavior of a system over time. From this viewpoint, several questions arise:

- 1) What is the sequence of processes within the system that bring about the desired transformations?

- 2) How might change be introduced into the system?
- 3) How has the system changed over time?

The research questions that grew out of curriculum development theory were based on the views of Tyler (1949). His "four fundamental questions," when applied to the Zimbabwean distance education program, delve into the curricular structure of the system.

- 1) For what purpose(s) does this program (distance education) exist?
- 2) What educational experiences will advance this program toward its goals?
- 3) How can these experiences be organized within the program to maximize the outcomes?
- 4) What procedures exist (or should exist) to determine whether the goals have been attained and to what degree?

The third theoretical perspective, adoption and diffusion of innovations, was based on the views of Rogers (1983). Four distinct elements of the adoption/diffusion process (innovation, communication, time, and social systems) generated the following research questions:

- 1) How could the innovation itself, i.e., the use of distance education, be described within the context of teacher education?

- 2) What communication channels are important to the diffusion and implementation of this innovation?
- 3) How has time influenced the diffusion and implementation of this innovation ?
- 4) Into what social system(s) was the innovation being introduced?

Through the use of these theoretical perspectives, a comprehensive description of the distance education program was possible. By addressing these questions and building a clear picture of the current status of the program, the problems that have thus far plagued the distance education program will be brought into an appropriate intellectual arena for discussion and study.

Objectives of the Study

There were three main objectives of this study. The first was to design and implement a workshop on distance education that would include participants from each teachers' college. This workshop would allow faculty members to discuss the critical issues within the distance education program and actively work together to strengthen the coordinating structure of the system. A clear and consistent understanding of the goals and purposes of the program would be sought so that all involved parties would be aware of the "chain of command"

for achieving accountability in the administration of the program.

The second objective was to produce, within the workshop setting, a series of papers dealing with the critical issues identified by the workshop participants. This proceedings document could act as a "state of the system" discussion of distance education in the Zimbabwe teacher education program.

The third objective of this study was to produce a descriptive report on the current status of the distance education program. This report was organized around a body of research questions generated by the three theoretical bases of Systems Theory, Curriculum Development, and Adoption/Diffusion Theory that were then synthesized in a unifying model.

Limitations of the Study

There are two major limitations to this study. The first is in the somewhat limited generalizability of the results. Due to the unique nature and character of Zimbabwe's educational circumstances, the information gathered during the project will be of limited usefulness to more highly-developed programs in other countries.

The second limitation of this project is that only a small portion of the faculty actually teaching at teachers' colleges were able to participate in the

workshop. Dissemination of the results were dependent on those who attended, and the technology available to support the distribution of the proceedings and other reports.

Significance of the Study

Demographic projections of the school-age population of Zimbabwe portend continued increases in student numbers through the beginning of the next century. If these predictions are indeed fulfilled, the demand for qualified teachers will also continue to grow. The use of distance education in the teacher education program is a crucial factor in meeting the educational needs of a people long denied a quality public education.

As Zimbabwe moves out of its adolescence as an independent country, it needs to have an educated, literate workforce from which to draw in order to compete in the international marketplace. Public education for all citizens is the answer to this mandate.

CHAPTER TWO
REVIEW OF LITERATURE

Introduction

This chapter will provide an overview of the theories related to distance education and of the research literature relevant to relationships between and among distance education and teacher education -- adoption of innovations, systems theory, and curriculum development. A model representing the integration of these theoretical perspectives will be introduced. Research questions that were derived from the model will also be included.

Theory of Distance Education

If, as Holmberg (1985) suggested, a theory is "a set of hypotheses logically related to one another in explaining and predicting occurrences" (p. 2), then Wedemeyer's (1973) assertion and Keegan's (1986) concurrence that distance education has failed "to develop a theory related to the mainstream of educational thought and practice" (p. 57) holds serious implications for researchers in this field. According to Holmberg, it is impossible to develop one "universal theory" of distance education that would be applicable to all students, programs, or institutions. Perraton (1987)

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agreed with Holmberg and suggested that it may be "naive" to look for a universal theory, and that "the variety of phenomena with which we are dealing in the practice of distance education is such that it is misleading to seek a single, all-embracing theory" (p. 20). Instead, Perraton argued that "theoretical statements" in the areas of teaching, administration, and assessment would be more likely to provide direction and structure to the field.

Baath wrote that the development of distance education would proceed from the "deliberate application of relevant educational theories or models" such as behaviorism, cognitive processing, mathemagenic activities, and discovery learning (1982, p. 37). Elements of each of these models or theoretical bases can be effectively related to the study of distance education.

There have also been attempts to develop theoretical bases within the categories of independence and autonomy, industrialization, and interaction and communication (Keegan, 1986). Examples of these will be described briefly.

Independence and autonomy

The theories espoused by Wedemeyer focus on the independence of the distant learner and the potential for

learner initiative. His views of learning argue for open access and educational opportunity made possible by advances in communications technology. In his 1981 book, Learning at the Back Door, Wedemeyer wrote that although teaching and learning "are usually thought of as connected real-time activities, inseparable in space as well as time" (p. 32), this is an outmoded constraint left over from a time when education relied upon face-to-face proximity of teacher and learner.

Wedemeyer (1973) contended that the formal learning group as the preferred educational structure has been disintegrating gradually throughout history, beginning with the invention of writing and continuing through the application of telecommunications and programmed learning. This, consequently, has given rise to the re-emergence of the independent learner for which distance education is ideally suited.

A distance education program that exemplifies Wedemeyer's philosophy is the National Technological University in the United States. Headquartered at Colorado State University, without a campus of its own, the NTU was the first university founded specifically to provide graduate degree programs exclusively via telecommunications media (Stephen, 1986). Courses were originally produced and distributed on videotape but

have, since August 1985, been uplinked to satellite for reception by those with Ku-band earthstations. In the first year of satellite transmission, over 4000 hours of instruction were televised (Baldwin, 1986).

Master's degrees in engineering and technology fields are targeted at students who are employed full-time; most "attend class" while at work. Non-credit short courses are also provided on a variety of subjects. The NTU is expected eventually to become the largest producer of engineering master's degrees in the United States (Stephen, 1986).

Industrialization

Peters, an early theorist in the field, conducted research in distance education during the 1960s. His search for a theoretical framework within which distance education could be examined and his frustration at the incompatibility of traditional instructional theories led him to compare distance education programs to industrial production process models. The parallels between distance education and modern industrialization included rationalization (financial practicality or cost effectiveness), division of labor (including change of worker function), mechanization, assembly line principles, mass production, preparatory work (including planning and organization), scientific control methods,

formalization, standardization, objectification (leading to reproducibility), and monopolization (Peters, 1984). As a result of these parallels, "structural elements, concepts, and principles derived from the theories of industrial production ... [can be used] to interpret the distance study phenomenon" (p. 96).

These "industrial" principles can be seen operating in several Canadian distance education programs. With a land mass twice the size of Europe but with only 5% as many people, Canada has demonstrated the economy of distance education for its highly-dispersed population. British Columbia, the western-most province, established the Open Learning Institute (OLI) in June 1978 with a clearly defined mission: to provide adult basic education, vocational-technical training, and undergraduate degrees in arts and sciences via distance education (Mugridge, 1986).

The courses offered through the OLI are designed and produced by teams of subject matter experts, writers, editors, and producers. A careful analysis of the target population's educational needs guides the course planning, and the entire system is carefully orchestrated to fit in (not compete) with existing educational institutions. All administrative functions (e.g.,

registration and recordkeeping) have been streamlined by computerization.

Most of the courses offered are print-based, although satellite transmission of both "live" and prerecorded video has been adopted since the establishment of the British Columbia Knowledge Network (BCKN; Stahmer & Helm, 1987). The BCKN provides facilities and administrative support for courses "uplinked" to the ANIK-C satellite; local television stations receive the satellite signals and cablecast them into students' homes. In 1988, courses were being received in 250 communities throughout British Columbia (Winders, 1988). Through research and development, division of labor, product fieldtesting, and rigorous evaluation, this distance education program provides educational opportunities to individuals otherwise not served by traditional educational institutions.

Interaction and communication

Holmberg's theoretical emphasis was focused in the area of interaction and communication. He argued that theories of distance education can be divided into two categories: descriptive theories of learning and prescriptive theories of teaching (Holmberg, 1981). Learning theories attempt to explain how learning actually occurs within the individual, while theories of

teaching provide guidelines intended to facilitate this process. Unfortunately, in the past these two categories have been only indirectly related.

Holmberg's view of distance education as a "guided didactic conversation" is a prescriptive theory that is closely related to learning theory. It relies on an understanding of interactions (e.g., between learner and teacher, learner and materials, or learner and self) to suggest methods for maximizing the effectiveness of the communication process to result in specific learning outcomes. The typical traits of a guided didactic conversation can be identified and the presence of these traits or characteristics will help to create a supportive and motivating learning atmosphere.

A distance education program that facilitated interaction among students and teachers was the Plymouth Audioconferencing Network (PACNET) that operated for two years in Great Britain (Winders, 1988). Established in January, 1984, PACNET was an audioconferencing system that was used to link students and teachers together for instruction via the telephone. One of its greatest advantages was that no special equipment was necessary to participate; an ordinary telephone allowed students to interact. (Unfortunately, this was also one of its greatest weaknesses; telephone service in some areas of

Great Britain was unreliable and there were many difficulties -- poor connections, line noise -- were encountered.)

A two-year series of courses for the Diploma in Acoustics was the first distance education program offering via PACNET. Other uses included interaction between students on "industrial placement" (internships) with their instructors and with other students, and participation in worldwide audioconferences. The emphasis of this program was on the enhancement of communication to provide motivation and to combat feelings of isolation. The program ended in April, 1986 because of funding problems.

Role of Research in Distance Education

Educational research is conducted to "build a body of knowledge that informs the practice of education" (Borg & Gall, 1983, p. 19). In the relatively new field of distance education, this role is crucial for developing a strong theoretical foundation, yet a great deal of uncoordinated effort has been expended by researchers. In his 1977 classic, Big Media, Little Media, Schramm discussed the lack of credible, appropriate research applicable to developing nations. He wrote, "There is no shortage of research on instructional media, only a shortage of the kind of

research [i.e., on simple media] that would be most helpful to us" (p. 26). In 1982, Schramm's views were echoed by Coldeway, who wrote that "imprecise definition of boundaries and variables have limited the usefulness of research" in distance education (1982, p. 29). Griew (1982) issued a call for research conducted with rigor and credibility -- to "reassess, if necessary in the most painful of manners, those funny elements of the fast-developing lore of distance education with the object of determining which are really crucial to the success of our mission and which are simply there because we happen to like them" (p. 191).

In the past twelve years, however, the body of research on distance education has grown markedly, reflecting the rapidly increasing number of institutions the world over offering instruction in a non-face-to-face manner (McIsaac, Murphy, Gamas, & Igoe, 1989). Giltrow (1989) called for even more research, stating that "there are general areas where basic, long term research appears necessary in order to advance the concept of distance education as well as specific practices" (p. 63).

Mitton (1982) described six areas specifically within the field of distance education where research was needed. The first was "policy," using research results to guide decision-making processes. This was

corroborated by Giltrow (1989) who stated that an "important outcome" of distance education research was "for policy makers and administrators to avoid having to make key decisions based on intuition and inexact information" (p. 64). The second use of research was for "materials design" to provide guidance for the development of both instructional and support materials for the distance education program. The third use was labelled "Knowledge/Attitudes/Practice," referring to the characteristics of the potential or target audience. "Pretesting materials" was the fourth application of research, analogous to the formative evaluation phase in the instructional design process. The fifth category was "monitoring." This was explained as an on-going administrative activity for tracking the progress of an operational system. "Evaluation" was the sixth use of research and included both formative and summative studies. Mitton called for "appropriate research" in distance education -- small projects that answer specific research questions based on local needs; projects that did not require massive commitments of time, effort, or resources.

In a paper reporting on research in progress, McIsaac et al. (1989), described two categories of research on distance education. The first category was

"instruction," in which results of attitude, learning, and attrition studies were reported. The "learning" sub-category represented the greatest number of experimental studies within the body of research.

The second category, or research theme, identified by McIsaac et al., was "administration." Studies of cost-effectiveness or courseware design were included in this category. According to Schramm (1977), cost-effectiveness studies are concerned with measuring the productiveness of educational programs. This becomes a critical issue and makes sense academically and economically for a developing nation that may spend a large percentage of its national budget on education.

Evaluation of Distance Education Programs

Although the field of distance education has expanded rapidly in the past decade, evaluation studies of specific programs are rarely reported in the research literature. Evaluation is an important and necessary component of educational systems -- if only to reduce the potential amount of "trial and error" planning. Thorpe (1988) listed six reasons for conducting evaluative research in distance education. These were: 1) to determine if the means used achieved the project's goals; 2) to provide a basis for "reponsiveness" -- leading to student-centeredness; 3) to improve the quality of the

"product;" 4) to perform a development function (by improving the management system); 5) to help educators better understand how adults learn while fulfilling other societal and family roles; and 6) to fulfill external requirements (e.g., reports to a funding source). In a field with as many new programs as distance education, evaluation performs an especially important function when it is used to develop and maintain high quality instruction.

Rumble, of the United Kingdom Open University (1986), regarded a complete evaluation as one which considered both the effectiveness (how well the system as a whole is meeting its goals) and the efficiency (how well the internal operations are being conducted) of a distance education program. He recommended using both qualitative and quantitative data collection methods for a comprehensive evaluation.

Evaluation methods vary, depending on the evaluator's goals, the program itself, and the conditions under which the evaluation occurs. Mail-out questionnaires have been used successfully to investigate usage patterns of specific program components (Hosie, 1983; Whitelegg, 1980), and to measure attitudes toward distance education programs (Crane, 1985; Kesten & Burgess, 1985). In-person interview techniques were used

to assess attitudes in an "in-depth study" of the distance education programs of six Indian universities (Natarajan, 1988). Another research approach that resulted in an "holistic evaluation" of program effectiveness was conducted as a case study using tutors as observers, students as observers, and non-participants as observers (Murphy, Scanlon, & Whitelegg, 1981).

Chivore (1989) described two evaluation studies of the ZINTEC program in Zimbabwe that were conducted four years apart, in 1982 and 1986. These evaluations used a combination of methods, including "documented data, observations, questionnaires, [and] interviews" (p. 7). These evaluations examined program resources, attitudes, cost effectiveness, program effectiveness, ideology, and structures and organization. They resulted in two comprehensive reports that assessed the strengths and weaknesses of the distance education program.

When the desired results are a cost analysis, however, the issue becomes more complicated. Maher (1982) devised special formulae for cost benefit and cost effectiveness evaluations of a television-based system, although in many programs the true financial condition would be difficult even to estimate. Organizational structures, development and delivery of programming, and maintenance of equipment must all be considered when cost

effectiveness is determined and since many distance education programs exist as departments within traditional educational institutions, the financial data required are often difficult to distinguish as specifically related to distance education.

Interestingly, discussions of academic achievement or quality of learning as evaluative criterion measures can be found in the literature about evaluation (Thorpe, 1988; Keegan, 1986), but are infrequently mentioned in actual evaluations. Quantitative, statistically-based data that can be easily manipulated dominate evaluation reports. Experimental research in distance education is often based on learning and achievement (McIsaac et al., 1989), but using these criteria to judge the worth and/or effectiveness of a program, apparently, is rarely reported in the literature.

Media in Distance Education Programs

Determining the best medium or configuration of media for an educational program is a difficult process. Distance education operates predominantly "in the real world" (compared to traditional systems) where decisions of finance or politics may have great influence. Bates (1986) noted six factors that must be considered when selecting media for distance education applications. These were: 1) access to the media (by students), 2)

distribution characteristics, 3) presentational characteristics, 4) production characteristics, 5) costs, and 6) organization issues. Although these factors should be used as a guide, Bates also pointed out that there is no logical, step-by-step process to follow, but that each program must be considered separately to determine the most appropriate delivery system.

Print-based systems, historically, have provided the foundation for distance education; worldwide, correspondence study remains popular. In an analysis of 468 distance education programs, Smith (1986) found that only 27 did not use print for at least part of the instruction and many were completely print-oriented. Despite its endurance, however, print has limitations that affect the quality of learning possible in distance education programs (Taylor, 1986). Many "facets of reality" cannot be adequately expressed using only a print medium. Words and graphic symbols are powerful but cannot convey messages with the realism of motion media, for example. Because of this, the instructional effectiveness of print may rely on a student's prior direct experience with the subject being taught. For adult basic education, print is at a disadvantage as an instructional medium because it is dependent on the literacy level of the students.

Print, in developed countries such as the United States, has been devalued as a communications medium by the increasing use of telecommunications technology -- especially radio and television -- for information dissemination. Describing Kenyan distance education, however, Matiru (1987) argued that "the printed word" has remained a highly-valued form of communication in many developing nations where books and other print materials are rare. As a result of this desire for printed works, distance education materials "often find their way into the hands of numerous incidental learners. In this way, distance methods make the best use of what is available" (p. 72).

Print will undoubtedly remain important in distance education for many years. The alternatives (e.g., radio, television, and computer networking) must, however, continue to expand to reach even underdeveloped nations as technological growth advances the boundaries of communication.

International Applications of Distance Education

Distance education has been used extensively in many parts of the world. Two of the most highly-developed systems are in Australia and the United Kingdom. Australia is approximately the same size geographically as the United States but has only 15 million people

spread over its area (as opposed to 250,000,000 in the U.S.), making a distance education system especially appropriate. The Australian program is based on a "dispersed model," since many autonomous institutions have systems operating independently of one another. Both primary and secondary education is included and post-secondary coursework has been available since 1955 (White, 1986). Originally, courses were print-based correspondence programs, but delivery of audio lessons by shortwave radio, video by satellite, and E-mail (using videotex and facsimile technology) have also been utilized (United Nations Educational, Scientific, and Cultural Organization, 1987).

The Open University of the United Kingdom has, since its inception in 1971, become an established educational institution. By 1984, over 600,000 students had enrolled for a university degree (Keegan, 1986), many of whom were unable (or unwilling) to attend a traditionally structured university. Broadcast television and radio, integrated with print, comprise instructional units. The Open University also provides extensive student support services throughout the country, and personal tutoring is available. These factors, along with a 50% graduation rate, helped it to build a reputation for quality

education in a less structured environment than a traditional university classroom.

The Indira Gandhi National Open University (IGNOU) was established in 1985 and became the 34th educational institution in India offering distance education courses and the second university exclusively devoted to distance education in that country (Mullick, 1986). The "New Education Policy" of 1986 stated that "The future thrust will be in the direction of open and distance learning" (p. 22), affirming India's commitment to distance education. Print correspondence, radio, and satellite television have been utilized for Indian education from primary grades through postsecondary (United Nations Educational, Scientific, and Cultural Organization, 1987).

In Asia and the western Pacific, distance education is a necessary component of the educational structure. With 63% of the world's population living in these areas (Sharma, 1986), traditional programs cannot provide adequate educational opportunities for the masses of individuals who could otherwise be reached with distance education. Print and radio have been used extensively in Burma, Fiji, Bangladesh, Indonesia, and the Phillipines (Sein, 1986; Ram, 1986; Selim, 1986), Malaysia has incorporated radio and videocassettes with its print

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component (Dhanarajan, 1986), and the use of radio and television to deliver instruction has been commonplace in Thailand (Chaya-Ngam, 1986). The Korean Air and Correspondence University, established in 1972, has also utilized a multimedia approach of print and telecommunications in providing an alternative to existing higher education institutions (Lee, 1986).

Unfortunately, not every country is able to provide distance education via electronic media. In Bhutan, where television is practically non-existent, distance education remains completely print-based (Dukpa, 1986). Such obstacles to distance education have hampered the development of traditional instructional programs, as well.

Many African countries have utilized distance education to meet the demand for education from a rapidly growing population. Ghana is one example of how the cost-effectiveness of distance education can benefit a nation with an increasing student pool (Ansere, 1987). As the number of students increase, the cost per student remains low and the total expenditures go up less than with traditional education.

In Malawi, a tiny African nation northeast of Zimbabwe, distance education has been used to provide educational opportunities to adults who were unable to

attend school as children, to extend the education of primary school leavers who were not accepted for the limited number of secondary school positions, and to enable primary school teachers to upgrade their teaching skills (Mkandawire & Jere, 1988). Instruction is primarily through radio and print correspondence.

South Africa, Kenya, Zimbabwe, and Tanzania have also utilized distance education methods for programs of adult basic education, higher education, non-formal instruction, primary and secondary education, and teacher training (MacFarlane, 1987; DeJager, 1987; Taylor, 1986; Chivore, 1986a; Ntirukigwa, 1986). These programs have included print correspondence materials, radio courses, audio cassettes, as well as in-person seminars and tutorials.

Distance Education and Teacher Education

Distance education has been used for teacher training and upgrading in Australia (UNESCO, 1987), Canada (Neufeld, 1985), New Zealand (Gunn & McMechan, 1986), South Africa (Grobler, 1987), and the United States (Dyck & Thurston, 1987), as well as many other developed nations. One of the largest teacher training and retraining programs in the world operates via radio throughout the islands of Indonesia (Setijadi, 1986). Established in the late 1970s, this highly successful

program operates in conjunction with Universitas Terbuka (Open University) to provide access to teachers dispersed across a wide geographical area -- one not conducive to traditional centralized higher education.

Pakistan also offers teacher training via distance education. Several programs for both primary and secondary teachers have been established since the initial program began in 1974 (Siddiqui, 1986). Between April, 1985 and April, 1986 the number of teachers enrolled in teacher education via distance education grew from 8,863 to 14,664, an indication that these programs were meeting local needs.

The impact of distance education on teacher education is more distinctly noticeable, however, in developing nations. "Developing nations," as defined by Dove (1986),

... are countries where population growth and illiteracy are high and educational needs urgent. Though a high proportion of their national budgets is devoted to education, planning and management structures are relatively weak and many of their teachers are undereducated or untrained. They are, generally speaking, countries which have few or unexploited natural resources, low levels of industrialisation and human resource development or

have only recently become independent; national incomes are relatively low and they are dependent for much of their educational development on external aid in one form or another. (p.2)

Thus, distance education is especially appropriate for developing nations. It can "enlarge access" to quality teachers (Sharma, 1986) and consequently upgrade the educational background of the available labor force.

Many countries in Asia and Africa face a crisis of expanding school enrollments that are larger and more rapid than the supply of teachers that can be produced through traditional means. As a result, many unqualified and underqualified teachers have been pressed into service. While this situation is frustrating from an educational standpoint, it is better than the alternatives, as Perraton (1982) stated, "Even hesitant, undereducated teachers are doing an indispensable job; without them the schools would close down or would make do with teachers even less educated" (p. 12). Distance education provides teacher training without removing the teachers from the classroom where they are so desperately needed.

The Swedish International Development Authority (SIDA) assisted the country of Sri Lanka in developing a distance education system for untrained teachers (Flinck

& Flinck, 1985). This program provided instruction and professional development without removing full-time teachers from the classroom to attend traditional college classes.

Palestinian teachers in Jordan, Syria, Labanon, Gaza Strip, and the West Bank received in-service training during the 1960s via cable television, print, and face-to-face instruction through a UNESCO-sponsored program (Nashif, 1982). With a constant influx of new, untrained teachers (in 1963, 90% of the teachers in this area were unqualified), distance education kept the teachers in the classrooms and allowed them to implement immediately into their own classroom teaching repertoire ideas and teaching skills that they had developed through their studies.

Kenya's utilization of distance education for teacher education grew from a need for inservice teacher training of crisis proportions shortly after independence from Great Britain in 1963. Correspondence instruction was implemented in 1967 in a program developed with the assistance of a team of U.S. educators from Stanford, University led by Schramm. Facing sharp increases in school enrollments, in 1968 the pool of 38,000 primary and secondary teachers included 27,000 who were underqualified. By 1977, the number of classroom

teachers had grown to 86,000, less than half of which were considered underqualified (Hawkridge et al., 1982). This system has since grown to include radio applications integrated with the print correspondence units, and in 1985, 4500 teachers were enrolled to upgrade their classroom skills (Taylor, 1986).

Less-developed African nations, however, face problems of unreliable postal systems and large proportions of Rural Area Dwellers (RADs), hampering the development of efficient distance education programs. In the case of Botswana, 45% of the teaching pool is untrained, but their presence is necessary in that country's rural classrooms (Jones & Higgins, 1987). The feasibility of distance education via mass media must be explored to enable teachers to remain in service as well as to develop skills in new teacher candidates.

Adoption of Innovations

The term "innovation," as used in this document, refers to "... an idea, object, or practice perceived as new by an individual or individuals, which is intended to bring about improvement in relations to desired objectives, which is fundamental in nature and which is planned and deliberate" (Nicholls, 1983, p. 4). Although the terms are often used synonymously, this process is not the same as change, as stated by Bishop (1986), "The

essential difference between innovation and change lies in the fact that innovation is planned, the idea being that through planning one can increase the chances of bringing about any desired change" (p. x).

The concepts of adoption and diffusion of innovations provide a theoretical basis for descriptive research in distance education. One of the earliest theorists in this area, Rogers, did much of his work in agricultural sociology. He developed a model to describe and predict the adoption and diffusion of innovations. Even though this model's origins were agricultural in nature (e.g., the adoption and diffusion of hybrid seed corn by Iowa farmers) the basic concepts are generalizable to a broad range of disciplines, including education. Rogers' 1962 landmark publication, Diffusion of Innovations (now in its third edition, 1983), described the four main elements in the diffusion of innovations (the innovation, communication channels, time, and a social system) and how these elements interact within the adoption/diffusion process.

Some theorists, however, do not believe that Rogers' model accommodates educational innovations well (Gross, Giacquinta, & Bernstein, 1971; MacDonald & Ruddock, 1971). The main reasons are: 1) the innovations are often initiated by authority figures, 2) individuals are

not given the option to adopt or reject, 3) innovations usually cannot be implemented on a trial basis, and 4) many innovations require long-term implementation before a credible evaluation can be administered.

Bishop (1986) described several types of innovation strategies -- models delineating the procedures and techniques used to "engineer" innovation. These include research-oriented, social interaction, problem-solving, planned linkage, coercive, and open input strategies used by individuals and/or groups at different levels within the educational system. In many distance education systems, the predominant strategy used is the research-oriented model, or "Research, Development, and Diffusion" (RD & D) as it was labelled by Havelock (1975). Nicholls (1983) described five major characteristics of the RD & D model, including:

- 1) A rational sequence of activities, from research and development to dissemination;
- 2) Planning on a large scale;
- 3) Division of labor or a clear separation of roles;
- 4) Passive consumers; and
- 5) High costs for initial development.

These characteristics closely matched Peters' discussion (1984) of the industrialized nature of

distance education programs, making this model especially appropriate. Havelock's RD & D model is an effective process for introducing an innovation on a large scale, especially when the implementers are dispersed geographically. Top-down approaches such as this gather talent into a centralized location, benefitting the greatest number of individuals, although local needs may sometimes be neglected.

Berman and McLaughlin (1976) developed a three-stage process to describe the adoption of innovations specifically in educational settings. In this model there are three main phases: initiation, implementation, and incorporation. The initiation phase is a planning stage, involving decision-making and seeking of financial support. During the second phase, implementation, "mutual adaptation" occurs (i.e., the innovation is modified based on local needs and the innovation adopters also bend to accommodate the requirements of the innovation) and plans are translated into practice. This is similar to the concept of "re-invention" described by Rogers (1983). Vacca and Gove (1984) concurred, and stated that "even the most clearly delineated innovation often succumbs to some sort of adaptation and modification when used in an instructional situation" (p. 1). During the third phase, incorporation, the

innovation becomes routine and loses its "special" status. It is no longer viewed as an innovation but rather as an accepted component of the system.

Berman and McLaughlin also identified two predominant motives that drive the innovation adoption process. When the motive for adoption is "opportunity," the chances for long-term success and acceptance are slim. An example of this would be the initiation and implementation of a new computer network simply because federal funds were available to launch the system. Another motive behind an adoption decision was labelled "problem-solving." These are the innovations that are initiated and implemented because they will solve a particular educational problem. When problem-solving is the motivation behind adoption, the chances of reaching the incorporation phase are excellent.

Adoption of innovations and distance education

Although many distance education programs and institutions are considered innovative, the Open University of the Netherlands was originally chartered specifically for that purpose. The two main goals of the Dutch O.U. were 1) to give access to higher education to adults and 2) to serve as an innovative stimulant and role model for other institutions of higher learning in the Netherlands (van Eckevort & Leibbrandt, 1987). After

some initial problems (e.g., budgetary, administrative, and political), the Open University of the Netherlands began to fulfill its exemplary role and enrolled over 35,000 students in its first two years of operation.

Distance education programs are not necessarily innovative, however. Shale (1985) cited the case of Athabasca University in Alberta, Canada that began as an innovative institution utilizing a multi-media instructional delivery system but that gradually became more and more traditional. Shale contended that the accepted view of what a university is and does eventually molded Athabasca into a more traditional institution.

When the Jewish population in Israel doubled between 1950 and 1960, the concepts of innovation diffusion were combined with methods of distance education to reach individuals who had no other opportunity for formal instruction. These individuals were perceived as "key leaders" in their communities and were offered higher education courses via correspondence. This program's purpose was to strengthen local leadership and enrich the lives of the masses using local opinion leaders (Willers, 1987).

Curriculum Development

Most curriculum development models are typically designed with the traditional classroom in mind.

Although the practical instructional problems faced in a distance education program are different than those encountered in a face-to-face teaching situation, Smit (1987) argued that there was little difference in the aims and goals of the two. All teaching/learning situations, he contended, contained the same essential elements. At the most basic level, there was a learner and a teacher. Although learning occurred within the individual, the teacher's role was to motivate, guide, and assist the learner in this pursuit. Learning objectives were needed; educational experiences to enable students to achieve those objectives must be provided along with the appropriate instructional materials; and opportunities for self-evaluation and evaluation by the teacher should be available.

The "Tyler model" of curriculum development (sometimes called the "rational model") provides a theoretical structure and rationale for planning instructional programs. This model was developed around four fundamental questions:

- 1) What educational purposes should the school seek to attain?
- 2) What educational experiences can be provided that are likely to attain these purposes?

- 3) How can these educational experiences be effectively organized?
- 4) How can we determine whether these purposes are being attained? (Tyler, 1949, p.1)

Tyler's basic model was modified and expanded by Taba (1962) into an inductive approach that addressed the identification of needs prior to the formulation of objectives. With a needs assessment step built into the curriculum development model, appropriate and relevant instructional experiences will necessarily be provided.

Curriculum development and distance education

Within the theoretical bounds of curriculum development are several curriculum models that have been utilized by distance education programs. One of these is the Personalized System of Instruction (PSI), sometimes referred to as the "Keller Plan" after its originator.

The five main components of the PSI are:

- 1) emphasis on the written word and print materials;
- 2) master learning;
- 3) self-paced instruction;
- 4) lectures designed to motivate students, not just impart information; and
- 5) use of peer teaching and students tutoring students.

van den Bogaerde (1987) of the University of South Africa maintained that this curriculum model was not only practical, but could bring distance education universities and traditional universities closer together and foster cooperation.

A study by Jordaan (1987) contrasting the effectiveness of the Keller plan with traditional print-based distance education revealed that 66% of the students in the PSI group performed better overall than did the traditional group. The PSI students also had more positive attitudes about the method of instruction even though they had also rated it as requiring more effort than the courses following a more traditional approach.

In a discussion of course development practices for distance education, Sparkes (1984) identified the two major aspects on which one should concentrate when developing courses. The first was "feedback," i.e., enhancement of the conversational nature of "absorbing new information, trying to use it, and checking whether it was correctly used" (p. 253). The second aspect was to identify the type of learning expected to occur. By determining the domains of learning (cognitive, psychomotor, or affective) into which the concepts would fall, appropriate learning activities could be designed.

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Appropriate use of the initial needs assessment phase of curriculum development has enabled educators to provide the most appropriate instructional programs for the anticipated audience. Distance education systems have, in many instances, been designed to help solve national problems, especially in developing countries. Smith (1986) identified three categories of needs that distance education programs have helped to meet: economic (e.g., job-related training or labor force upgrading), educational (teacher training and adult basic education, predominantly), and social (health, childcare, and nutrition).

Systems Theory

Systems theory presents the "concepts, principles, and models that describe the structure, organization, and behavior of systems" (Banathy, 1973, p. 90). Systems can be simple or complex and are found in every field and discipline.

Ludwig von Bertalanffy, an early systems theorist, wrote that "A system can be defined as a complex of interacting elements" (1950, p. 143). Bertalanffy's ideas were a direct rebuttal to the theories of collectivism -- the belief that things were best understood by examining their component parts individually. Systems theory focused on the

relationships among the component parts and, as in Gestalt psychology, the belief that the whole was greater than the sum of the parts.

Hearn (1958) described systems as either "closed" -- nothing enters or leaves the system, or "open" -- inputs and outputs relate the system to its environment. Open systems are self-regulating through feedback from the environment and the subsystems and suprasystems. This feedback allows open systems to display what Bertalanffy labelled "equifinality" (1950) -- i.e., the final state of the system is not necessarily dependent on its initial condition because of the dynamic nature of the system.

Romiszowski (1970) described cybernetic systems theory and its relationship to education as a complement of behaviorism. The three main characteristics of an educational system were:

- 1) Educational systems are probabilistic; it is difficult to consistently predict system behavior, although research increases the accuracy of these predictions.

- 2) Educational systems rely on feedback to control system inputs and consequently modify system outputs to the desired result.

3) Educational systems can be seen as a "black box" with inputs and outputs, but the actual process is not necessarily relevant to the system.

This extreme level of behaviorism was not adopted by Banathy in his three models of educational systems (1973). The first model, systems-environment, related to the role of the system within its context or environment. The process (or motion-picture) model reflected system behavior over time, and the structural-spatial (still-picture) model was based on the internal organization and structure of the system. By examining a system from all three perspectives, a complete understanding of its role and functions would be possible.

Systems theory and distance education

Research on distance education has been concentrated primarily on specific programs and functions, with an emphasis on conceptual studies (e.g., definitions of the field or future trends) and case studies of existing distance education programs (Saba & Twitchell, 1987). If, instead, a systems view were adopted as a research base, the educational community's understanding of distance education and its role in the greater education suprasystem would be increased. Specifically, information that would be available might include:

- * How one part of the system affects the other parts and is affected by the other parts.
- * How each part as well as all parts, collectively, help or hinder the system to achieve its goals.
- * How the system interacts with its social context (environment).
- * What alternative policies move the system toward its goals in the future. (pp. 664-665)

By examining distance education programs as systems, a broader range of issues (such as external political or social influences) that affect the program can be studied.

Systems theory and adoption of innovations

Schon's Centre-Periphery Model of the diffusion of innovations in educational settings resulted from his belief that society and its institutions were in a continual state of change. The goal, according to Schon, was to create institutions that were "learning systems . . . capable of bringing about their own continuing transformation" (Nicholls, 1983). The recognition that, as systems, educational institutions were never static but constantly acted upon by internal and external forces reinforced the systems theory models proposed by Banathy.

Discussing distance education as innovation, Sharma (1986) spoke about the contradictory nature of

educational change and the need for a systems view of innovation diffusion.

... Success [in distance education] depends on two conditions: one, an open mind so that we, the products of conventional educational systems, do not look down upon any innovation and two, a systems approach which would ensure a fair chance for the implementation of any new idea. (p. 56)

The effect of external influences was discussed by Martin (1988) in a study of the adoption of microcomputers by schools. The implementation of a technological innovation, and subsequent institutionalization, can be "viewed as an adaptive process positioned in the center of a three-way interaction between institutional characteristics, innovation characteristics and individual concerns" (p. 24).

The Swedish International Development Authority (SIDA) supports the establishment of distance education programs in developing countries (Flinck & Flinck, 1985). Although SIDA is considered an external agent/consultant, the philosophy on which their activities are based emphasizes that local authorities are responsible for the program and that pre-designed systems cannot be imported and simply "plugged in." This point of view recognizes

the importance of the social system as one of Rogers' (1983) four elements of the adoption process and demonstrates and awareness of the interaction and interdependence of the distance education system and its physical, social, political, and cultural environments.

Research by Hilfiker (1970) indicated that a school's "organizational climate" may be influential in predicting its "innovativeness." Factors that could be considered internal forces acting upon the system (e.g., social support provided by the principal, problem-solving adequacy of staff meetings, or perceived powerlessness) were found to be important variables to consider when initiating innovations and in their long-term acceptance. These findings fit Banathy's (1973) structural-spatial model by emphasizing internal conditions and processes and their influence on the system's performance.

Systems theory and curriculum development

Systems theory was held accountable by Sharpes (1988) for a major shift in the curriculum development field. The act of setting goals and objectives reflects a behavioral approach to curriculum development, including an awareness of inputs and outputs from the system. Behaviorism, according to Sharpes, "standardizes the concept that curriculum theory is no more nor less

than the design of a goals and objectives model" for instruction (p. 15).

The evaluation phase of the curriculum development process relates to the function among systems labelled "monitoring" by Reddy (1986). Monitoring is a "link between planning and control," necessary and important because of the interrelatedness of subsystems. If one system component is not functioning in a compatible or synchronous fashion, the other components will be adversely affected. In curriculum development, Tyler's fourth basic question relates to determining whether goals and objectives are being attained (Tyler, 1949), requiring some form of feedback system or monitoring process among system components.

Curriculum development and adoption of innovations

Guba (1968) described the process of educational innovation (although he used the term "change") as one with four distinct steps: research, development, diffusion, and adoption. Guba's change process model was a problem-solving strategy, closely related to the curriculum development process in which needs are assessed and appropriate educational experiences are prescribed.

Occasionally, an educational innovation will be implemented without regard for appropriate or adequate

planning. In a case study report on an attempt to implement team teaching in Nigeria (Ejiogu, 1980), neglecting the "external needs" of the students and the educational system was cited as the cause of the program's failure.

After examining more than 30 case studies of curricular innovations, MacKenzie (1964) noted that there were many reports of unexpected side-effects or unanticipated consequences of change, although there was little research on this specific topic. He also found that the majority of curricular changes were not the result of "grass roots" movements, but were initiated instead from influential outside forces -- speakers, writers, or workshop presenters, for example. These "outsiders" could be considered, in Rogers' vocabulary, "change agents" -- individuals who use recognized and respected communication channels (books, workshops, presentations) to disseminate new ideas to receptive consumers.

Summary of Perspectives

The three research foundations, adoption of innovations, curriculum development, and systems theory, can be integrated in the following model developed by the author. (See Figure 1.)

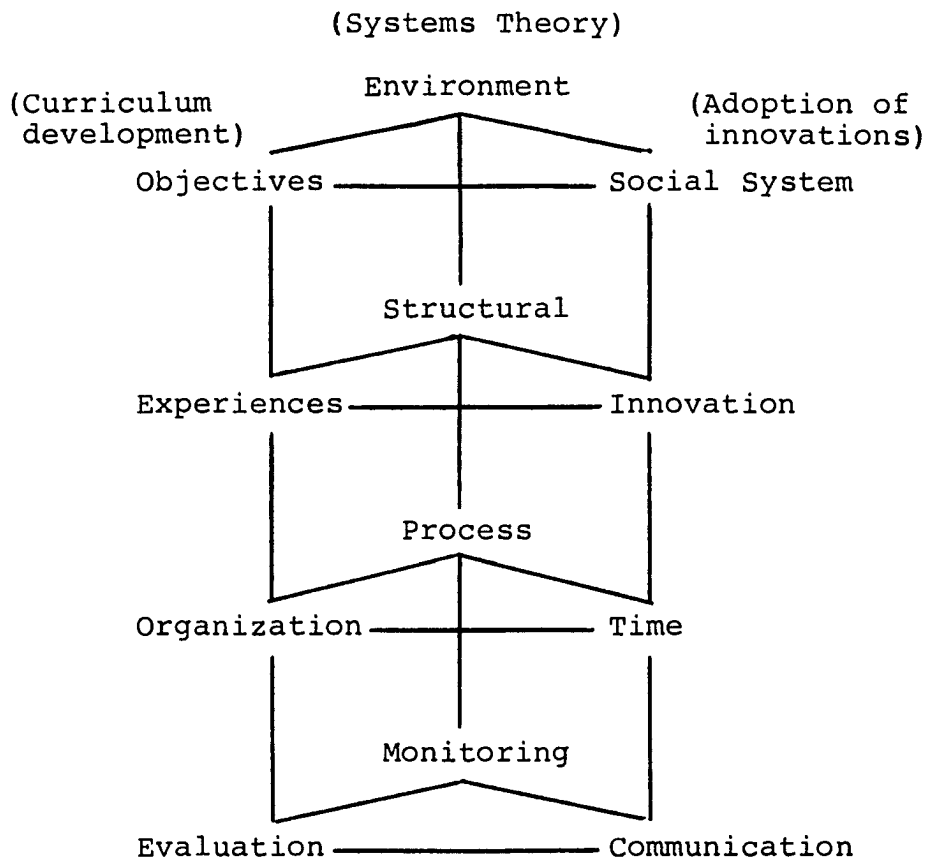


Figure 1. Triad Perspective Model of Distance Education (TPMDE)

Banathy's three systems models (1973) are represented in the center column, along with the monitoring function that regulates the systems; Rogers' four elements in the adoption process (1983) form the right-most column; and Tyler's four questions (1962) are represented in the left column. These columns are connected to form four horizontal levels within the model's structure, each level representing a plane of reference from which a distance education program could be examined.

The development of the Triad Perspective Model of Distance Education (TPMDE) by the author led to the revision of the original research questions as presented in Chapter One of this document. Those questions, derived from the three theoretical perspectives that formed the model's columns, were synthesized to reflect the structure of the TPMDE; a new set of integrated research questions was developed within each horizontal plane of reference.

Model-derived research questions

On the first level of the TPMDE, the systems-environment model relates to the social system present in the adoption process, the social system that ultimately adopts or rejects an innovation. The systems-environment model also relates to Tyler's first question dealing with

setting appropriate objectives. An awareness of the instructional context is necessary in order to develop relevant objectives. The integrated research questions within this level were:

- 1) What are Zimbabwe's educational needs?
- 2) How does distance education meet those needs?
- 3) What are the goals and objectives of the distance education program?
- 4) What relationships exist between the program and the environment?

On the next plane of reference, Tyler's second question (regarding educational experiences to be planned) relates closely to Banathy's structural-spatial model, the model that examines internal components of a system. Rogers' second element, the innovation itself, correlates with this focus on content and internal structure. The integrated research questions within this level were:

- 1) What components constitute the distance education program?
- 2) What are the functions of the distance education program?
- 3) Are the components and functions moving the program toward its goals?

- 4) Are there components and functions "missing" from the system?

The third level of the model contains Rogers' element of time related to Banathy's process model. The process model is concerned both with transformations occurring within the system and the system's behavior over time. This can then be related to Tyler's third question regarding the organization of educational experiences -- i.e., sequencing, timelines, accountability, and how the program will behave over time. The integrated research questions within this level were:

- 1) What is the sequence of activities within the distance education program?
- 2) How could purposeful change be introduced into the distance education program?
- 3) How has the distance education program evolved over time?

At the final level of the TPMDE, Tyler's fourth question on evaluation relates not only to his previous three questions, but also to the feedback and monitoring function responsible for system regulation. Monitoring influences all three system models, and occurs via communication channels, as in Rogers' fourth element. The decision to adopt or reject an innovation is made

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through feedback and monitoring, both of which rely on communication channels. The integrated research questions within this level were:

- 1) What communication channels are necessary for the successful functioning of the distance education program?
- 2) Is there a clearly identified process for program monitoring within the distance education program structure?
- 3) Do procedures exist for the regular evaluation of the distance education program?

By using the Triad Perspective Model of Distance Education to examine the distance education program in Zimbabwean teacher education, a comprehensive portrait of its strengths and weaknesses will be formulated. This portrait, based on systems theory, curriculum development, and adoption of innovations, will then form a foundation for continued research in distance education.

CHAPTER THREE

METHODOLOGY

Introduction

This chapter will begin by discussing qualitative educational research -- its characteristics, advantages and disadvantages, and its role in distance education research. Following will be a description of the research procedures used to accomplish the three project objectives. The external limitations and constraints on the choice of research methods will be discussed, as will the reasons why these choices were the most appropriate to the project goals.

Qualitative Research

Research predicated upon the interpretive research paradigm is often referred to as "qualitative" or "subjective" (Borg & Gall, 1983). Inquiry is value-laden and is often conducted using naturalistic methods. This can be contrasted with "quantitative" research within the positivistic (scientific) paradigm.

The major characteristics of qualitative research distinguish it clearly from quantitative research. One of these characteristics is that the research questions grow out of the data collection and analysis process, unlike quantitative research in which a fixed structure

is established prior to beginning the study (Martin, 1988).

Another characteristic is that the methods of gathering data are subjective and may involve the researcher in the case being studied. Observation, personal interview, and even unobtrusive measures such as document analysis, rely to a great extent on the interpretations assigned to them by the researcher. In quantitative research, objectivity and non-involvement are highly valued.

The results derived from qualitative research are, not surprisingly, different than those of quantitative research. Qualitative research is designed to produce exploratory premises and descriptive narrative (as opposed to the cause-and-effect relationships or verificatory data obtained from quantitative studies) to explain what an educational program means in a school district. Frequently, qualitative research methods are used to develop "grounded propositions" that can be used as a basis for further studies using statistically-based quantitative methods (Wehlage, 1981).

Qualitative research has many strengths that make it an appropriate choice for educational research. One of these is that external influences or contextual features within the case or program being studied are identified

(Rothe, 1985). Rarely in education do events occur in a vacuum, isolated from the influence of political, social, cultural, or economic pressures. Rather than trying to create an artificial environment in which to study an educational phenomenon, qualitative methods require study within the actual setting.

Related to this is another major strength of qualitative methods: this paradigm reflects in its research designs the structure and role of education in society. Schools are "social organizations whose activities are maintained, renewed, and sustained in relation to other institutions in society" (Popkewitz, 1984, p. 88). By recognizing this interrelatedness and building it into the design, results gain credibility as a realistic portrait of a specific situation.

Along with its strengths, qualitative research has very distinct weaknesses that make it unsuitable for certain types of projects. One of the most obvious is that broad generalizations are usually not possible. Specific cases or programs may be studied in great depth, but research results may not transfer to other cases or programs.

One of the dangers of conducting qualitative research is that of observer bias. Several typical problems, identified by Martin (1988), include the

unsystematic collection of data and selective attention to particular aspects of the environment being observed. Because naturalistic methods are so highly subjective, bias is one of the prominent weaknesses of qualitative research studies.

Another weakness of qualitative research is not really a flaw within the methods or theoretical paradigm, but is based on cultural factors. Qualitative research suffers from a "subservience" to empirical, statistically-based research methodologies (Hamilton, 1981). Quantifiable results from statistically validated studies (possibly as an outgrowth of behaviorism with its emphasis on observable, tangible outcomes), remain dominant in educational research.

At first glance, the qualitative and quantitative research paradigms may seem incongruous. In fact, both are important and necessary perspectives that are linked through what Rothe (1985) labelled "complementarity." Quantitative research creates "standardized predefined categories" that enable us to understand our environment and qualitative research provides an inside view of students' attitudes toward those categories. These attitudes, in turn, influence the effectiveness of a program and the students' perceptions of it. Because of the interrelatedness of the external and internal

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perspectives, research using quantitative methods (reconstructed reality) and qualitative methods (everyday reality) are both valuable.

Qualitative research is especially appropriate for distance education. Situational studies recognize that students in distance education courses, perhaps more than students in traditional educational settings, are actively involved in and influenced by their local environment (Rothe, 1985). Examining a distance education program, its impact, role, and status, using qualitative methods provides the researcher with a contextual framework upon which to draw conclusions. To study the distance education system in the teacher education programs in Zimbabwe, a combination of qualitative and quantitative research methods was used, although the study is primarily qualitative in nature. The next section will describe the methods chosen for each objective.

Methodology

As described in Chapter 1, this research project had three overall objectives: a workshop, a proceedings document, and an evaluative description. Funding for much of the travel, materials, and printing within these activities was provided through a grant from the United States Information Agency under its Teachers/Texts/

Technology (TTT) program. The purpose of TTT has been to assist developing nations in improving their teacher education programs. The grant was awarded cooperatively to Iowa State University and the University of Zimbabwe and had four specific areas within teacher education that were to be addressed by grant activities. These were: English as a second language, math education, science education, and distance education.

The TTT grant influenced the choice of methods used in the project and provided a moderately flexible schedule and structure. The following sections discuss the procedures used to accomplish each of the project's objectives.

Objective 1 -- workshop

Workshop agenda The workshop, entitled "Distance Education: A Workshop" was scheduled for five days, January 9 - 13, 1989 at the University of Zimbabwe, Harare. A tentative agenda was planned by the workshop co-leaders before the workshop began, based on the stated workshop objectives, but was revised day-by-day to accommodate the needs of the workshop participants. One agenda had been prepared by the United States team of presenters, and one had been prepared by faculty at the Associate College Centre. These two proposed schedules were then combined to form the agenda that was used as

the "skeleton" for the week's activities. Topics for discussion that had been solicited by the A.C.C. from the teachers' colleges were included and presentations were specifically requested from several educators involved with the Zimbabwean distance education program. (See Figures 2 and 3 and also the Proceedings Document in Appendix F.)

The workshop consisted of a combination of active and passive activities -- presentations by the workshop co-facilitators, University faculty, and the director of the Distance Education Centre were predominantly lecture-based with moderate interaction among participants, while large-group and small-group discussions actively involved many of the workshop attendees. Participants were divided into small groups to create reports on what they considered the critical issues facing distance education in Zimbabwe. This was the culminating activity that resulted in written reports and oral presentations to the group.

Workshop participants The distance education workshop was attended by two (or more) representatives from each of fourteen teachers' colleges in Zimbabwe (one college sent three) as well as faculty members from the Associate College Centre and two representatives from the Distance Education Centre. Teachers' college

Workshop Goals and Objectives

Goal: To appreciate the importance of distance education techniques and to gain an understanding of distance education techniques.

Objectives:

- * define distance education and give its characteristics
- * explain the dimensions of distance education
- * explain the premises that describe distance education
- * understand the sequence of technologies that support distance education
- * explain the characteristics of course materials designed for distance education
- * explain the differences between distance education and conventional education systems
- * describe the categories of distance teaching institutions and give characteristics
- * explain the Australian system of distance education
- * differentiate between distance education and indirect education
- * differentiate between distance education and other types of traditional and non-traditional education
- * understand the techniques for distance education in Iowa
- * explain the process of the systems approach as it relates to distance education
- * identify important issues related to the use of distance education techniques in Zimbabwe

Figure 2. Workshop goals and objectives

- * write effective goals and objectives
- * understand basic research and evaluation reported in the literature about distance education
- * participate in a needs assessment concerning distance education in Zimbabwe
- * work in a group to prepare a concept paper on an important issue related to distance education in Zimbabwe
- * present, in groups, a concept paper on various aspects of distance education in Zimbabwe
- * understand the process of curriculum development for distance education
- * explain the various techniques for sequencing instruction for distance teaching
- * describe techniques for establishing set, handling questions, and giving closure to a lesson in distance education
- * understand how research in the area of distance education, and explain how this research impacts on distance education now and in the future
- * participate in the process of describing distance education in Zimbabwe, and help plan future distance education activities

Figure 2. (Continued)

Distance Education Workshop

Schedule

Monday 9th January

8.00 am	Arrival and Registration of Participants
8.45 am	Welcome and Official Opening by Dr. Arlene Jacquette, USIS
9.30 am	Introduction of Course Tutors and Distribution of Materials
9.45 am	Distance Education: Definitions and Characteristics (Dr. Mike Simonson)
10.15 am	TEA
10.45 am	Definitions and Characteristics (continued)
11.45 am	The Distance Education Centre: Problems and Prospects (Dr. A. Masunungure)
12.45 am	LUNCH
2.00 pm	Principles and General Examples of Distance Education (Dr. Mike Simonson)
2.45 pm	Roles for Distance Education in Zimbabwean Colleges (Tom Bourdillon)
3.15 pm	TEA
3.45 pm	Research in Distance Education (Susan Zvacek)
4.30 pm	Adjourn

Figure 3. Distance education workshop schedule

Tuesday 10th January

8.00 am	Defining Distance Education (Simonson & Groups)
9.30 am	Writing Mission Statements, Goals, and Objectives (Zvacek & Groups)
10.15 am	TEA
10.45 am	Missions, Goals, Objectives (continued)
11.30 am	Concepts in Distance Education (Simonson)
12.30 pm	LUNCH
2.00 pm	The Evaluation of Distance Education in Zimbabwe (Dr. Boni Chivore)
2.45 pm	Communication Theory and Behaviorism (Simonson)
3.15 pm	TEA
3.45 pm	Distance Education Systems in Iowa
4.30 pm	Adjourn

Figure 3. (Continued)

Wednesday 11th January

8.00 am	Systems Approach to Distance Education (Simonson)
8.30 am	Categories of Distance Education Institutions (Simonson)
9.00 am	Needs Assessment/Issues Identification and Categorization (Groups)
10.15 am	TEA
10.45 am	Issues Ranking and Groups Selection (Groups)
12.45 pm	LUNCH
2.00 pm	The Role of Modern Technology in Distance Education (Dr. John Rwambiwa)
3.15 pm	TEA
3.45 pm	Group Work
4.30 pm	Adjourn

Figure 3. (Continued)

Thursday 12th January

8.00 am	Research Information Session
8.30 am	Group Work
10.15 am	TEA
10.45 am	Group Work
12.45 pm	LUNCH
2.00 pm	Group Reports and Discussion
3.15 pm	TEA
3.45 pm	Groups Reports (continued)
4.30 pm	Adjourn

Friday 13th January

8.00 am	Announcements
8.15 am	Panel Discussion and Comments: Critical Issues in Zimbabwean Distance Education (Zvacek moderating)
9.30 am	Workshop Summary (Simonson)
10.00 am	Distribution of Books
10.15 am	Break
10.30 am	Workshop Evaluation
10.45 am	Pictures
11.00 am	TEA and Cake Cutting
11.30 am	Closure of the Science Education and Distance Education Workshops (Vice-Chancellor, Professor Walter Kamba)

Figure 3. (Continued)

representatives were selected (in most cases) by each college principal. Workshop participants were chosen based on their involvement with and interest in the distance education program. Meals, dormitory accommodations, and travel expense reimbursements were provided for workshop participants by the TTT grant funds.

On the first day of the workshop, each participant filled out an information sheet about him- or herself, including name, address, and professional position. They were also asked on the form to "tell us a little bit about yourself, your family, and your work." They were asked to write freely about their expectations for the workshop, whether they had been to a workshop on distance education before, their responsibilities for distance education, and any other information they would like to share with the workshop facilitators. (See Figure 4.)

Using the results of the information sheets, the workshop facilitators gained a greater understanding of each participant's background, knowledge, and interests. Of the 27 attendees who completed information sheets, 24 were teachers' college lecturers, half of whom had attained the rank of senior or principal lecturer. The remaining three were in administrative positions. Several participants volunteered information about their

Distance Education
-- a workshop --

Name: _____

Work Address: _____

Work Position: _____

Home Address: _____

Tell us a little bit about yourself, your family, and your work:

Figure 4. Workshop participant information form

educational background. All held at least a bachelor's degree, six had master's degrees, and three had earned a Ph.D. Many of the advanced degrees were obtained out of the country -- South Africa, England, Swaziland, and the United States were mentioned specifically. Two of the lecturers had authored textbooks. Almost all of the workshop participants had been to at least one other distance education workshop previously, possibly since many of them were responsible in some way for distance education activities at their respective colleges.

All but three of the participants mentioned that they were married, and all that were married also had children. Hobbies such as sports (basketball and lawn tennis) and arts and crafts were also mentioned.

The workshop participants were, except for their common interest in distance education, a diverse group. The age range appeared to be approximately 25 years, they came from a variety of academic backgrounds (subject area specialties included sociology, chemistry, art, English, Shona, history, and others), and their teaching experiences (urban or rural, primary or secondary) also varied. As heterogeneous as this group was, however, they worked together with enthusiasm and dedication. A complete list of workshop participants is included in the proceedings in the Appendix.

Distance education survey The participants completed the Distance Education Survey (DES) on the morning of the third day of the workshop (January 11, 1989) as a followup to the "goals" activity of the previous day (for the Distance Education participants) and also to provide information for the needs assessment portion of the grant objectives. This brief survey questioned participants about the original goals of the distance education program, whether these goals had been accomplished, what they felt were the strengths and weaknesses of the program, and the changes they felt were needed in the distance education program. (See Figure 5.)

The DES was developed as a foundational survey to assess the status of the distance education program and the lecturers perceptions of its worth. Most of the questions were open-ended so that respondents would not be "led" to give a response based on what they thought was expected or desired. The questions were much like the interview questions that were used during campus interviews, and in fact, were intended to confirm or contradict the conclusions ultimately drawn from the informal interviews.

Repondents were asked to rank, in order of importance, seven elements of a distance education

Distance Education Survey

Please take a moment to fill out this survey as part of the needs assessment process. Do not sign your name or otherwise identify yourself. Please be candid in your remarks -- they will remain confidential. Thank you!

- 1) Were the original goals of the distance education program made explicit at the beginning of the program?
- 2) If yes, what were they?
- 3) If no, what do you think they were?
- 4) Do you think that these original goals have been fulfilled?
- 5) If not, why not?
- 6) Are these original goals still relevant?
- 7) What changes/additions/deletions to these goals would you suggest, if any?

Figure 5. Distance education survey form

- 8) What are the major strengths of the distance education program?
- 9) What are its major weaknesses?
- 10) What recommendations could you make for the improvement of the program?
- 11) Please rank the following characteristics of a distance education program in order of their importance. Ask yourself, "If I were to re-design the current distance education program, what would I consider most important?" (#1 is the most important and #7 is the least important.)
- _____ Face-to-face communication with students on a regular basis
- _____ Progress reports to maintain awareness of student problems
- _____ Feedback from the teacher to the student
- _____ Challenging assignments
- _____ Student input regarding the design of learning activities
- _____ Local supervision of students in the distance education program
- _____ Use of electronic communications media (radio, for example)

Figure 5. (Continued)

12) Which statement most closely matches your opinion of how well the distance education system is working? (check one)

- I think the system is operating quite well and does not need modification at this point.
- I think the system is operation moderately well, but needs some fine-tuning in certain areas.
- I think the system is not operating as well as it could and needs major modifications in order to meet student needs.
- I think the system should be completely eradicated and a new design developed.

13) Which statement would you GUESS most close matches the opinion of most students participating in the distance education program? (check one)

- I think the system is operating quite well and does not need modification at this point.
- I think the system is operating moderately well, but needs some fine-tuning in certain areas.
- I think the system is not operating as well as it could and needs major modifications in order to meet student needs.
- I think the system should be completely eradicated and a new design developed.

Figure 5. (Continued)

program. By doing this, the researcher was able to gauge the opinions of the respondents on elements that were in use in the Zimbabwean distance education program (e.g., face-to-face communication on a regular basis) and some that were not in use (e.g., use of electronic communications media).

The final set of questions asked the workshop participants how well they thought the distance education system was working, and how well they thought the students participating in it thought it was working. There were four possible choices; the most positive was, "I think the system is operating quite well and does not need modification at this point." The least positive response was, "I think the system should be completely eradicated and a new design developed." By asking for the lecturer to "guess" how a student might respond, the researcher was able to indirectly assess students' perceptions, since access to students was quite limited.

This questionnaire was administered to the distance education workshop participants and also to a group of 25 teachers' college lecturers attending a science education workshop at the University of Zimbabwe. These lecturers had had contact with the distance education program at their respective colleges and had worked with students on teaching practice that were completing distance education

assignments. The workshop they were attending was part of the efforts of the same TTT grant that had funded the distance education workshop.

Workshop products The tangible results of the workshop were five position papers developed by the small groups into which the participants had self-selected. The topics of the papers were five critical issues in distance education that were agreed upon by the participants. These five topics were arrived at through a selection process by which initial brainstorming of individuals was followed by categorizing the issues for discussion. These ten categories were voted on by participants using U.S. pennies as tokens. Each participant had 25 pennies with which to vote and was allowed to vote with up to five pennies per category; in this way, each participant would vote for a minimum of five categories. Ranking of the categories was based on the total number of pennies allocated to each issue by the participants.

Once the categories were ranked according to importance (based on voting) the top five were determined and groups were formed. (As it turned out, not all of the top five vote getters were selected by the participants as paper topics.) Participants were allowed to work with any topic group and those who were not

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strongly committed to a particular topic were "recruited" into specific groups by a self-appointed spokesman. Once the groups were formed, large blocks of time were given for them to develop their papers and prepare presentations for the other workshop participants. (A more detailed summary of this activity can be found on pages 47 to 49 of the Proceedings document in Appendix F.)

Workshop evaluation On the final day of the workshop, participants completed a workshop evaluation. There were four questions with Likert response scales and additional room for written comments, and three open-ended questions. The Likert response questions asked how well-organized the workshop was, how knowledgeable the leaders were, whether distance education was an important issue in Zimbabwean education, and how much the participants felt they learned in the workshop. The open-ended questions asked what they liked best and least about the workshop and the final question simply asked for "other comments" about the workshop. This evaluation instrument was based on workshop evaluations previously used by one of the workshop leaders, and a modified version was also used for the TTT Science Education Workshop. (See Figure 6.)

Distance Education
 -- a workshop --
 END-OF-WORKSHOP EVALUATION

(circle one)

How much did you learn about distance education in the workshop? A Great Amount Quite a Lot A Little Bit Very Little
 Comments:

Did you feel the workshop was organized effectively? Very Effectively Effectively Organized O.K. Poor
 Comments:

Do you feel Distance Education is an important topic for further effort by Zimbabwe? Yes, Very Somewhat Not Important
 Comments:

Did you feel the workshop leaders were knowledgeable? Yes, Very Somewhat Not very
 Comments:

What did you like best, or most, about the workshop?

What did you like least about the workshop?

Please give other comments you have about the workshop.

Figure 6. Distance education workshop evaluation form

Objective 2 -- proceedings

Purpose The purpose of producing a proceedings was to create a tangible product from the workshop activities. This document could then be distributed to the fourteen teachers' colleges, to the Associate College Centre, and to the Ministry of Education as a formal report on the state of distance education in teacher education.

Proceedings contents This document contained papers by the workshop facilitators, written accounts of small-group activities (e.g., Developing Mission Statements and Program Goals), papers by guest presentors from the University of Zimbabwe, and the final written group reports dealing with the critical issues in distance education in Zimbabwe. It also included a copy of the workshop agenda, a list of participants, and the workshop syllabus. Additional papers were solicited from guest presentors, but time constraints prevented them from contributing.

The small-group reports were prepared and submitted to the proceedings editor in handwritten form. After returning to the United States, these papers then typed into word processing files for printing. The final copies of the proceedings were printed and bound at the

Iowa State University Printing Services. A complete copy of the proceedings is included in Appendix F.

Objective 3 -- evaluative description

Purpose The purpose of the evaluative description was to create a comprehensive narrative describing the distance education system -- its characteristics, strengths, and weaknesses. This description was based on the three theoretical foundations of curriculum development, systems theory, and adoption of innovations. A variety of qualitative and quantitative data collection methods were utilized to complete the narrative.

Informal interviews Informal interviews were conducted with faculty members and administrators at five teachers' colleges during two trips to Zimbabwe -- one in June, 1988 and the second during January, 1989. These interviews and visits were arranged through the A.C.C. by Dr. Benjamin Siyakwazi (for June, 1988) and by Dr. Tom Bourdillion (for January, 1989). The campuses visited in June included Gwanda ZINTEC, Hillside Teachers' College, and United College of Education (U.C.E.). In January, Mutare Teachers' College, Marymount Teachers' College, and Morganster Teachers' College were visited.

The visits lasted several hours each and included a tour of the facilities, conversations (interviews) with

lecturers, and either lunch or tea in the morning or afternoon. At each campus, the researcher also gave a brief presentation (ten to fifteen minutes) to the faculty as a group about the distance education portion of the TTT project. This helped to establish "set" with the faculty for when the researcher met with them individually or in groups of two or three.

The interviews were conducted to determine what these educators considered to be the major threats (internal and external) to the success of the distance education program, as well as the positive attributes that enabled it to continue and grow. Questions focused on the structure of the program, its strengths and weaknesses, and their recommendations for its improvement. Lecturers were also asked about the problems their students experienced with the distance education program.

Students who had been on teaching practice and were in their final year of on-campus instruction at Morganster Teachers' College also met with the researcher for informal conversations. Questions asked of the students focused on what their teaching practice duties had been, what their daily schedule had been like, what their opinion was of the distance education activities,

and whether they had had any problems with distance education.

Interviews were also arranged by the A.C.C. and conducted with the Director of the Distance Education Centre, faculty and administrators from the Associate College Centre, a Ministry of Education official, and two educational radio programmers. The focus of these discussions was on the strengths and weaknesses of using distance education in the teacher education program. Because of governmental restrictions, interviews had to be "informal," conducted much like casual conversations. Tape recording interviews was discouraged, although note-taking presented few problems.

Observation Observation was one of the data collection techniques used in this project. The researcher had the opportunity to observe classes briefly at the teachers' colleges. Although the setting was different and the facilities not as modern, the activities within the classes seemed very much like education courses offered at any U.S. college.

Observing the interaction among workshop participants as they prepared reports, contributed to discussions, and presented papers was also beneficial. Because lecturers typically had few opportunities to meet with their peers throughout the academic year, every free

moment was spent in discussion. While helpful, observation as a technique was used the least of any that have been discussed.

Unobtrusive measures Two of the most helpful techniques used were types of unobtrusive measures. Documents from the teachers' colleges (e.g., sample assignments for distance education students) were examined to help build a "picture" of how the system was organized and administered. The position papers from the workshop and the results of the small-group activities early in the workshop schedule (e.g., developing mission statements and goals), also served as another form of unobtrusive measure. These sources were important because they indicated the perceptions of professional educators who were closely involved with the system being studied.

As data sources, these documents presented a conscious, intentional attempt at solving the problems of the distance education program as they were perceived, and provided a more subtle picture of the system's inner workings. Faculty and administrators were more than willing to lend or give documents to the researcher that would help to explain the system's history, how it worked, and how it could improve.

Limitations on methodology

There were several external factors that influenced the choice of data collection and analysis. Perhaps the most limiting constraint was the close control by the Ministry of Education over educational research being conducted in any institution. Because of the procedural difficulty anticipated in obtaining formal approval for research involving any kind of disruptive measures, naturalistic methods were selected that could be incorporated into the workshop setting or that would not interfere in any way with any institution's daily routine.

The international setting of this study made it especially appropriate for qualitative methods. In a discussion of naturalistic observation methods, Wolcott (1981) encouraged learning observation skills in cross-cultural settings. The "culture shock" experienced by the researcher created heightened awareness and occurrences in the environment that might have otherwise gone unnoticed stood out because of the unusual circumstances. In this project, the researcher visited Zimbabwe twice (June, 1988 and January, 1989); the initial visit helped to diminish the culture shock on the second trip and also provided exposure to the main system components. This initial visit also reduced some of the

hesitancy on the part of the faculty members and administrators who may have been somewhat reticent with a researcher who was completely unfamiliar with their educational system.

The research methods chosen provided the researcher with the data pertinent to the objectives. By combining several types of procedures, a pool of data were assembled that was appropriate for analysis using the Triad Perspective Model of Distance Education described in Chapter Two.

Timeline

The sequence of activities in the execution of this study began with the researcher's initial trip to Zimbabwe in June 1988, the "pilot study" that formed the basis for carrying out the three project objectives. From July to December, 1988, the three theoretical perspectives (systems, curriculum development, and adoption of innovations) were formulated and the initial set of research questions were developed. The workshop was also planned during this time period in cooperation with Dr. Michael Simonson, the researcher's workshop co-facilitator and presenter.

The second trip to Zimbabwe took place from January 4 through January 28, 1989. The workshop, "Distance Education: A Workshop," was presented at the University

of Zimbabwe the week of January 9-13. Data were collected using the methods described earlier in this chapter.

From February to April, 1989, the Proceedings document was compiled, edited, printed, and bound. Preliminary data analysis began during this period, and the Triad Perspective Model of Distance Education was developed, along with its accompanying synthesized research questions.

Final data analysis was carried out from April to July, 1989. Based on this analysis and following the framework provided by the TPMDE, the Data Summary, Evaluative Description, and Recommendations were written to complete the study. (See Figure 7.)

June 1988	Pilot study Initial trip to Zimbabwe
July - December 1988	Formulated theoretical perspectives, developed research questions
January 1989	Second trip to Zimbabwe Distance Education: A Workshop Data collection
February - April 1989	Proceedings document prepared Preliminary data analysis
April - July 1989	Final data analysis Wrote project report

Figure 7. Timeline of project activities

Summary

This chapter began by discussing the characteristics of qualitative educational research, including its advantages and disadvantages and the role it played in distance education research. Next was a description of the research procedures used to accomplish the three overall project objectives -- the workshop, the proceedings, and the evaluative description. The external limitations and constraints upon the choice of research methods were discussed, which was followed by an explanation of why the methods chosen were considered to be appropriate.

CHAPTER FOUR

DATA SUMMARY

Introduction

The purpose of this chapter is to summarize the findings from the various data collection methods described in Chapter Three. The "raw data" can be found in note and document form in Appendices A through F. The data summarized will include the results from the Distance Education Survey (DES), notes from Workshop presentations, the Workshop Evaluation results, notes from observations and visits, notes from formal and informal interviews, and documents related to the distance education program.

Distance Education Survey

Open-ended questions

The results of the DES completed by 54 of the participants of the Distance Education and Science Education Workshops confirmed many of the tentative ideas formed by the researcher during the "pilot study" trip to Zimbabwe in June, 1988. In response to the first question, "Were the original goals of the distance education program made explicit at the beginning of the program?" most of the respondents (69%) replied, "Yes." However, when asked in the second and third questions

about what those goals were, there were many different responses, most focusing on the application of theoretical concepts studied the previous year or simply keeping the students in a "learning mode" while they were teaching.

The next set of DES questions dealt with whether these goals had been fulfilled. Of the 44 responses, 35 said "Yes" or indicated that the goals had been "partially" fulfilled, and 40 of these respondents felt that the goals were "relevant." (Since there were several versions of program goals, however, this response was not surprising.)

The strengths and weaknesses of the distance education program for teacher education in Zimbabwe were discussed next. The strengths focused on the value of keeping in touch with students on teaching practice, the continuity of learning, and relating theory and practice in the classroom. The weaknesses reported included a lack of resources (personnel, money, supplies), communication problems (between students and lecturers, colleges and the A.C.C., and among the teachers' colleges themselves), students copying assignments from others, and lack of feedback to the students about assignments completed.

Recommendations for improvement included a more efficient organizational structure for the program, use of technology to deliver instruction, and training in distance education methods for college lecturers who were responsible for distance education activities within their respective college departments. (The complete set of responses to DES questions 1 through 10 can be found in Appendix A.)

Rank ordering characteristics

When asked to rank order several characteristics of a high quality distance education program, responses given high ratings were "face-to-face communication" and "feedback to students." (Respondents were asked to rank the most important characteristic with a "1" and the least important with a "7.") There were low ratings for "student input on assignments", "local supervision of students", and "use of electronic communications media." Otherwise, the responses were dispersed with no discernible pattern. (See Appendix A for raw data rankings for this survey item.)

There appeared to be few major differences between the survey responses of the Science Education participants and the Distance Education participants on the ranking of important characteristics in a distance education program. Distance Education participants

ranked the importance of local supervision somewhat lower than the Science Education respondents; 20 Distance Education respondents ranked this as either 5, 6, or 7 but only 12 Science Education lecturers gave it rankings this low. Ten Science Educators ranked the use of electronic communications media as seventh and only three Distance Educators ranked it with this lowest mark. (See Figure 8.)

Program success

The final set of DES questions on the goals survey asked respondents to rate how well the system was working and then to guess how students participating in distance education would rate the program. None of the workshop participants selected "I think the system is operating quite well and does not need modification at this point," although three thought that students would choose this response.

Seventeen of the respondents indicated "I think the system is operating moderately well, but needs some fine-tuning in certain areas." Eighteen thought that students would respond likewise. The next most selected choice was "I think the system is not operating as well as it could and needs major modifications in order to meet students needs." Thirty-five of the workshop

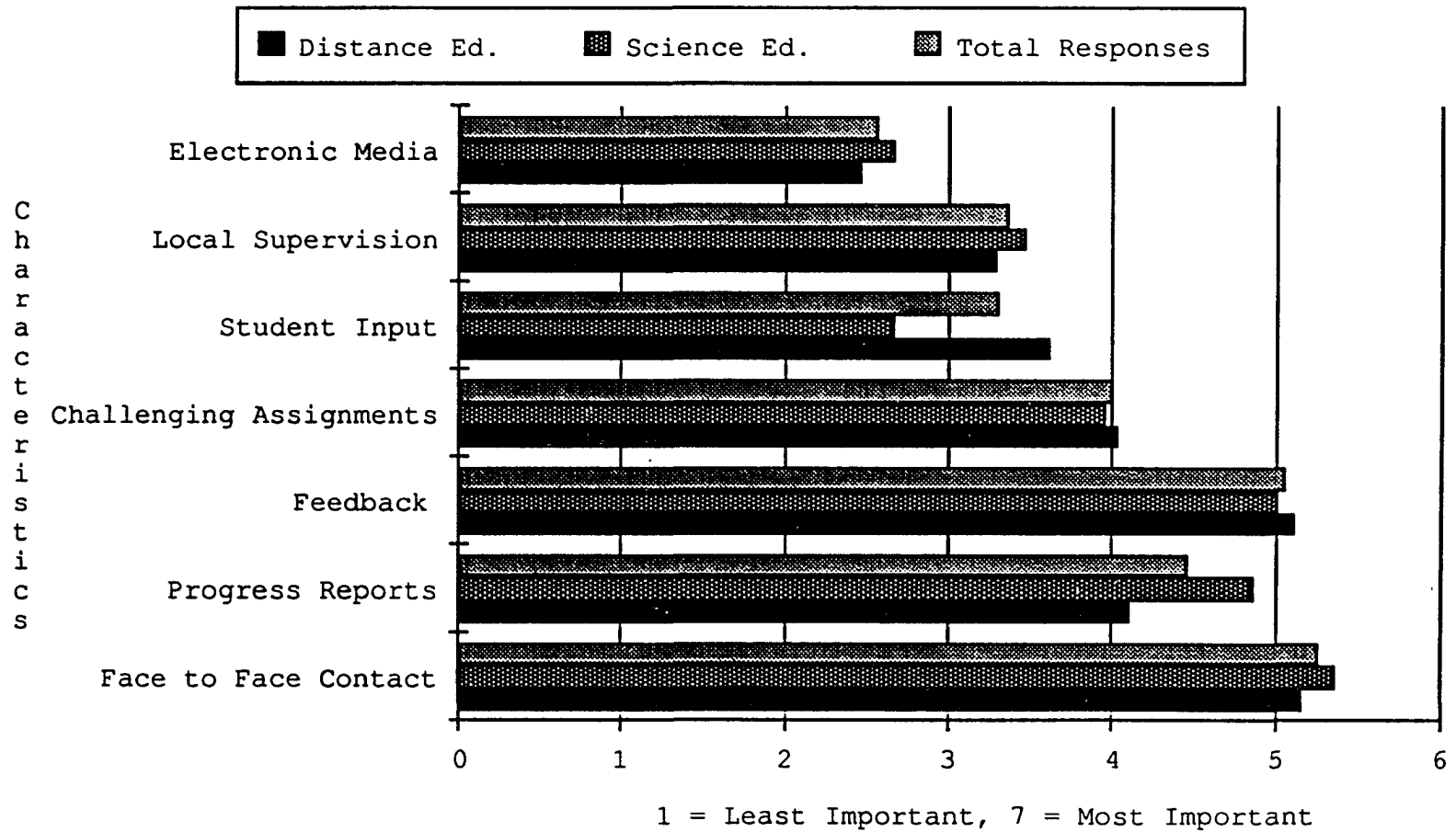


Figure 8. Mean score ranking of characteristics as ranked by distance education, science education, and total workshop participants

participants selected this to represent their opinions and 24 thought that students felt this way.

The final statement, "I think the system should be completely eradicated and a new design developed" was only chosen by two workshop participants, but nine of them guessed that as the student response. (See Figures 9 and 10.)

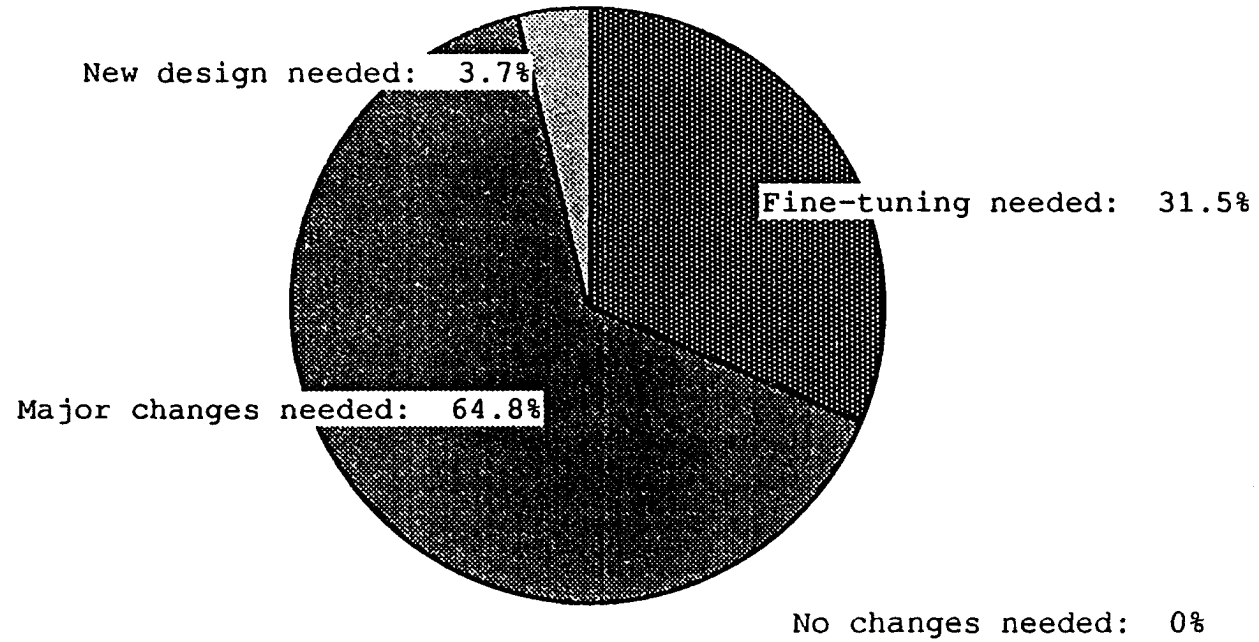
The responses of the Distance Education Workshop participants were much more negative to this question than those of the Science Education Workshop participants, although their "guessed" student responses were more neutral. The Science Educators all responded that either fine-tuning or major modifications were necessary (the two "middle" responses), but several guessed that student responses would fall at one of the extremes -- two at "no modifications" and six at "new design." (See Figures 11, 12, 13, and 14.)

Summary

To summarize, analysis of these survey results seemed to indicate that:

- 1) Zimbabwean lecturers in attendance believed in the value of the distance education program;
- 2) the distance education program goals varied, not only from college to college, but among lecturers within colleges;

How well is the distance education system working?



95a

Figure 9. Workshop participants' opinions of the distance education system

How well do students think the distance education system is working?

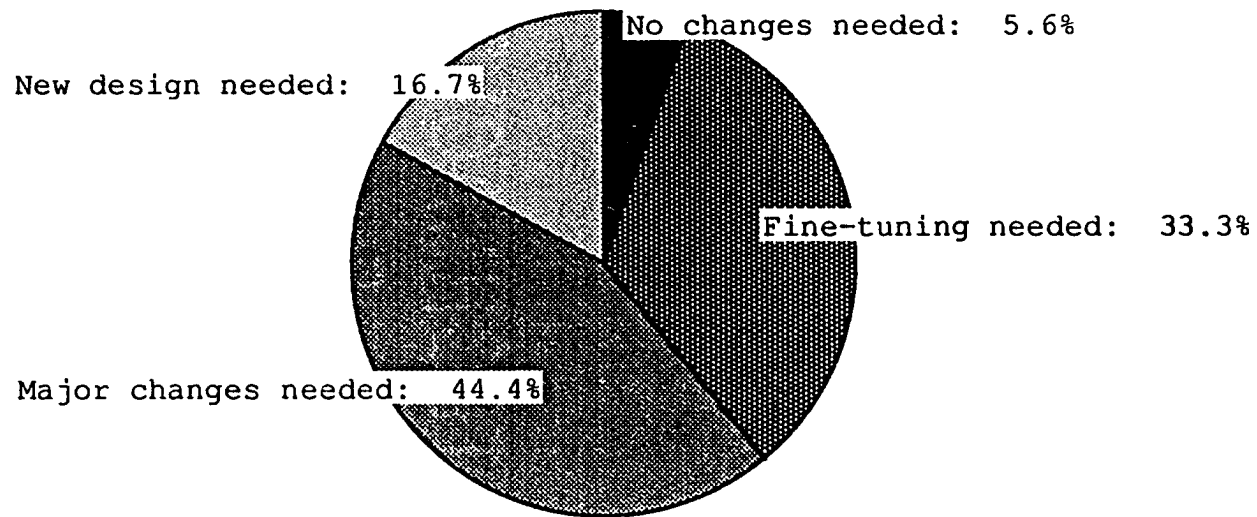


Figure 10. Workshop participants' "guesses" of students' opinions of the distance education system

How well is the distance education system working?

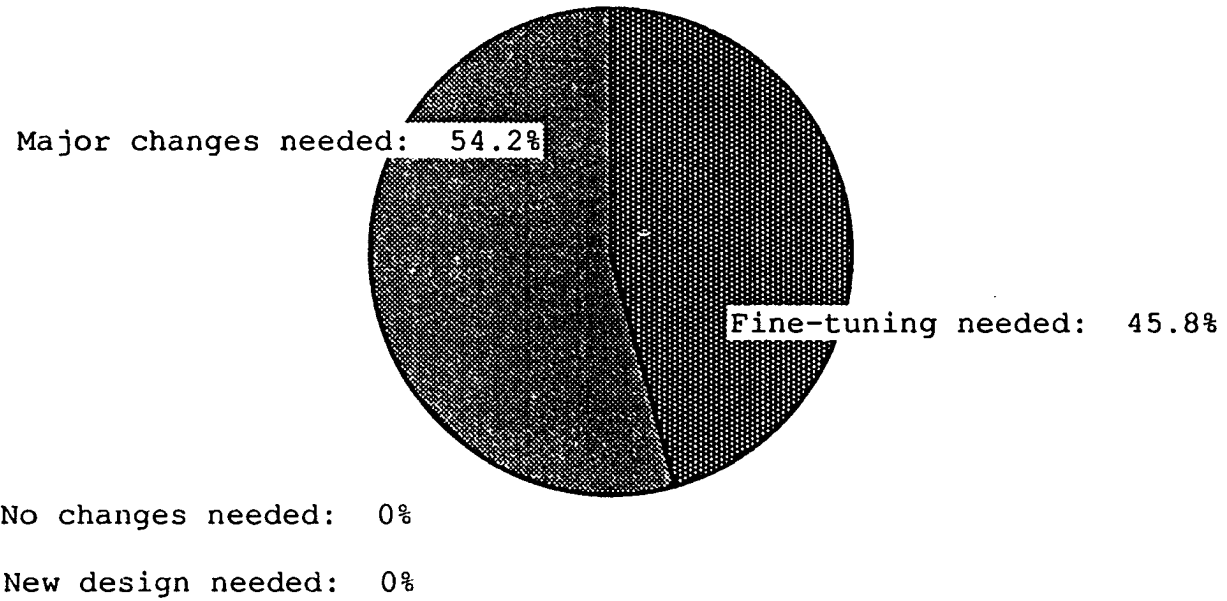


Figure 11. Science education workshop participants' opinions of the distance education system

How well is the distance education system working?

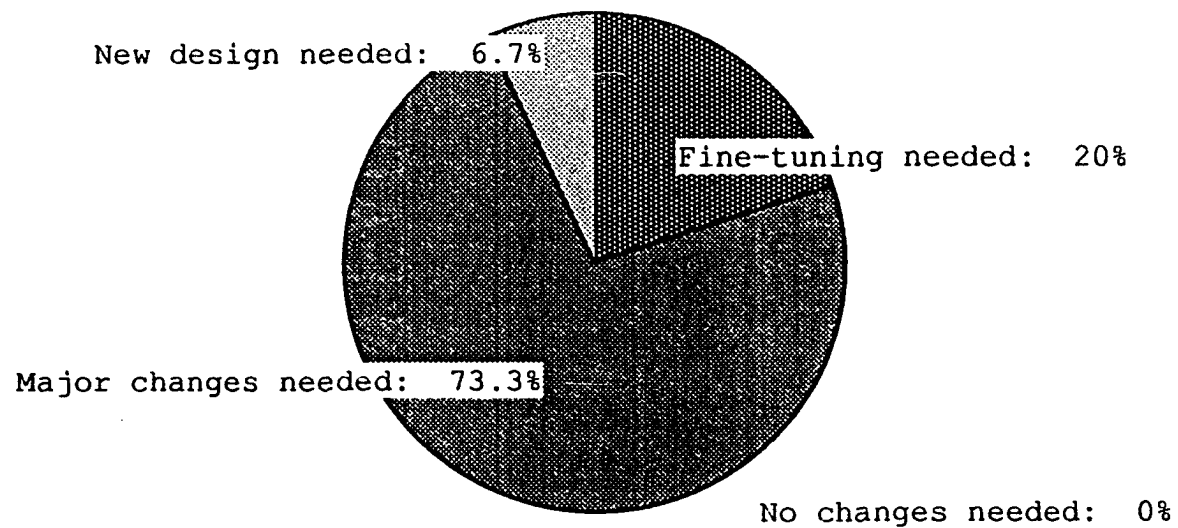


Figure 12. Distance education workshop participants' opinions of the distance education system

How well do students think the distance education system is working?

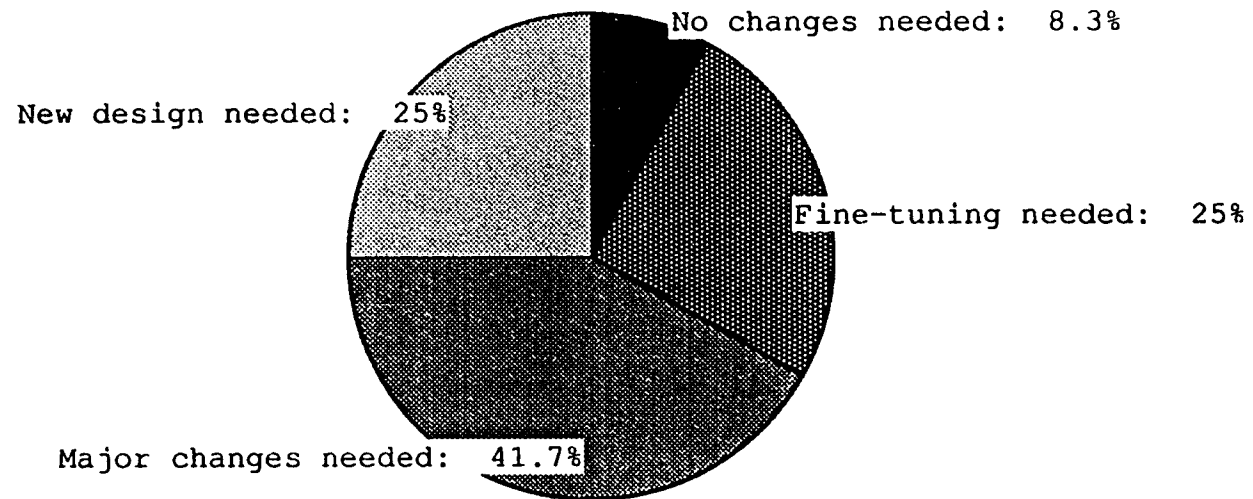


Figure 13. Science education workshop participants' "guesses" of students' opinions of the distance education system

How well do students think the distance education system is working?

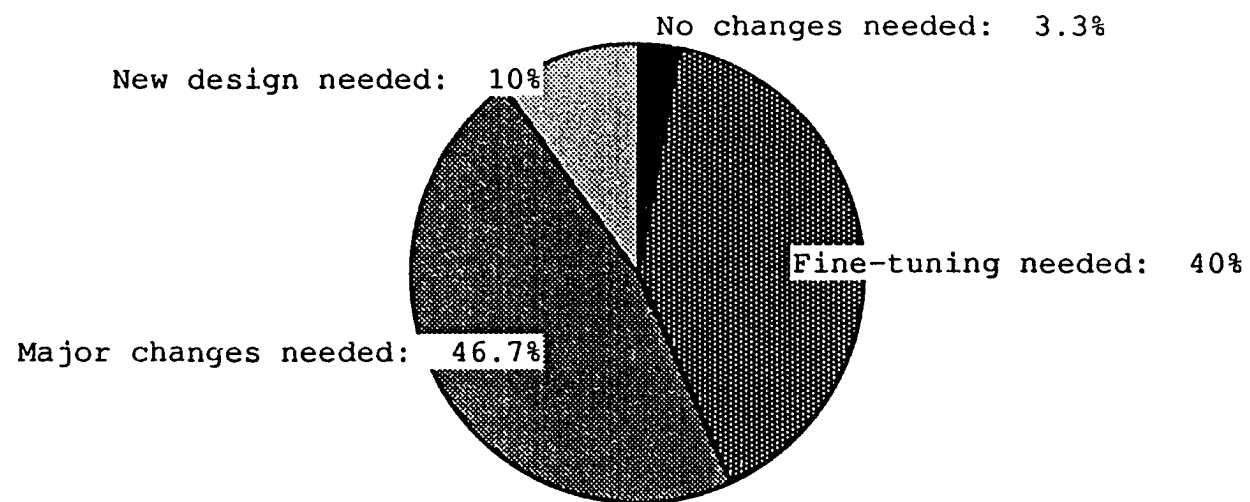


Figure 14. Distance education workshop participants' "guesses" of students' opinions of the distance education system

- 3) the lecturers were aware of both program strengths and weaknesses;
- 4) the lecturers believed that students involved in distance education activities were, in general, not satisfied with the program; and
- 4) the lecturers attending the Distance Education Workshop were especially critical of the program, yet at the same time were strongly supportive of it and its continued development.

The results from the DES cannot be considered representative of the opinions or perceptions of the total population of teachers' college lecturers and administrators. The sample that completed the survey was not randomly selected -- in fact, most of these Workshop participants were chosen specifically because of their professional rank or because they worked with distance education a great deal. The DES was not intended to produce generalizable inferences, but rather to suggest the professional orientation of this group toward distance education.

Workshop Presentations

The workshop presentations summarized in this section include those by four guest speakers and five group reports. The speakers were Dr. A. Masunungure, Mr. T. Bourdillion, Dr. B. Chivore, and Dr. J. Rwambiwa.

Dr. A. Masunungure

Dr. Masunungure spoke on "Distance Education Centre: Problems and Prospects." The theme of his presentation was that the role of the Distance Education Centre had become uncertain. Dr. Masunungure spoke of strong relationships that had existed among the D.E.C., the Ministry of Education, and the ZINTEC colleges when the D.E.C. was known as the ZINTEC National Centre. Within the ZINTEC system, its responsibilities were clearly defined, but that role gradually became less clear; the Centre became understaffed (four full-time staff) and underequipped (obsolete production equipment that required extensive maintenance).

As an illustration of the tenuous position of the D.E.C., during Dr. Masunungure's presentation one of the participants raised his hand and asked Dr. Masunungure who he was and what the D.E.C. was. Despite this uncertainty, however, Dr. Masunungure predicted growth and diversification for the Centre.

The main points from this presentation were:

- 1) that the Distance Education Centre was once a dynamic and productive arm of the Ministry, but that its viability diminished after flourishing at the beginning of the ZINTEC program; and

- 2) that if this viability were restored, it would benefit the distance education programs at all of the teachers' colleges.

(Researcher's notes from this presentation can be found in Appendix B.)

Mr. T. Bourdillion

"The Role of Distance Education in Zimbabwean Teachers' Colleges" was well-received. There was a great deal of discussion among participants afterward and several workshop evaluations specifically mentioned this presentation as a strong point.

Mr. Bourdillion's emphasis was on the purpose of distance education and the types of instructional activities that should be pursued by students on teaching practice. His argument was that the modules should be written in the area of applied (rather than theoretical) education, including assignments that used the student's classroom as a laboratory for learning a variety of teaching techniques. By introducing practical subjects (e.g., discussion techniques, questioning skills, test writing, etc.) in the area of teaching methods that were based on the theoretical coursework of the previous year, students would reinforce their understanding of those theoretical concepts while improving their teaching skills.

Mr. Bourdillion spoke of classroom visits in which he had observed "bored" primary and secondary students who were not required to take an active role in learning and suggested that this was the result of little practical training in teaching for the teacher education students. He also suggested assigning distance education activities that required purposeful learning and thinking, rather than passive tasks inappropriate to the teaching practice setting (e.g., reading a book and writing a report about it).

The following points were based on this presentation and the discussion that followed. It appeared that:

- 1) distance education activities were not meeting the immediate needs of the students on teaching practice;
- 2) the quality of the teaching done by students on teaching practice was poor, and that this had resulted from a lack of "applied" coursework; and
- 3) distance education modules needed to be developed specifically on the practical application of educational concepts, leaving the abstract concepts and theoretical coursework for on-campus instruction.

(Researcher's notes from this presentation can be found in Appendix B.)

Dr. B. Chivore

Dr. Chivore's presentation, "Zimbabwe's Experiences in the Evaluation of Distance Education Programmes," focused on the importance of evaluation in distance education and education in general. His paper (which is included in the Proceedings document beginning on page 15, Appendix F) discussed two evaluations that had been completed on the ZINTEC program, in 1982 and 1987. The response to this presentation was positive (especially from ZINTEC college faculty), with many questions regarding the results of the latest evaluation and how they will be used.

From Dr. Chivore's remarks, it appeared that:

- 1) although the ZINTEC program was an innovative response to the urgent need for teachers in Zimbabwe and had accomplished much toward alleviating that need, it was operating in circumstances that inhibited it reaching its potential; and
- 2) although costly, regular program evaluation had improved the program's quality and should be conducted on a regularly established schedule.

Dr. J. Rwambiwa

The most popular guest speaker (based on evaluation comments) was Dr. Rwambiwa, whose topic, "The Role of Modern Technology in Distance Education," stimulated a lively discussion of technology in developing countries. Dr. Rwambiwa's emphasis was on the application of appropriate media and its implications for teacher education in Zimbabwe. His suggestion that teleconferencing be considered a viable alternative to traditional instruction was met with enthusiasm by workshop participants.

Analysis of this presentation indicated that:

- 1) although Zimbabwe was considered a "developing country," advanced technology that could benefit education (and especially distance education) was available;
- 2) Zimbabwean educators were eager for technology that could enhance the learning process; and
- 3) if technology were to be utilized in distance education, cooperation among all parties would be a necessary prerequisite.

(Dr. Rwambiwa's paper in its entirety can be found on pages 39 to 46 of the Proceedings document in Appendix F.)

Summary

The general impressions created by the Workshop guest speakers were that:

- 1) the distance education program was operating under difficult circumstances and that those circumstances would influence many of the decisions about the management of the program;
- 2) although the distance education program was not as effective as it could be, there were practical solutions that could be implemented to help improve the quality of the program; and
- 3) even though the lack of facilities and equipment inhibited the continued development of the distance education program, Zimbabwean teacher educators needed to become aware of the potential for integrating technology into the program.

Group reports

The reports compiled by participants in the Distance Education Workshop were the result of a brainstorming process that led to the identification of five critical issues in Zimbabwean distance education. These five issues became topics for papers that were presented during the final sessions of the Workshop. The topics were: Role of the University, Distance Education Model,

Personnel -- Expertise, Staffing Shortage, and Communication.

Group #1: role of the University This presentation dealt with the role that the University of Zimbabwe should assume in regard to distance education at the teachers' colleges. The main points were that the University should take the lead to improve the status of distance education and get involved in influencing the Ministry of Education in this area. More coordination between the University and the D.E.C. was recommended, with recognized procedures established to help facilitate this coordination. It was recommended that the University appoint a lecturer with expertise in distance education to act as a consultant and advisor for curriculum design, materials production, and professional development.

The main themes of this report were:

- 1) that the University had not fulfilled its role as "expert consultant" for the teachers' colleges in Zimbabwe in the area of distance education; and
- 2) that greater involvement by the University in distance education activities would benefit the teachers' colleges and ultimately improve the teacher education program.

(The complete report can be found in the Proceedings document in Appendix F beginning on page 50.)

Group #2: distance education model A model of the Zimbabwean distance education/teacher education program was suggested by this group. (See Figure 15.) They first identified elements that belonged in the model (e.g., college administration, college departments [disciplinary], the distance education department within each college, and the students) and then determined the relationships among the elements.

The establishment of a distance education department within each teachers' college was suggested. This department would be charged with the responsibilities of monitoring production of materials, handling dispatch and reception of packets, organizing seminars, keeping records of student progress, and evaluating the system's effectiveness. There was discussion among participants about how the model should be depicted graphically and a suggestion was made to expand the model to include the D.E.C. and the A.C.C. There was unanimous endorsement of the suggestion to establish departments of distance education at the college level.

This report had three main points:

- 1) A "Zimbabwe Model" for distance education in teacher education would provide a framework for

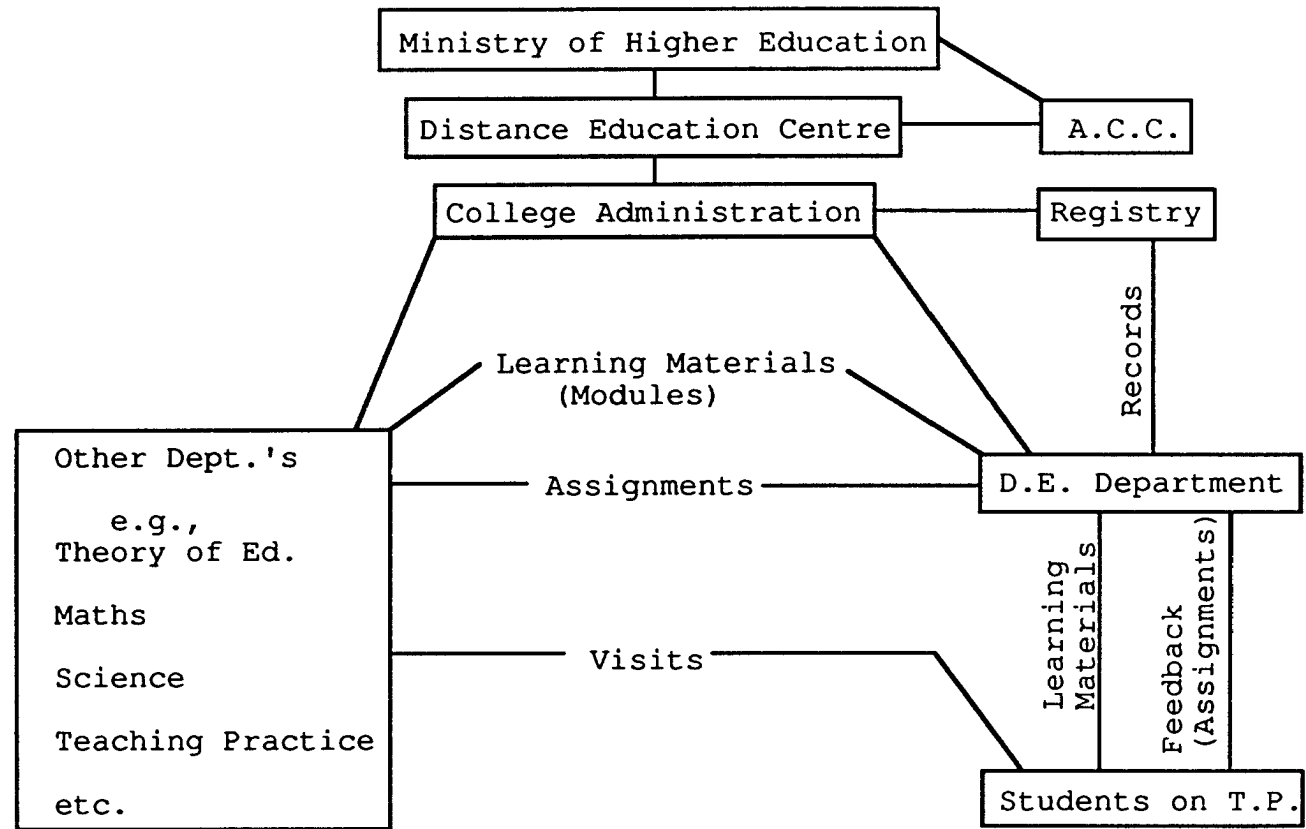


Figure 15. Proposed "Zimbabwe model" for distance education

program management and consistency across colleges;

- 2) The establishment of distance education departments within the teachers' colleges would improve the quality of the programs by designating a responsible party; and
- 3) Even if the model were not unique, the process of designing a "Zimbabwe Model" would prove beneficial because it would require critical questioning and weighing of program components.

(This report begins on page 53 of the Proceedings document, Appendix F.)

Group #3: personnel -- expertise This group reported on the critical issue of staffing, specifically the lack of professional and technical expertise in distance education. The distance education materials that were produced initially were written by educators who had no training in designing individualized learning modules. These packages were produced specifically for the ZINTEC colleges, but the modules eventually began to be used by all of the teachers' colleges.

A recommendation was made to upgrade the Distance Education Centre by increasing the number of full-time, permanent staff. This would allow the D.E.C. to "stand on its own" and not be dependent on lecturers on leave from teachers' colleges where they were sorely needed.

Other recommendations included sending personnel to other countries, if necessary, to acquire the requisite skills to design and manage high-quality distance education programs; and providing in-service about distance education for teachers' college lecturers. Expertise in research and development (writing, communication skills), technology (equipment operation and repair), and evaluation (program and assessment) were all needed.

In summary, this group reported that:

- 1) educational personnel in Zimbabwe have been underqualified in areas necessary for the successful implementation of a distance education program; and
- 2) if the technical and professional expertise of the available pool of educators were raised, the quality of the distance education program would improve.

(The full report from this group is in Appendix F, beginning on page 57 of the Proceedings document.)

Group #4: staffing shortage This report focused on the shortage of staff that inhibited progress at the teachers' colleges, the A.C.C., and the D.E.C. This group felt that cost effective staff development projects should be considered, in order to get the most out of the limited funding and staff available, e.g., importing

expertise from other countries, to provide training and then using peer tutors at the local level. It was also this group's position that the D.E.C. must be fully staffed in order to function effectively; there were four full-time staff members although there should have been 15. Positions needed to be more secure and financially attractive to reduce the turnover in staff. The teachers' colleges have been operating at half-complement and this, in turn, affected the quality of the program -- student projects have gone unmarked and visits to students on teaching practice were not made because of the shortage of lecturers.

The main points of this report were:

- 1) that staffing shortages have diminished the quality of the teacher education program; and
- 2) that cost-effective staff development activities must be considered in order to rejuvenate the distance education program.

(This report is in the Proceedings document in Appendix F, beginning on page 61.)

Group #5: Communication This report was based on the idea that a lack of effective communication inhibited the development of the distance education program. A model was presented (see Figure 16) depicting the communication lines among all parties (students,

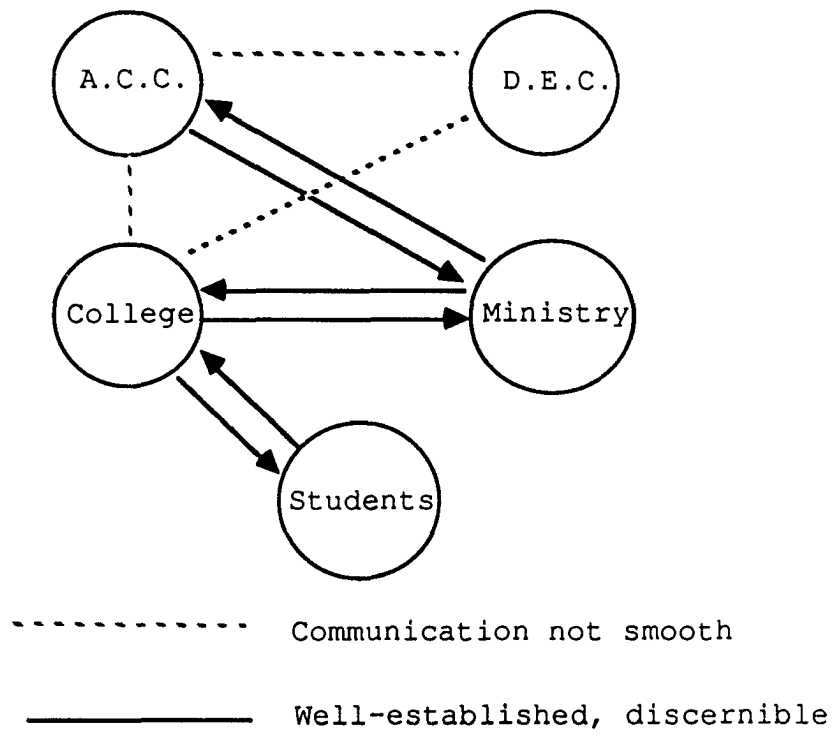


Figure 16. Model of communication channels in the Zimbabwean distance education system

teachers' college, A.C.C., D.E.C., and the Ministry of Education) involved in distance education, with recommendations that the liaison between the A.C.C. and the D.E.C. be strengthened, more contact be initiated between the D.E.C. and the teachers' colleges, and methods of improving communication with students be investigated (e.g., radio, registered mail, etc.).

Workshop participants commented that much of what had appeared to be a communication problem was actually a lack of initiative on the part of the Ministry. By solidifying the roles of the D.E.C. and the teachers' colleges in regard to Ministry expectations, communication channels would be strengthened.

Based on this report and the discussion following its presentation, it appeared that:

- 1) communication problems have resulted from the lack of a clearly defined administrative structure in the distance education program;
- 2) communication lines were never formally established during the adoption of distance education by the conventional colleges; and
- 3) if channels of communication were to be identified and recognized by the parties involved in distance education as necessary for professional networking, student interaction,

and administrative operations, the quality of the program would be improved.

(This report is in Appendix F, beginning on page 67 of the Workshop Proceedings.)

Group reports summary

An analysis of the five group reports (University role, distance education model, expertise of personnel, staffing shortage, and communication) indicated that the concerns of these educators were focused primarily on administrative issues in the distance education program. The details of program structure and system management, however, were considered problematic only because ultimately they eroded the academic quality of the program. Recommendations for improvement suggested in the presentations were concentrated in the area of program organization. (Researcher's notes on all five of these presentations can be found in Appendix B.)

Workshop Evaluation

The final evaluation of the Distance Education Workshop was administered using a one-page survey form. Thirty-three participants completed the evaluation.

The most frequently chosen response (72%) to the first question, "How much did you learn about Distance Education in the Workshop?" was "Quite a lot." The other

responses, "A Great Amount" and "A Little Bit" were chosen seven and two times, respectively. No one indicated that they had learned "Very Little." (See Figure 17.)

The second question, "Did you feel the workshop was organized effectively?" had responses of "Very Effectively Organized" or "Effectively Organized" from 22 participants. Nine indicated "Organization was O.K." and 2 felt that it was "poor." Transportation problems were mentioned by a few respondents and several indicated that the workshop was too long. (See Figure 18.)

The third question had a "guaranteed" response because of the sample answering it -- "Do you feel Distance Education is an important topic for further effort by Zimbabwe?" With a group specifically selected because of their work with and interest in distance education, a response of "Yes, very important" by 100% was no surprise. (See Figure 19.)

The fourth question, "Did you feel the workshop leaders were knowledgeable?" had 15 responses of "Yes, very knowledgeable", and 17 indicated "Somewhat knowledgeable." None of the workshop participants chose the "Not very knowledgeable" option. There were, however, several comments that the leaders should have

How much did you learn?

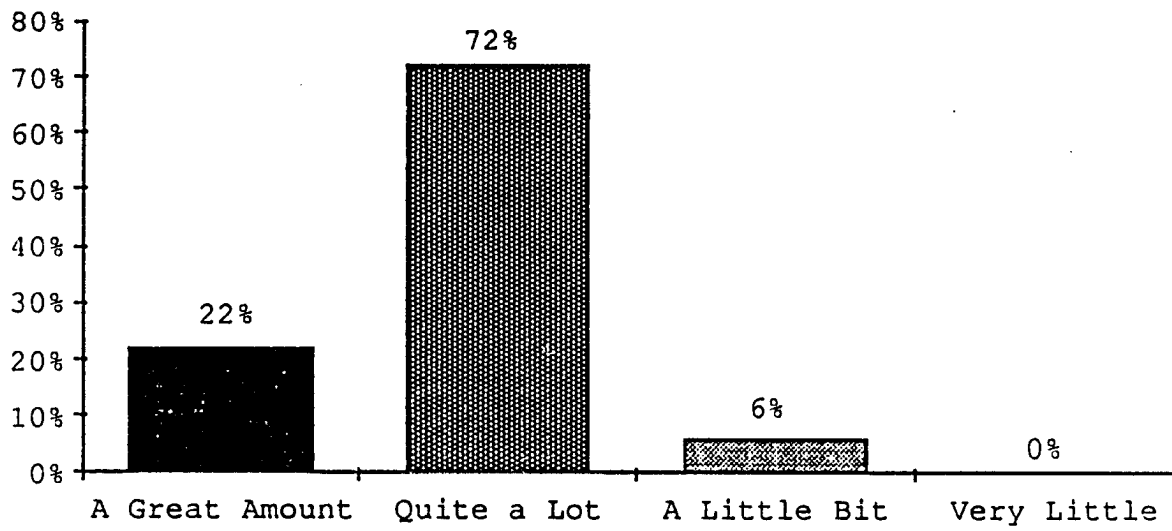


Figure 17. Workshop evaluation: How much did you learn?

How effectively was the workshop organized?

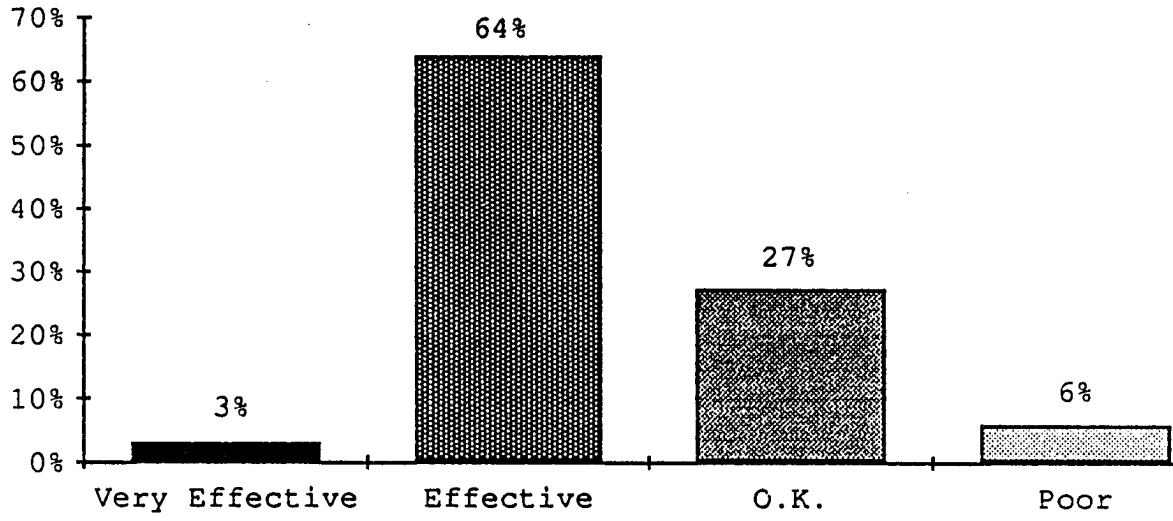


Figure 18. Workshop evaluation: How effectively was the workshop organized?

Is distance education important for Zimbabwe?

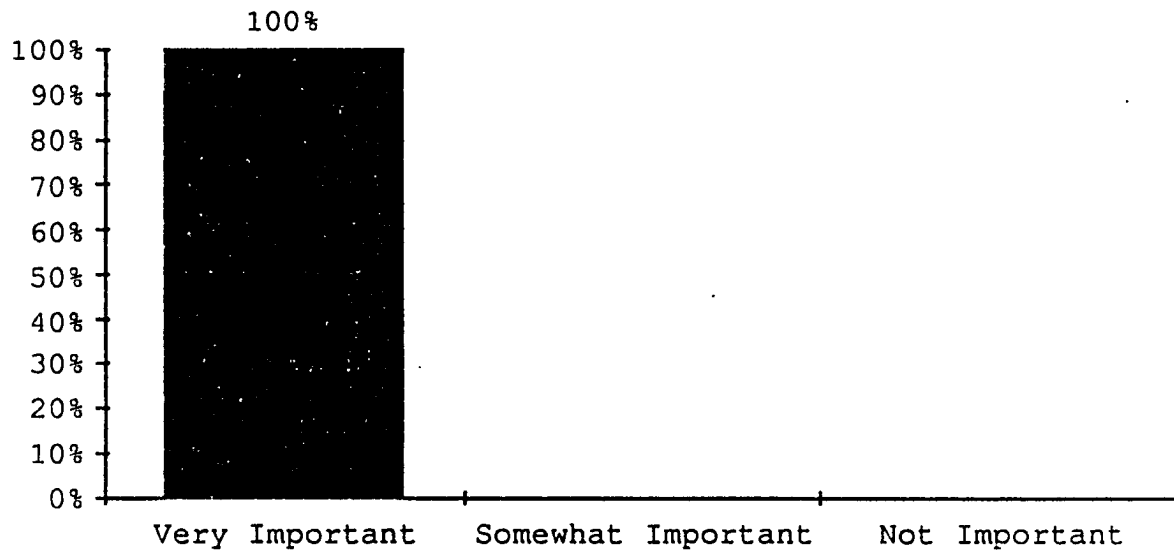


Figure 19. Workshop evaluation: Is distance education important for Zimbabwe?

known more about the Zimbabwean system of distance education. (See Figure 20.)

Questions 5, 6, and 7 were open-ended to allow for written responses. Participants were asked what they liked best and least about the workshop and also for other comments. The most frequently mentioned "bests" included the exchange of ideas among colleagues, the spirit of open discussion, and the preparation of group reports. Some guest presentations were mentioned specifically. "Least liked" aspects included the lack of social activities, the length (it lasted too long for some), and the balance of lecture and group work. Specific comments for improvement included suggestions for "field trips," sessions on materials production, and procedures for following up on the recommendations made in the group reports.

In summary, Distance Education: A Workshop was successful in the following ways:

- 1) It brought together professional educators responsible for and interested in distance education for discussion and sharing of ideas;
- 2) It challenged the thinking of the participants by creating an open atmosphere that encouraged scholarly debate of relevant topics; and

Were the workshop leaders knowledgeable?

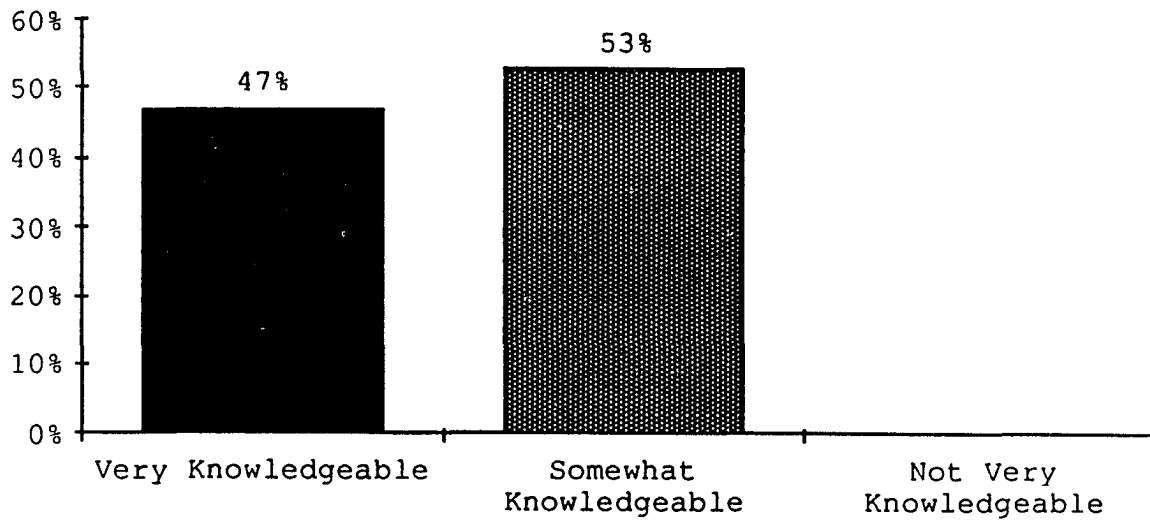


Figure 20. Workshop evaluation: Were the workshop leaders knowledgeable?

- 3) It helped to build the participants' awareness of the critical issues within the distance education program and challenged them to develop workable solutions.

Distance Education: A Workshop was relatively unsuccessful in the following ways:

- 1) It lasted too long for several of the participants. Several groups finished their reports sooner than expected and felt that they could have completed the same amount of work in three days, as opposed to five.
- 2) Expectations of what topics would be covered during the Workshop were not met for several participants. These lecturers had attended the Workshop hoping to learn about producing materials for use in distance education, although why they assumed this would be included is unknown.
- 3) Social activities were not planned for the evenings, leaving Workshop participants with little to do from 4:00 p.m. until 8:00 a.m. the next day. Although this could be construed as a trivial complaint, it is, in fact, an important factor for future consideration. The attitudes of the Workshop participants had a significant

role in how successful they felt the experience had been.

For a more complete description of the Workshop Evaluation, see pages 75 - 80 of the Proceedings document in Appendix F. The complete set of responses can be found in Appendix C.

Visits and Interviews

As explained in Chapter Three, the researcher had the opportunity to visit the campuses of several teachers' colleges in order to meet with lecturers and administrators and to see the facilities. These visits were scheduled through the Associate College Centre. Appointments with several other officials not at teachers' colleges were also secured by Dr. Siyakwazi (June 1988) and Mr. Bourdillion (January 1989). This formal affiliation with the A.C.C. was essential in providing entree to persons not otherwise accessible. The results of these visits and interviews will be described in the following sections.

Teachers' college visits

The researcher visited six teachers' colleges (Gwanda ZINTEC, U.C.E., Hillside Teachers' College, Mutare Teachers' College, Marymount Teachers' College, and Morganster Teachers' College) and had the opportunity to

visit with faculty and administrators at each and with a group of students at Morganster, as well. The physical lay-out and facilities at each of the colleges was different -- some were quite well-appointed and others had only the basic necessities.

Gwanda ZINTEC College was by far the most primitive. It was located near the town of Gwanda, just north of the South African border, and was reached by a single-lane dirt road. The buildings were bare cinder block and there appeared to be few attempts at landscaping. Classrooms contained a minimum amount of equipment -- desks or tables and chairs, a chalk board and some shelves or cupboards for storage. The few pieces of scientific laboratory equipment available were obsolete. According to lecturers, there was some audiovisual equipment available (overhead projectors, film and slide projectors, and cassette recorders), but software was expensive and difficult to acquire. The atmosphere at the college was one of frustration.

Hillside Teachers' College in Bulawayo (a major metropolitan area in southwestern Zimbabwe) was at the other end of the spectrum from Gwanda. Hillside's facilities were much more modern and the classrooms were well-equipped. The grounds were manicured and the

buildings carefully maintained -- it could have been a small community college in the United States.

Regarding the distance education program, however, lecturers at all of the teachers' colleges spoke of similar problems: communication barriers, lack of resources "in the field," procrastination by students, and the difficulty of providing timely feedback on projects and assignments. Lecturers felt frustrated by the system that: a) resulted in student failure because of misunderstood assignments, and b) abetted student cheating because modules and assignments were never revised.

The "typical" lecturer was responsible for teaching, advising on-campus students, and making as many as 60 visits per year to students on teaching practice, some of whom could be assigned to schools as far as 300km (nearly 200 miles) away. Visits to teaching practice students were conducted to observe the teaching skills of the students and to discuss classroom management or lesson planning problems that the students may have been experiencing. Only if there was extra time, or if the students themselves brought it up, were the distance education assignments and projects discussed.

The "typical" student was highly motivated and represented the "cream of the crop" of applicants.

Because there were so many applicants for openings, the teachers' colleges were able to select the best students -- those that were likely to complete the program successfully. When they were on teaching practice, students were very busy learning "on-the-job" while working as full-time teachers. According to several lecturers, students were also motivated by Zimbabwe's high unemployment rate. If they were unsuccessful in their teacher education program, there were few other avenues for professional employment.

At each teachers' college, the researcher asked lecturers what the purpose of the distance education program was. A variety of responses was given -- to keep the students learning while they were working, to "fit in" all of the required subjects, to help students apply the concepts they had learned the previous year in their on-campus courses, and even "because the A.C.C. says we have to do it."

At Morganster Teachers' College near Masvingo, a group of students who had been on teaching practice the previous year met with the researcher for an hour of conversation. They described their work day schedule as "hectic" -- beginning with Assembly at 7:40 a.m., a two-hour break in the middle of the day, and ending with class dismissal at 4:00 p.m. Students teaching in the

primary schools had 50 (or more) students in a class. When asked about distance education, the unanimous response was that finding the time to do the projects was the most difficult part of the program.

The campus visits by the researcher were the most rewarding part of the study in terms of understanding and awareness of the Zimbabwean educational system. All of the college lecturers were willing to discuss the program in detail and to speak openly of the problems they had encountered using distance education, as well as the positive results and successes they had witnessed. The researcher was treated, at every college, with great respect, and was graciously introduced as an honored guest at teas and meals.

In summary, the campus visits produced the following reactions:

- 1) The distance education program was one component of a teacher education program operating in extreme conditions. Considering this, the program has done well although there were many areas that needed improvement.
- 2) The commitment of the lecturers to maintaining the quality of the program was one of the program's major strengths, although understaffing was gradually draining the

vitality from the program by overworking the lecturers.

- 3) The administration of the distance education program was one of its weakest areas. Accountability was ineffective and the program was structurally shaky -- there was no uniformly recognized scheme for program organization.

(The researcher's notes from campus visits can be found in Appendix D.)

Interviews

Formal and informal interviews proved to be excellent sources of information about the history and structure of the distance education program in Zimbabwe. Faculty and administrators at the Associate College Centre were especially helpful in explaining the present system of teaching practice and the role of distance education. Dr. Siyakwazi, Director of the A.C.C., was quite helpful, as was Mr. Bourdillion, Acting Director of the Associate College Centre during the researcher's visit in January, 1989 in arranging the interviews. Summaries of the interviews conducted on both trips will be described in the following sections.

Dr. Matshazi, Chairman of the Department of Adult Education of the University of Zimbabwe discussed the use of distance education at the University of Zimbabwe. The

extension program has expanded considerably in recent years to offer instruction using print and audiocassette packages. Dr. Rwambiwa, Chairman of Educational Technology at the University of Zimbabwe, discussed the utilization of educational technology at the University and his hopes for its future development. Both Matshazi and Rwambiwa mentioned the possibility of audio teleconferencing to enlarge access to higher education throughout the country.

Interviews with educational radio personnel were also enlightening. Radio-4, a division of ZBC (Zimbabwe Broadcasting Company) broadcasts instructional programming for primary grades during the school term and also produces an informational program called "Teacher's Magazine" with topics of interest to educators. Some teachers' college programming had been broadcast on a limited basis previously, but nothing had been offered recently. According to the Radio-4 program director, Mr. Kashambwa, airtime would be made available to the D.E.C. for programming if it was requested.

A brief interview at the Ministry of Education with Mr. Muchemwa, Chief Education Officer in charge of Teacher Education, was arranged in June, 1988. Teaching practice, he explained, was originally quite similar to the student teaching programs found in American teacher

education. As enrollments in the primary and secondary schools grew, however, new models (such as the 5-7-9 program described in Chapter One) had to be developed to accommodate the need for teachers. Distance education was incorporated into the program and although this new element proved troublesome at times, the potential and realized benefits led to requiring a distance education component in every teachers' college curriculum plan.

Mr. Muchemwa explained that the original goal of the distance education program, according to the Ministry, was to continue the students' academic growth in content areas that had begun the previous year. This is why the modules produced by the Distance Education Centre were predominantly on the theory of education (e.g., sociology of education, or educational psychology). Mr. Muchemwa also emphasized that the University, through the A.C.C., had a guiding role in the continued development of the distance education program and that although the system was not perfect it had been operating under extremely difficult circumstances.

An interview with Dr. Ndlovu, the Director of ZDECO (Zimbabwe Distance Education College), added another perspective. ZDECO, a private correspondence college, has provided vocational training to students in fields such as secretarial, sales, and accounting, as well as

academic areas such as literature and mathematics. Although not a degree-granting institution, ZDECO may help students to prepare for the Zimbabwe Junior Certificate (analogous to an Associate Degree in the U.S.). Instruction has been via print, radio, and audiocassette; video lessons were being planned.

Based on the interviews conducted during both trips to Zimbabwe, the overriding points derived could be consolidated as:

- 1) educational personnel on all levels were committed to the concept of distance education;
- 2) the operationalization of this concept, however, varied among programs and institutions; and
- 3) distance education was viewed, in some cases, as an important tool for national development in meeting the special needs of a post-colonial society eager for education and training.

Researcher's notes from interviews may be found in Appendix D. They have been combined with the "visits" notes because many of the interviews were conducted during campus visits.

Documents

Various documents gathered from teachers' colleges and the A.C.C. were a minor source of data for the study, and were used to provide "detail" on the operation of the

distance education program. Some of these documents include official correspondence regarding the distance education workshop and the researcher's proposed itinerary, forms used in teaching practice visits, assignments from distance education packages, and enrollment records for the fourteen teachers' colleges. A very helpful document provided by the A.C.C. was the Report of the Teacher Education Review Committee (1986). The section pertaining to distance education has been included.

These documents proved helpful in understanding the management of the distance education program and the administrative procedures of the A.C.C. and teachers' colleges. The overall impression gained from an analysis of these accumulated data was that they were indicative of the de-centralized structure of the distance education program. Unlike forms or reports that are designed to support a centralized administrative organization, these reflected the autonomy of the teachers' colleges in their differences. Copies of these documents may be found in Appendix E.

Summary

The purpose of this chapter was to provide a summary of the findings from the various data collection methods utilized in this study. The main points derived from

these summaries of data could be consolidated into six statements.

1) Although the value of the distance education program was widely recognized by educational personnel, it was felt that the program was not fulfilling its potential. The reasons for this were both external to the program and internal -- resulting from the program's design, organization, and administration.

2) The distance education system was operating under very difficult circumstances, but there were workable solutions possible to improve the program, in spite of the logistical obstacles. Some of these solutions were focused on specific management practices, while others were more "global" in terms of modifying the goals of the program and the academic content of the instruction. Long-term considerations, such as integrating technology into the course delivery system, were also suggested.

3) There had been a moderate degree of confusion regarding the organizational structure of the distance education program. Many individuals involved in the program were unsure of the role of the D.E.C. and several did not know who was ultimately responsible for the distance education program. Because of this confusion,

accountability for the program's success or non-success in various areas was difficult to develop.

4) There was a great deal of concern over the inadequacy of communication among teachers' colleges, the A.C.C., the D.E.C., and the students involved in distance education. The channels of communication were not clearly established in some cases and this problem had not only aggravated the administrative confusion previously discussed, but inhibited the development of the program.

5) Regularly-scheduled evaluations of the distance education program were recommended as a way to improve the quality of the program. This suggestion was well-received at the Distance Education Workshop and was also mentioned during several informal discussions with teachers' college lecturers.

6) The degree of involvement of the University of Zimbabwe in distance education was discussed considerably. The consensus appeared to be that the University of Zimbabwe needed to take a more active leadership role in providing demonstrations of distance education and professional development opportunities for lecturers who were using distance education.

These six general statements represent the data summarized in greater detail in this chapter. The

summarizations were derived from the results of the Distance Education Survey (DES) that was administered as part of the Distance Education Workshop, notes from presentations given during the Workshop, results of the Workshop Evaluation, notes from observations and visits made by the researcher, notes from formal and informal interviews, and documents related to the distance education program. The data in note and document form can be found in Appendices A through F.

CHAPTER FIVE
EVALUATIVE DESCRIPTION

Introduction

This purpose of this chapter is to provide a comprehensive evaluative description of the distance education program used in teacher education in Zimbabwe (Objective #3 of the study). The data on which this description were based have been drawn from the distance education workshop (Objective #1) and the workshop proceedings document (Objective #2), as well as interviews, observations, and document analysis, as described in Chapter Four (Data Summary).

The framework for this description will be the Triad Perspective Model of Distance Education that was presented in Chapter Two, an integrated model of systems theory, adoption of innovations, and curriculum development. Research questions from each level of the model have been synthesized from those presented in Chapter One and will be used to organize the discussion and guide the evaluative aspect of the narrative.

Triad Perspective Model of Distance Education

To review, the TPMDE has four levels combining systems theory, adoption of innovations, and curriculum development. The first level is labelled

"Environment/Social System/Objectives." The research questions from this level dealt with how the distance education program related to its environment and its role in that environment. The second level, "Structural /Innovation/ Experiences," stimulated research questions on the essential components of the distance education program and how those components worked together toward goal fulfillment. This could be considered the "contents" level of the model.

"Process/Time/Organization" was the model's third level. In this section, research questions related to the sequencing and organization of program components were presented as well as were questions about how the program had changed over time.

The fourth level of the model, "Monitoring/ Communication/Evaluation," contained elements regarding the regulation of the distance education program. Research questions from this level asked about how the program was administered and directed based on fluctuating environmental, social, political, and financial conditions.

Environment/Social System/Objectives

The synthesized research questions in this level of the model were focused on the role of the distance education program within the environment. The

"environment" in this project was the teacher education program on a local level, and the nation of Zimbabwe in a more global perspective.

What are Zimbabwe's educational needs?

This question could be answered on a variety of levels, the most comprehensive based on national needs. As with many developing countries, universal education is a national priority in Zimbabwe. In order to achieve this rather ambitious goal, teachers in sufficient quantity and of consistent quality must be well trained and supported. The teacher shortage that began with independence in 1980 has not yet abated and school enrollments have continued to increase, indicating that the need for teachers remains, and will remain, strong.

An educational need that related to attracting and retaining adequate numbers of teachers was the need for school buildings and appropriate facilities in which to conduct classes. Visiting a teachers' college, the researcher observed firsthand the inadequacy of the buildings -- classrooms, laboratories, and workshops were in need of maintenance and up-to-date facilities and equipment. Not all teachers' colleges were in this extreme condition; the frustration of the faculty, however, who were "making do" at this institution sharply emphasized the critical need for modern facilities.

An inadequate supply of educational materials compounded the problems. There were few textbooks, films, kits, or similar learning resources available to teachers. Students at the teachers' colleges found it difficult to purchase textbooks -- many cost up to Z\$60 (approximately U.S.\$35). According to several teachers' college lecturers, primary school teachers may have only one textbook per subject for their entire class. One book per child, taken for granted in the United States, was considered a distant goal for Zimbabwean teachers.

These three educational needs -- qualified teachers of sufficient quantity, educational facilities commensurate to school populations, and sufficient learning resources -- have been the focus of national efforts to provide educational opportunities for all Zimbabwean citizens. The ultimate goal of an educated population from which to draw this nation's future leaders will be achieved only if universal education becomes a reality. For this to happen, these three needs must be met.

How does distance education meet those needs?

The use of distance education in developing nations, as discussed in Chapter Three, has helped to meet not only educational needs, but economic needs and health needs, as well. In Zimbabwe, specifically, distance

education was utilized by private training colleges (e.g., ZDECO, described in Chapter One), University Extension and Adult Education, and, as described in this document, by the fourteen teachers' colleges of the Associate College Centre.

Within the context of teacher education, distance education allowed students on Teaching Practice (T.P.) to continue their academic work while they helped to alleviate the critical teacher shortage. These students assumed full-time teaching responsibilities after one year of on-campus instruction; coursework strongly based on theory and foundations (e.g., educational psychology, educational philosophy, etc.) dominated the distance education program.

Students on T.P. were often the most highly-qualified teachers in their respective schools, according to several teachers' college lecturers. (One lecturer confided that an entire rural school was staffed by students on T.P., with the exception of the headmaster, who was a first-year, newly certificated teacher.) Without the distance education component of the teacher education program, it would take much longer to train primary and secondary teachers, thus keeping them out of classrooms (where they could do the most good) for a longer period of time.

Distance education activities, when integrated into the student's teaching responsibilities, were of potential benefit to other teachers and the supervising headmaster, also. Professional development was a luxury rarely experienced by primary and secondary teachers, but exposure to new ideas, teaching skills, and the latest instructional trends was provided by students on T.P. working on distance education assignments.

Many of the distance education activities and projects that were assigned required T.P. students to produce teaching materials that can be re-used in later lessons. Because the shortage of learning materials was not expected to end in the immediate future, assigning these types of projects helped to alleviate the need for instructional materials. It also provided T.P. students practice in materials design and production using locally available resources.

The need for learning resources and modern facilities were, for the most part, out of the control of educational administrators. Distance education, utilized within the teacher education program, helped to alleviate the shortage of qualified teachers at all levels.

What are the goals and objectives of the distance education program?

In a meeting with Mr. K. Muchemwa, Chief Education Officer of Teacher Education (Ministry of Education), he explained that the original purpose of the distance education component of teaching practice was for students to continue their academic growth in content areas -- e.g., sociology of education, philosophy of education, etc.. As discussed in Chapter One, this view differed somewhat from what many teachers' college lecturers felt the purpose of the program was. When asked about the purpose of the distance education program, lecturers' responses focused primarily on applying, in an actual classroom situation, the educational theories gained during the first year.

Two distance education workshop activities related to goals and objectives provided insight, not only into the perceptions of distance education held by the participants, but also how these perceptions manifested themselves in the management of distance education at the various teachers' colleges. The first activity was a project in which small groups of workshop participants developed mission statements, goals, and objectives for a distance education program. (This activity is described

in greater detail beginning on page 12 of the Proceedings document in Appendix F.)

The mission statements displayed great diversity, ranging from a call to "alleviate teacher shortage" to a focus on "societal expectations" and producing "efficient and effective" teachers. The accompanying goals were also quite varied. These were more practical in nature, such as "selection, processing and dispatch of learning materials" and "designing an effective supervision programme." This diversity in assumed purpose was seconded by the results of the Distance Education Survey (DES) completed by workshop participants.

The first part of the DES was directly related to the participants' perceptions of what the goals of the distance education program were and/or should be. As described in Chapter Four, most of the respondents (74%) stated that the goals of the distance education program were made explicit from the beginning. However, when asked what those goals were, the responses were highly varied. (The written responses to the DES can be found in Appendix A.) Obviously, there was little agreement among teachers' college lecturers regarding why the distance education program was originally implemented.

What relationships exist between the distance education program and the environment?

Figure 21, below, represents the relationships that influenced the distance education program as well as those that were influenced by it.

	DE	TE	ME	TPS	TPC	Zim
DE	O	X	x	X	X	x
TE		O	X	X	x	X
ME			O	X	x	X
TPS				O	X	x
TPC					O	x
Zim						O

Note. X = Strongly related
x = Related, but less influence

DE -- Distance Education Program
TE -- Teacher Education Program
ME -- Ministry of Education
TPS -- Teaching Practice School
TPC -- Teaching Practice Community
Zim -- Zimbabwe

Figure 21. Relationships between the distance education program and the environment

The relationships represented in Figure 20 were of varying intensity and influence, as designated by the lower case and upper case "x's." The distance education program was directly related to, and a subsystem of, the teacher education program. This was, consequently, a very strong relationship with a high degree of influence in both directions -- the functioning distance education component affected the organization of the teacher education program as a whole, and the distance education program was dependent on the rest of the teacher education course as preparation.

Distance education, as a teacher education component, had a relationship with the Ministry of Education, although the teacher education program was more directly influenced by the actions of the Ministry. The Ministry was also directly influential in its relationships with teaching practice schools and its role in the country as a whole. The teaching practice community and the Ministry were related, although only indirectly.

The teaching practice schools were directly influenced by distance education and they also influenced it, as well. The presence of a student on T.P. made a major difference in how the school was organized (e.g., class size) and the distance education activities had a

strong affect on the students and other educators, as discussed earlier. The type of school, its location, and the interpersonal aspects of T.P. all directly affected the quality of the T.P. experience for the teacher education student.

The teaching practice community was affected by the presence of students on T.P., mainly through the community-based activities assigned in many courses. These activities included teaching community volunteers about raising chickens for food, building enclosures for them, and starting a flock for the village to continue raising; teaching about the latest techniques for growing vegetables and then starting a garden; and demonstrating craft items that could be produced with local materials and sold for profit. The community-based activities were usually projects of the T.P. student's choosing and were related to local needs or were geographically determined. In this way, one distance education student's work may have a long-term effect on an entire community.

The national need for qualified teachers was partially alleviated by the distance education program, as discussed previously. Each teachers' college, thus, contributed to this effort by preparing students to enter the teaching profession as quickly as possible, while

maintaining the integrity of certification by integrating academic work into the teaching practice experience.

The relationships discussed were those that were identifiable and relatively consistent across teacher education programs in Zimbabwe. There were others not mentioned that were more tenuous; relationships that existed between individuals that affected only the parties involved (such as a mentoring relationship that had a strong influence on a student's success).

One potential relationship not mentioned was that between distance education programs and the Distance Education Centre. The actions of the D.E.C. influenced the distance education program at each individual teachers' college, as opposed to working with a consortium or "umbrella" organizational structure. The Associate College Centre was in the same circumstance as the D.E.C., which was why it also was left out of the chart.

Summary

The "company one keeps" will often expose otherwise hidden facets of an individual's personality. So it is with systems -- the relationships among system components and those between the system and external entities reveal characteristics and details that make clear the role of the system within that environment. The distance

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education system was a subsystem of the teacher education program and helped to alleviate a national need through its existence.

Structural/Innovation/Experiences

This section will include a comprehensive and close-up look at the salient elements of the distance education program in teacher education. The system components, how they worked together, and their strengths and weaknesses will be discussed.

What components constitute the distance education program?

The components of the distance education program can be divided into three general categories: human resources, material resources, and intangible elements. Human resources included the students on teaching practice and the teachers' college lecturers.

Human resources There was no shortage of students for the teacher education program. Chivore's research (1986b) indicated that "Form IV" students ("pre-high school") ranked teaching low as a career choice (only 5% indicated teaching as a "first choice" career), but in actuality, the teachers' colleges "had their hands full" training pre-service teachers and sifting through the applications of those awaiting

acceptance. At Gwanda ZINTEC, the Vice-Principal stated that enrollment projections indicated that they will be registering 1000 students within four years. In June, 1988, Gwanda had approximately 225 students enrolled. Similarly, Mutare Teachers' College had openings for a new class of 450 in the Winter Term of 1988. According to the Vice-Principal, applications were received from 10,000 individuals.

The supply of lecturers, however, was not as abundant. Staffing shortages were a critical problem within the system. At Gwanda, one math lecturer had 115 first-year students to work with on campus, plus more than that on teaching practice. It was not uncommon, apparently, for lecturers to be supervising more than 100 students on teaching practice and still be lecturing full-time on campus. According to records from the Associate College Centre, student/teacher ratios at the teachers' colleges for 1988 clustered from 25:1 to 30:1 with the proportion going up over 40:1. The distance education workshop participants felt so strongly about the staffing shortage that they selected it as a "critical issue" topic for the group reports. (This report begins on page 61 in the Proceedings document in Appendix F.) When the researcher visited teachers' colleges in June, 1988 and January, 1989, lecturers

freely admitted that they were unable to complete their duties as thoroughly as they would have liked and that understaffing had eroded the quality of the teacher education program.

Material resources Material resources were the second category of distance education program components. In this category were the distance education modules, "other" learning materials, facilities, and money.

The distance education modules, print-based correspondence packages, were the primary instructional delivery system for students on teaching practice. The modules were designed and produced at the Distance Education Centre, a centralized agency originally established to provide packages only for ZINTEC colleges. The content for the modules was researched and written by teachers' college lecturers who were "seconded" to the D.E.C. expressly for this purpose. Activities suggested in the modules varied among subjects but the structure was standardized for consistency. Modules were divided into sections (much like chapters), each section began with objectives, readings (supplemental to a text) were included, many had problems to complete (depending on the subject), and all sections ended with self-test questions.

As is the case with many types of distance education materials, the D.E.C. modules were developed in an industrialized manner. Division of labor, mass production, and standardized development procedures were used to increase the efficiency and the effectiveness of the program. The quality of these modules was validated by their use in many traditional, on-campus courses offered at the teachers' colleges, although an occasional complaint was made to the researcher by lecturers that the quality of the packages was inconsistent.

Learning materials other than distance education modules were a component of the program, although they played a much less pivotal role. These materials included texts, kits, visual media produced by the students on teaching practice, and materials that could be used in distance education activities found at the T.P. school or in the community.

Academic facilities were the third "material resources" component of the distance education program. The teachers' college played a role as a resource center when T.P. students returned to campus for seminars and to use the library and laboratories to complete their projects and assignments. Facilities in the T.P. communities were usually minimal (few small towns had libraries) and often the schools were quite primitive.

The final component of the material resources category was money. Money played a role in providing the teaching practice students with a stipend that was "enough to live on," according to one lecturer and "not nearly enough" according to another. Although the researcher was not told the exact amount, A.C.C. administrators did say that the stipends were awarded on a "sliding scale" that was determined by length of time on teaching practice. This amount was decided upon and budgeted by the Ministry of Education so that there was consistency across programs.

Intangible elements The third type of program component found in the distance education system could be labelled "intangible elements." These intangibles were the organization of the program, participants expectations, and the rules that governed the operation of the program.

The organizational structure of the distance education program was, at the time of this study, somewhat disjointed. The students reported directly to their lecturers regarding their distance education projects -- there was no centralized office or coordinator for distance education. Each lecturer, in turn, reported to the Vice-Principal. The accountability in the system at this point was weak, since many

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lecturers' offices that were visited contained shelves covered with stacks of ungraded distance education assignments. One lecturer confided that he had assignments still in his office that students had completed the previous year but that had not yet been marked.

The teachers' college administrators reported to both the Ministry of Education and to the Associate College Centre. Because the A.C.C. acted as the "accrediting agency" for the teacher education programs, a link person (from the A.C.C.) for each particular teachers' college made routine visits and suggested recommendations for program improvement. These suggestions were mostly of a curricular nature. The responsibility for the distance education program was relegated to individual lecturers -- lecturers already overworked due to severe personnel shortages. For this reason, the organization of the program was a weak component in the system.

Another intangible element was the set of expectations that program participants held. Students expected a certain kind of experiences during their teacher training, lecturers expected a particular kind of student output, and administrators had expectations regarding the value of the program itself. All of these

expectations colored the experiences, attitudes, and perceptions of the program's participants. One of the commonly-expressed remarks by lecturers about distance education was that the students did not take it seriously. The assignments were sloppily prepared and displayed little pride in the work. This attitude problem resulted, possibly, from expectations that were incongruent with reality.

The rules of the system formed an intangible component closely related to expectations. These rules governed the program and its success depended, in large part, on how well everyone followed them. Students knew the rules for completing assignments on time and according to directions, and lecturers were aware of the rules for making teaching practice visits, for example.

Summary

These three types of components -- human resources, material resources, and intangible elements -- all constituted the system and were interdependent within it. How they worked together will be discussed in the following section.

What are the functions of the distance education program?

Functions, in a "systems" sense, refers to the events or processes that bring about the transformation

of the system inputs into the desired outputs -- what, specifically, progresses the program toward its goals. Using that definition, the program's functions can be described as: 1) community involvement, 2) application of theoretical concepts to practical classroom situations, 3) intellectual growth, and 4) student/lecturer interaction. Since the goals were, at the time of the study, different across programs (and also across departments within each of the colleges, in some cases), functions also varied.

Community involvement, as described previously in the section on community-based projects, helped to move the teaching practice student closer toward an awareness of community needs. This goal was expressed by several lecturers -- in the workshop "goals activity groups," on the DES, and was also mentioned in casual conversation among lecturers and the researcher during campus visits.

The application of theoretical ideas to practical teaching situations was a function that grew out of a desire by lecturers to encourage T.P. students to utilize their "perfect teaching laboratory" in which to "try out" abstract concepts. The goal of this function was to strengthen the student's understanding of educational theories.

A similar concept was the goal of deepening students' theoretical understanding and intellectual growth. The main program function to accomplish this was to assign distance education activities and modules that emphasized furthering the foundational underpinnings of teacher education (e.g., educational philosophy or educational sociology). This function focused on theory without application.

The interaction between students and their college lecturers was a function designed to accomplish goals related to program administration. Interaction, primarily through lecturer visits to the T.P. student's school, was a way to assess student progress in distance education activities and to ensure that teaching problems or student questions were addressed.

Are all of the components and functions operating as designed, to move the program toward its goals?

Upon examining the distance education program thoroughly, it became apparent that at least two elements were not functioning in a manner that led to goal achievement. One of these was the design of the distance education modules and the other was the lack of interaction.

Modules Although one of the goals (and, in fact, the "official" original goal) of the distance education

program was to deepen student understanding of theoretical concepts through intellectual growth, this did not seem to be occurring. According to several lecturers, when students were confronted with new abstract concepts or with material that was highly theoretical in nature, there was a strong chance that they would not complete the module successfully. One lecturer said that as many as 90% of his art students had to re-do distance education assignments because they misunderstood the concepts and became confused. This component, the theoretical modules, were not functioning appropriately. As described in Chapter Four, Tom Bourdillion, the acting director of the A.C.C. at the time of this study, made a plea to the distance education workshop participants to consider re-vamping the goals of the distance education system to focus more on application of theory and direct utilization of concepts discussed prior to when teaching practice commenced.

Interaction The second problem was the lack of interaction between students and lecturers. Lecturers attempted to visit each student on T.P. at least three times. This was not always accomplished because each lecturer was responsible for more students than could reasonably be accommodated in a visitation schedule. The not-so-simple logistics of making the visits (e.g.,

fitting them in between teaching and lesson planning, and covering the physical distance between the teachers' college and the T.P. school) made the goal of three visits a difficult one to achieve. There was no other reliable method of interaction (mail service was inconsistent in many rural areas and telephone lines were not always available), and students ended up isolated. This often resulted in projects and assignments being late or incomplete. This was often because of unanswered questions or the lack of opportunities to discuss assignments before they were due.

Are there components or functions "missing" from the system?

Two components and two functions were "missing" from this program. The components were a "Zimbabwe model" of distance education and a coordinator for distance education at each teachers' college. The missing functions were feedback to students on assignments and communication among lecturers, administrators, and students.

Zimbabwe model The need for a "Zimbabwe model" of distance education was suggested by a participant at the distance education workshop and was consequently selected as a "critical issue" topic. (This report can be found beginning on page 53 of the Proceedings document

in Appendix F.) The reason for developing a national distance education model for teacher education was to unify all of the distance education programs at the teachers' colleges into a cohesive system. At the time of this study, the efforts of the individual teachers' colleges were not integrated and the system was not operating as efficiently as it potentially could.

Distance education coordinator The provision for a distance education coordinator at each college (the second missing component) would also increase the unity among teachers' colleges. Because no individual administrator was responsible for the distance education programs at the college level, it was difficult to have a professional network established through which ideas could be shared and professional growth could occur. This would also increase the level of accountability in the program as well, since one person could control and account for the distance education activities of many students simultaneously.

Feedback Student feedback was a missing function in this system. As discussed previously, distance education assignments were sometimes left unmarked for a long time. This lack of feedback was instructionally unsound and reinforced the negative attitudes of the students regarding distance education. They dismissed the

projects and assignments as "busywork." ("If it was important, they'd tell me how I had done.") Feedback, rapid and accurate, is a necessary component in any instructional program, but is made critical in distance education by the geographical separation of teacher and student.

Communication The final missing function in this program was communication. This issue was also chosen as a "critical issue" topic by workshop participants. If the communication lines were more firmly established, the program would run much more efficiently. Lack of strong communication patterns contributed to the weak organizational structure, the lack of interaction with students, and negative attitudes among lecturers, administrators, and students. The recommendations of the workshop group reporting on communication can be found beginning on page 67 of the Proceedings document in Appendix F.

Summary

The previous four research questions stimulated an analysis of the structural characteristics of the distance education program, its content, and its internal relationships. The next section will focus on how the distance education program operated over time.

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Process/Time/Organization

Introduction

The third level of the TPMDE focused on how the distance education program was organized and how the components (described in the previous section) worked together to produce appropriate outputs. How the system had changed over time and how change could be introduced will also be described in this section.

What is the sequence of activities in the distance education program?

Although programs varied slightly, the distance education component of each teachers' college was organized similarly. After teacher education students completed their first year of training that focused on teaching foundations (educational psychology, educational sociology, etc.), they were assigned to a teaching practice school. Many of these schools were in rural areas; the rural schools, according to lecturers at several colleges, had traditionally demonstrated the greatest need for teachers. Urban areas were more popular with qualified teachers and, consequently, fewer T.P. students were assigned there.

Students took their first distance education assignments with them to their teaching practice school. These assignments may have been integrated with modules

produced by the Distance Education Centre, or they may have been completely designed by the students' lecturers. One example of an assignment given in the past, "preparing a research report on a particular musical instrument," was described by the music lecturer at Gwanda ZINTEC College. The art lecturer at Gwanda emphasized that students had some flexibility in completing assignments because projects were designed to encourage students to use "local" materials. Originally, Marymount Teachers' College expected students to complete three major projects while on T.P. This was eventually cut to one project because students found it difficult to complete all three satisfactorily and lecturers found it difficult to evaluate that many projects.

One major project assigned by many of the teachers' colleges was called a "Curriculum Depth Study" or CDS. The CDS was an in-depth report prepared by secondary education students on a topic of interest within their major content area, such as mathematics. The CDS required intensive study in a specialized area and many students on teaching practice lacked research facilities to adequately prepare the reports. As a result, much of the work was done in a short period of time when research materials were available -- e.g., when they visited the

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campus. Unfortunately, lecturers reported that the CDS was often copied from the work of previous students.

The distance education assignments were worked on as students had time in their schedules. Most students' teaching schedules were quite full, and time for extra work on distance education was not available. T.P. students were full-time teachers working with classes of as many as 50 students (sometimes more), and they supervised extracurricular activities as well. In conversations with students recently returned from teaching practice, it was reported that simply finding the time to do the distance education assignments was the most difficult part of completing them.

Students occasionally returned to the campus during "holidays" (breaks) for seminars, to meet with lecturers, and use the library. Because postal service was unreliable in many areas of the country, students would wait until they visited the campus in person to turn in distance education projects. If they were having trouble with a particular assignment, they would often take this time to meet with the appropriate lecturer for guidance.

The teaching practice session for students of conventional (non-ZINTEC) colleges lasted one year; ZINTEC students were on T.P for nearly three years. Students then returned to the campus for additional

coursework and to write final exams for teacher certification. This final session lasted one year for conventional colleges and ZINTEC students returned for two final terms -- six months.

The previously-used "conventional model" also included a fourth year -- spent on teaching practice with distance education activities included. Eventually, distance education was eliminated because students were preparing for final exams during this fourth year. The new model simply eliminated the fourth year and scheduled exams at the end of the third year. ZINTEC students previously had had a longer teaching practice session (ten terms, each four months long) but the new model increased the on-campus portion of their academic training.

How could purposeful change be introduced into the distance education program?

Purposeful change, in this instance, refers to modifications to the program that occur systematically and intentionally. The most efficient means of structured change within the distance education program would occur through the Ministry of Education. This type of "top-down" approach had historical precedent in Zimbabwean distance education; the Ministry's original blanket decision to adopt the program ensured its

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comprehensive implementation. This type of decision works well when authority is centralized and the change will have extensive influence throughout the program's hierarchy.

Ministry of Education The mechanism required for change through Ministry mandate included information from a credible source regarding the advantages and disadvantages of the proposed change, budgetary considerations, political pressures, and priority of need. All major changes in educational programs would be considered and approved at the Ministry prior to implementation.

College level Although changes must be approved by the authority of the Ministry before their implementation, original ideas and proposals could originate at the "grass-roots" level. Lecturers and administrators at the fourteen teachers' colleges demonstrated strong and informed opinions about the strengths and weaknesses of the distance education program, based on years of accumulated experience. (For evidence of this, see the survey results, interview notes, and evaluations in Appendices A through F.)

By actively networking and sharing ideas with colleagues (one of the activities most valued in the workshop setting) lecturers would have a credible

position from which to petition the Ministry. This kind of "bottom up" change would occur more gradually as new ideas were disseminated throughout the colleges for evaluation and study before an "official" modification was considered.

Enhancements for change Two structural alterations would enhance the "change potential" of the distance education program: centralization of administration and improved communication. If many of the administrative functions of the program were consolidated, even major changes could be more efficiently implemented. The compactness of the system would streamline operations and facilitate equivalence across programs, a problem mentioned by several lecturers, as well as faculty of the A.C.C. Centralization has been a topic of debate and was one of the "critical issues" considered (but ultimately not selected) for group reports in the distance education workshop.

Improved communication among teachers' colleges, the Associate College Centre, the Distance Education Centre, and the Ministry of Education would foster attempts at purposeful change. By opening up the channels and simplifying the process of information exchange, resistance due to ignorance could be avoided. The need

for unconstrained communication was mentioned repeatedly during workshop activities (it was, in fact, one of the "critical issues" reported on) and numerous lecturers spoke during interviews of feeling isolated from peers. Program-wide change would be more likely to happen, and to happen as intended, if communication were improved.

How has the distance education program evolved over time?

The distance education program, unlike many dynamic systems, had changed little since its inception. Originally, only the ZINTEC colleges incorporated distance education activities into their teacher education programs. Because the first ZINTEC model (in use until 1988) assigned students to teaching practice continuously for more than three years, distance education was adopted to build their teaching skills and academic background while keeping them on the job in classrooms where they were desperately needed.

The ZINTEC National Centre (Z.N.C.) produced distance education modules (correspondence packets) that covered both theoretical and practical topics in education for these students. As the teacher shortage continued and conventional colleges were obligated to release students for longer teaching practice sessions, the Ministry of Education recognized that distance education could also be used in the conventional

programs. The Z.N.C. was reorganized as the Distance Education Centre (D.E.C.) and students from conventional colleges began using the modules.

As is common when innovations are "adopted" by an authority for an entire group of users (Rogers, 1983), a moderate degree of re-invention occurred in the program. Several teachers' colleges shunned the D.E.C. packets and prepared their own materials. In his workshop presentation, Dr. Masunungure, Director of the Distance Education Centre, noted that a lack of confidence in the D.E.C. materials led to resistance by faculty members to their use.

The A.C.C. staff strongly believed in the value of utilizing distance education during teaching practice and mandated its use. Every curriculum plan reviewed by the A.C.C. included a distance education component.

The distance education program will encounter many modifications as it adapts to changing environmental conditions. The improvements suggested in the group reports at the Distance Education Workshop (Communication, Personnel Expertise, Staffing, the Role of the University of Zimbabwe, and Developing a Zimbabwe Model) pointed to structural and conceptual transformations that would improve both its effectiveness and the efficiency of the system.

Another type of potential change in the program involved the adoption of advanced technology for instructional delivery. The positive response to Dr. Rwambiwa's suggestions about increased media utilization during his Distance Education Workshop presentation, along with his remarks to the researcher in an interview about the potential applications of electronic media, indicated that this type of change cannot be far off and that media's potential would not be dismissed lightly. His views were echoed by Dr. Matshazi of the Department of Adult Education at the University when he spoke of the many unrealized possibilities of teleconferencing.

Summary

This level of reference from the TPMDE focused on how the distance education program was organized and how the components worked together. The sequence of activities within the program was described for both ZINTEC and conventional teachers colleges. Change within the program was also discussed -- both how change could be introduced and also how the system has changed over time. It was concluded that although the environment had changed, the distance education program had not changed to accommodate it sufficiently. It was also concluded that the introduction of change into the system (through

either top-down or bottom-up methods) would rely upon effective communication at all levels.

Monitoring/Communication/Evaluation

The final level of the Triad Perspective Model for Distance Education dealt with the main regulating functions of the system (monitoring and evaluation) and communication. Monitoring and evaluation enabled the distance education program to adapt and continue to perform at an optimal level through periods of environmental change. The research questions derived from this plane of reference focused on communication, internal monitoring, and external evaluation.

What communication channels are necessary for the successful functioning of the distance education program?

Three types of communication channels were utilized to regulate the distance education program: administrative, academic, and program. Administrative channels existed primarily for the exchange of information regarding the management of the program. Communications related directly to the curriculum followed academic channels, and information dealing with organizational or developmental issues was exchanged via program channels.

Administrative channels The administrative channels in the Zimbabwean distance education program were: 1) between the Ministry of Education and the teachers' colleges and 2) among the lecturers and administrators within each teachers' college. Communication between the Ministry of Education and the teachers' colleges was "well-established" according to the Workshop group report on "Communication." (See Appendix F, pages 67-72.) Budgeting, personnel, and other management issues were several of the topics for which this channel was created. The Ministry had, historically, overseen the administrative operations of the teachers' colleges, and several lecturers, during interviews, expressed satisfaction with this arrangement. They indicated that even though they did not always agree with its decisions, they at least knew the Ministry's position on the issues.

Communication lines within the teachers' colleges were required to manage the "logistical" elements of the distance education program, e.g., materials production, scheduling, and visits to students on teaching practice. In interviews with lecturers, it appeared that they knew (in general) what the other lecturers were assigning as distance education projects and activities. There were, as in colleges all over the world, staff meetings and

other formal information-sharing sessions. There also appeared to be a great deal of collegial unity at the teachers' colleges visited -- morning and afternoon tea were routinely attended en masse by lecturers and administrators, for example -- and this unity fostered the use of informal channels of communication as well.

The administrative channels, Ministry to colleges and within colleges, all appeared to be well established and carefully maintained. The flow of information along these formal and informal lines formed a crucial link in the operation of the distance education program and helped to ensure its continuation.

Academic channels Academic channels of communication in the distance education program included those between the Associate College Centre and the teachers' colleges, between the Distance Education Centre and the teachers' colleges, and between the students and the teachers' colleges. These channels carried messages related to the content of the teacher education curriculum and its implementation within the distance education program.

Lines of communication were "not smooth" between the A.C.C. and the teachers' colleges, nor between the D.E.C. and the teachers' colleges, according to the "Communication" report. This was confirmed by interviews

and campus visits by the researcher. Each college had a "link person" at the A.C.C. who handled all matters relevant to their college curriculum. According to one of these link persons, their primary assignment was to act as a facilitator of communication. This, however, did not seem to be happening. Remarks by lecturers at several colleges indicated that although the intentions of the A.C.C. were honorable, the link person's awareness of "life on the front lines" was viewed with skepticism. Communication suffered as a result.

The lines of communication between the teachers' colleges and the Distance Education Centre were also somewhat tenuous. Ignorance of the D.E.C.'s purpose and functions was mentioned in the "Communication" report and one Workshop participant admitted that he had never heard of it. In an interview with Dr. Masunungure, the Director of the D.E.C., he stated that the lecturers at the teachers' colleges often felt that they were not given adequate opportunity to provide input for the design of distance education modules. This, in turn, led to a resistance by lecturers to their use. Dr. Masunungure's conclusion was that until the establishment of a formally recognized relationship between the D.E.C. and the teachers' colleges occurred, communication would continue to be haphazard and ineffective.

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The communication channels between students and their "parent" colleges were considered moderately useful. Information most often flowed from teachers' colleges to students but occasionally it moved in the other direction. Communication initiated by either party was inhibited by poor postal service and limited (or non-existent) telephone service in many rural areas. Many lecturers spoke of students who had claimed to have never received distance education materials sent through the mail, although several of those lecturers also wondered out loud if that was simply a "handy excuse" for not doing the work.

The limited amount of interaction between lecturers and students on teaching practice was a concern voiced repeatedly during interviews. The academic "danger" of neglecting (even unintentionally) students working on distance education projects was demonstrated at several colleges where lecturers spoke of students who had had to re-do months worth of work because of the lack of interaction -- interaction that would have revealed those problems early on. The "conceptual channels," it appeared, were open between students and their colleges, but the limitations of the physical channels, i.e., telephone and mail, were impediments to effective two-way communication.

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Program channels Channels of communication that carried information about the growth and development of the distance education program itself were those existing between the teachers' colleges and the Associate College Centre, and those among the various teachers' colleges. Program channels dealt with consulting and networking -- professional development was a key element in their utilization.

Although the academic communication channels from the A.C.C. were weak, this was partly due to the attitudes of the teachers' college lecturers. In their role as consultants and professional development providers, however, the A.C.C. had greater success. Workshops and special seminars were offered by the A.C.C., and these were highly spoken of during the Distance Education Workshop and also during interviews with lecturers. The A.C.C. was able to reach large numbers of lecturers by presenting these activities. This enhanced the A.C.C.'s role as an educational resource.

Program communication lines among the various teachers' colleges were weak. At Gwanda ZINTEC, the math lecturer mentioned professional isolation from peers as one of the major problems he faced in trying to maintain quality in the program. This perspective appeared to

apply to many of the lecturers attending the Distance Education Workshop. On their Workshop evaluations, many participants indicated that sharing ideas with colleagues was one of the best things about the Workshop and that, other than the activities sponsored by the A.C.C., there were few opportunities for such interaction.

The logistical problems that inhibited student /lecturer interaction worked against lecturer/lecturer communication as well. Teachers' college lecturers and administrators discussed the need for networking during the Workshop and the conclusion was that although "the spirit was willing, the telephone lines were weak."

The communication channels necessary for the successful functioning of the distance education program were Administrative, Academic, and Program. Overall, it appeared that communication needed to be improved. Some of the channels were well established but many others were not, as evidenced by the selection of "Communication" as a "critical issue" for group reports in the Distance Education Workshop.

Are there clearly identified monitoring processes within the distance education program structure?

The processes that regulated the day-to-day functioning of the distance education program were one of the weak points in the system. The three procedures that

helped to maintain the program were: 1) T.P. visits by college lecturers, 2) recordkeeping of projects completed, and 3) on-campus seminars.

Visits The visits to students on teaching practice were intended as observation and consultation sessions regarding teaching behaviors and classroom management strategies. Lecturers structured visits around an assessment form on which comments about the student's teaching performance were recorded. (Two examples of these forms can be found in Appendix E.)

If there was additional time or if the student brought up a specific question, distance education activities were also discussed, but there was not a period of time scheduled in for these discussions. Unfortunately, many lecturers mentioned that distance education projects were not reviewed at all during visits because their schedules were, of necessity, inflexibly tight. The other main reason that distance education was not often discussed was that the lecturer making the T.P. visit was not necessarily the same one who had assigned the project in question and may not have been able to answer questions related to the assignment (e.g., the appropriate format for a written report).

Recordkeeping When a distance education assignment was returned to the lecturer for marking, a

notation was made that the assignment had been received. This made it possible for lecturers and administrators to assess student progress across departments. As previously mentioned, however, the actual marking (grading) of the assignments could be delayed for months and although an assignment may have been turned in, it may not have been completed satisfactorily. The credibility of these progress reports, therefore, was suspect.

Seminars The final monitoring activity was the use of on-campus seminars that were used to meet with students in a group. These seminars were held on weekends and during school breaks. Students brought distance education assignments and projects back with them, sometimes incomplete. The seminars gave students an opportunity to talk with the lecturers who had assigned the projects and to submit completed work. By meeting face-to-face with students and reviewing their work on distance education, lecturers could accurately assess their students' progress on the packages.

Summary As a "weak link" in the distance education program, the monitoring of student progress could be improved by centralizing the management procedures of the program. Since distance education was handled by each department individually, there was little

accountability within the program. Standardized procedures and clearly defined levels of responsibility would improve the regulating function necessary in a system such as this.

Do procedures exist for the regular evaluation of the distance education program?

No officially recognized schedule of evaluation existed for the distance education program. As previously discussed, Chivore (1989) conducted two evaluations on the ZINTEC program (1982 and 1986) but a third had not been scheduled. The use of distance education within the conventional teachers' college program had never been evaluated.

In an interview during June, 1988 with Dr. Masunungure, Director of the Distance Education Centre, it was stated that an evaluation program for the distance education modules had not been established, although the need for one was recognized. Because of staffing shortages and high demand for new modules, old packages were reused year after year without a systematic assessment of their effectiveness.

This absence of routinely conducted evaluations relegated the administrative planning functions of the program to the level of guesswork and trial-and-error management. Rigorous evaluation of the distance

education program at all levels was identified as a need. Evaluation would create a clear picture of the strengths and weaknesses of the program, and provide data for strategic planning.

Summary

The fourth level of the TPMDE dealt with monitoring and evaluation (the two regulating functions of the system), and the communication channels that were used to accomplish program regulation. Administrative, Academic, and Program channels of communication were discussed, as well as was the effectiveness of the monitoring and evaluation procedures of the distance education program. It was suggested that both communication and program regulation would improve if the distance education activities at each college were centralized within one office responsible for program management. It was also concluded that evaluation should become an integral component of the system.

Chapter Summary

This purpose of this chapter was to provide a comprehensive, evaluative description of the distance education program used in teacher education in Zimbabwe (Objective #3 of the study). The data on which this description was based were drawn from the distance

education workshop (Objective #1) and the workshop proceedings document (Objective #2), as well as from interviews, observations, and document analysis.

The framework for this narrative was the Triad Perspective Model of Distance Education, introduced in Chapter Three. The four levels of the model were described, and research questions from each level provided structure for the discussion. Based on this evaluative description, strengths and weaknesses of the program will be discussed in the following chapter, as will recommendations for program improvement and development and areas for further research.

CHAPTER SIX
RECOMMENDATIONS AND PROJECT SUMMARY

Introduction

Review of chapters

Chapter One was an introduction to the use of distance education in the teacher education program in Zimbabwe. A brief history of the Zimbabwean educational system was included in Chapter One to familiarize the reader with the local circumstances. The research problem and research questions, project objectives, and the rationale and limitations of the study were explained, also.

Chapter Two was a review of the literature on research and theory in the areas of distance education, systems theory, adoption of innovations, and curriculum development. The Triad Perspective Model of Distance Education, a model integrating these research perspectives, was presented.

The third chapter began with a discussion of qualitative research -- its theoretical foundations, purposes, and methods. Following was a description of the data collection methods utilized for each of the project objectives of this study. The chapter concluded with a discussion of the constraints that influenced the choice of data collection methods.

The data collected during the project was summarized in Chapter Four. This included descriptions of the results of the Distance Education Survey (DES), analyses of Workshop presentations, Workshop evaluation results, interview notes, and descriptions of various documents related to the Zimbabwean distance education program. The total collection of accumulated data can be found in Appendices A through F.

Chapter Five included a comprehensive evaluative description of the distance education program used in teacher education in Zimbabwe. The Triad Perspective Model of Distance Education provided the framework for this description. Research questions from each level of the model organized the discussion and guided the evaluative aspects of the narrative.

The concluding chapter of this document, Project Summary and Recommendations, will include a brief discussion of the strengths and weaknesses of the distance education program in Zimbabwe followed by the recommendations for further program development and improvement. A section on possible directions for further research, based on this study, will conclude the chapter.

Program Strengths and Weaknesses

Strengths

There were five major strengths of the distance education program in Zimbabwean teacher education. These were: purpose, history, Ministry advocacy, personnel, and students. Each will be discussed briefly in the following sections.

Purpose The distance education program was sustained by what could be termed "strength of purpose." Regardless of what each individual believed to be the program's specific goals or aims, the lecturers and administrators interviewed unanimously agreed that the program was worthwhile and important to the educational development of the nation. The potential benefits of distance education, in their view, outweighed the problems faced by its implementation.

Distance education was initiated in response to a national educational crisis and in turn helped to alleviate the strain of a severe teacher shortage. This altruistic element of the program probably was a factor in its acceptance by the teachers' colleges. Educational innovations traditionally face great resistance (especially when they are "delivered from above"), and although there was a high degree of reinvention within the program, it was implemented across the teachers'

colleges with a minimum of discord. As a specific example, every teachers' college included distance education in all of their course syllabi -- most before this was required by the A.C.C.

By using this innovative educational technique to strengthen the public schools across Zimbabwe, the teachers' colleges contributed to the development of a well-educated, literate population from which to draw future leaders. This "strength of purpose" provided a focus and a sense of cultural and political obligation that stimulated the continued growth and eventual expansion of educational access.

History One strength of the distance education program was that it was an established component of the teacher education system in Zimbabwe. Teachers' college lecturers were used to the idea of distance education for instructional delivery.

As an accepted practice, distance education also had "historical precedent" not only in Zimbabwe but in other African nations, as well. Zimbabwe's situation was not entirely unlike that of Kenya after it gained independence in 1963. Facing a teacher shortage and high levels of illiteracy, Kenya instituted distance education programs in teacher education, non-formal, developmental instruction (i.e., nutrition, agriculture, etc.), and

adult basic education (Matiru, 1987). Malawi, Botswana, and Tanzania are three other African countries that have utilized distance education in meeting their unique educational needs as developing nations (Mkandawire & Jere, 1988; Jones & Higgins, 1987; Ntirukigwa, 1986).

By enduring the initial probationary stages of implementation (an innovation's "make or break" period), the program's chances for permanent adoption were greatly improved. The advantage of historical durability lies in the credibility afforded the program -- poor quality programs do not last -- that promoted continuation of the system.

Ministry advocacy An important source of support for the distance education program came from the Ministry of Education. According to the minutes of a May, 1988 meeting of teachers' college principals at the Ministry of Higher Education, distance education was considered a "necessary component of [the] teacher training programmes." The report of the Teacher Education Review Committee (Siyakwazi, 1986) established by the Ministry also recommended that "Tuition [instruction] through distance education should be continued." (See Appendix E.)

As the administrative entity over the teachers' colleges, Ministry support potentially could be

translated into budgetary and personnel assistance. By formally recognizing the distance education component as a vital part of the teacher education program, official Ministry sanction also provided political endorsement for its continued existence.

Personnel The quality of personnel involved with the distance education program was one of its greatest strengths. The theoretical grounding and academic preparedness of these educators, blended with a strong foundation of teaching experience, contributed to the depth of the talent pool at each college. Of the lecturers and administrators attending the Distance Education Workshop, several had authored textbooks, obtained advanced degrees, and/or travelled extensively throughout Africa and the world.

The commitment of lecturers to the teacher education program was evident in the campus visits made by the researcher during the two trips to Zimbabwe. Working under difficult circumstances that might appear unreasonable in the United States (e.g., very large classes, few resources), lecturers taught classes, advised students, developed teaching materials, and made visits to students on teaching practice. In spite of staff shortages and the lack of resources, however, lecturers spoke positively of their role in the

educational system and the professional attitudes of colleagues. Although a lack of training in the discipline of distance education was cited as a program weakness, the commitment of lecturers and administrators to providing excellence in teacher education helped to balance their lack of expertise.

Students The quality of the students involved in the distance education program was another of its strengths. The teachers' colleges were able to select the students that were the most likely to complete the program successfully because there were many more applicants than there were openings. The students that were selected tended, on the average, to be highly motivated and dedicated to completing the program. These are the characteristics necessary for success in distance education study, because there are few external motivators or "prods" (such as a lecturer close by) to prompt students to work on assignments and projects.

The group of students at Morganster Teachers' College that met with the researcher were articulate and mature. They confirmed the beliefs of many of the lecturers that teaching practice was a valuable "on-the-job" learning experience, but that finding time to complete distance education activities was difficult. They appeared to be enthusiastic about teaching, asking

questions about schools in the United States and how one became a qualified teacher. (When told that teachers in the U.S. are expected to have a four-year college degree along with certification, almost all of which consists of on-campus coursework, they were surprised that it takes so long and that "teaching practice" was so short.)

Summary These five strengths -- purpose, history, Ministry advocacy, personnel, and students -- have been responsible for the growth and development of distance education in the Zimbabwean teacher education program, thus far. Other factors have, obviously, influenced the course of the program (e.g., local politics or a particularly helpful school headmaster), but the five described were the characteristics common to every teachers' college. Next, the weaknesses of the program will be discussed. How they have inhibited the rate and degree of program development will be examined, also.

Weaknesses

There were five major weaknesses of the distance education component of the teacher education program. The program lacked: a Zimbabwean distance education model, effective communication, program accountability, sufficient quantities of trained personnel, and feedback procedures. These factors have impeded the progress of

distance education and reduced the program's effectiveness. Each will be discussed in the following sections.

Model The lack of a unified model for the distance education component of the Zimbabwean teacher education program has caused confusion in several areas. For example, there was no official program goal (or set of goals) for the distance education program mutually agreed on by all parties within the teacher education system. Without this uniformity of purpose, distance education activities across colleges (and even across departments within colleges) were designed to achieve differing aims. As several administrators explained, ensuring consistency and equivalency across programs has been attempted, but has been difficult to secure. Course syllabi were regularly reviewed by faculty of the Associate College Centre, but it was feared that excessive emphasis on program standardization would stifle creativity and erode autonomy.

Two other areas of confusion, resulting from the lack of a "Zimbabwe model", were the roles of the Associate College Centre and the Distance Education Centre within the distance education program. Opinions differed on how each of these agencies was expected to function. The A.C.C.'s "official" role as program

auditor was well understood, although the consultative role of the A.C.C. "link person" did not seem clearly defined to many of the lecturers interviewed during campus visits.

The role of the D.E.C. was firmly established within the ZINTEC colleges, but lecturers and administrators at the conventional colleges expressed concerns regarding the D.E.C.'s role. Comments appeared on Workshop evaluations that suggested a "field trip" to the D.E.C. in order to understand its functions better.

The degree of involvement in and extent of responsibility for various aspects of the distance education program by the A.C.C. and the D.E.C. was found to be obscure. With an established organizational structure in place, the hierarchy of authority and responsibility would eliminate the confusion of institutional roles.

Communication The confusion caused by the lack of a clearly understood model has contributed, in great part, to the unsatisfactory patterns of communication within the program. Communication has been poor among teachers' colleges, the A.C.C., the D.E.C., and teacher education students. Selected as a "critical issue" topic during the Distance Education Workshop, the problem of communication was recognized as one that inhibited

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further program development through isolation of institutions and individuals.

Poor communication had, in turn, led to resistance to the distance education modules prepared by the D.E.C. Lecturers spoke of the lack of input from the teachers' colleges in preparing the distance education modules, and they openly admitted that they had little confidence in the modules' instructional value.

Although some of the difficulty in communicating could be blamed on logistical barriers (e.g., poor telephone and postal service), much of the problem could be attributed to the system itself. Without an established structure to support the open exchange of ideas and information, those channels of communication were unlikely to develop spontaneously.

Accountability Also related to the lack of unified structure within the distance education program was the lack of accountability for program results. Because distance education activities were managed by individual departments within the Zimbabwean teachers' colleges, there was no centralized system in place to monitor the overall progress of the students. Lecturers kept track of student progress on the distance education projects they had assigned, although the records often were not current because of the time required to mark all

of the projects. Lecturers admitted that distance education assignments had a low priority in their schedules and that marking the returned projects was easily put off by more pressing duties.

This lack of accountability in the distance education program had far-reaching consequences. Because there was no way to monitor progress, the value of the program was not easily substantiated. It would be difficult to assess the impact of the program, make recommendations for its improvement, or justify the current operational policies when the program's improvement towards its goals cannot be ascertained credibly.

Personnel Although "personnel" was cited as a strength of the distance education program, two particular characteristics -- understaffing and lack of expertise -- place it in the "weaknesses column" as well. The distance education program (in fact, the entire teacher education program) was critically understaffed at all levels. This was a result of the increase in enrollments, reassignment of personnel to positions outside the teachers' colleges, and number of educators leaving the program without being replaced. The quality of education for Zimbabwe's future teachers was placed in serious jeopardy by this shortage. Lecturers and

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administrators who were on the job were overworked and were unable to provide as much individual attention to students as they had previously.

The lack of expertise among the teachers' college personnel in the area of distance education was, in itself, not problematic; however, it resulted in a great deal of ambiguity among lecturers and administrators regarding the management of the program. Because there was no one "in charge" of distance education at each college, the responsibility for the program was relegated, instead, to individual departments, and the distance education component functioned without a trained overseer. Unfortunately, the lecturers responsible for implementing the program often had not received advanced training in the design and administration of individualized instruction, and there usually was no one to assume a leadership role in that specialty.

Feedback The lack of timely feedback to students was a weakness with severe ramifications. When distance education projects or assignments remained unmarked for weeks (or even months) at a time, students were left unaware of what they had done right and wrong -- unaware that they may actually have been on the "wrong track" completely.

Delays in marking assignments were only part of the problem, however. One lecturer described the problems of extensive projects that required a lengthy time commitment. These projects could also "go wrong" at some point without the student realizing it. Without a system for monitoring student progress and providing them regularly with instructional feedback, a year-long project could ultimately turn out to be wasted time.

Unfortunately, the design of the distance education program had little allowance for major revisions of projects that had been unsatisfactorily completed. Instructionally, this was one of the program's most critical flaws, and understaffing and logistical barriers to interaction aggravated the problem.

Summary The lack of these five program characteristics -- communication, a model, accountability, trained personnel, and feedback -- have impeded the progress of distance education in Zimbabwe's teacher education program. The rate and scope of potential growth and development were restricted by these weaknesses, diminishing the quality of the instruction.

The weaknesses of the distance education program were predominantly within its structure and administration. Academically, the program was relatively sound, but had suffered from the negative influences of

the structural weaknesses (e.g., the lack of feedback reduced the program's instructional effectiveness).

The next portion of this chapter will include proposed recommendations for improving the distance education program. These recommendations are drawn from the evaluative description based on the Triad Perspective Model of Distance Education that was presented in the previous chapter. The recommendations are intended to reinforce and take advantage of the program's strengths while reducing the effects of its weaknesses.

Program Recommendations

There are five recommendations proposed to improve the distance education component of the Zimbabwean teacher education program. Unfortunately, these recommendations will not solve all of the problems of the distance education program, but, if implemented, will be likely to improve its quality and make use of available resources more efficiently. The recommendations are:

- 1) to establish a "Distance Education Commission";
- 2) to conduct program evaluations on a regular basis;
- 3) to re-focus the distance education modules toward applied education;
- 4) to encourage a more active role by the University of Zimbabwe; and

- 5) to establish a Distance Education Department at each teachers' college.

Each of these will be discussed in detail in the following sections.

Establish a "Commission for Distance Education"

It is recommended that a delegation of education professionals be convened by the Ministry of Education as a commission with the purpose of improving the distance education component of the Zimbabwean teacher education program. Members on the commission would be nominated by the teachers' colleges principals and approved by the Chief Education Officer for Teacher Education. This commission would consist of representatives from the teachers' colleges, the Associate College Centre, the Distance Education Centre, and the Ministry of Education. Student representatives from the teachers' colleges should also serve, chosen from different colleges each year on a rotating basis. At the discretion of the principals, private citizens could also be nominated for the commission. Positions would be part-time commitments of a limited duration so that the representatives could continue their "regular" jobs. (Regardless of the length of other Commission positions, student representatives should only serve one year, so that their studies are not

inordinately disrupted.) The suggested make-up of the commission is as follows:

Chair: Chief Education Officer, Teacher Education

Vice-chair: Commission member, voted in by members

Ministry of Education: 1 Education Officer

A.C.C.: Director, 1 Faculty Member

D.E.C.: Director, 1 Professional Staff Member

Teachers' Colleges: 7 lecturers and/or administrators or 7 Distance Education Coordinators (half of the colleges represented each term on a rotating basis)

Teacher Education Students: 7 students (colleges represented on a rotating basis)

Private Citizens: 2, at the discretion of the nominating committee of principals

The purpose of the commission would be to study the distance education program and make recommendations for its improvement. These recommendations would be viewed as suggestions, since the role of the commission would be consultative, not authoritative. Official recognition would help the commission to achieve credibility, and action on commission recommendations would help to maintain this credibility. Some examples of activities suggested for the commission to undertake would be to design a "Zimbabwe model" for distance education, to

develop and implement workshops on distance education, and to act as a funnel for gathering and disseminating suggestions, questions, and information about the program.

As soon as possible after its formation, and on a regular basis thereafter (possibly every five years), a major status report on distance education should be produced. The results of the various research studies undertaken (or underwritten) by the commission would form the nucleus of such a report, and would act as a repository for information relevant to the applications of distance education in Zimbabwe.

The establishment of the Commission for Distance Education (CDE) would result in increased communication among educators involved with the distance education program. Commission members from each of the parties represented would be able to discuss pertinent issues in a scholarly forum and could introduce ideas proposed by colleagues not serving on the commission. Communication channels between the teachers' colleges, the D.E.C., the A.C.C., and the Ministry of Education would be strengthened.

Another result of implementing this recommendation would be to improve the distance education expertise of commission members and their colleagues through

professional development activities planned and conducted by the commission. By studying the program and assessing the needs of its "operators," relevant workshops and appropriate research could be assured. Commission representatives would become much more knowledgeable about distance education, simply through their exposure to it and study of its distinctive characteristics.

By establishing a "Zimbabwe Model" for distance education, an agreed-upon structure could be developed that would include input from every agency represented on the commission. This model would unify the efforts of the teachers' colleges, the A.C.C., and the D.E.C. by prescribing a common goal (or goals) for the program. A model would also create a clear line of program accountability by defining the hierarchical structure of responsibility and authority.

Several weaknesses in the distance education program would be addressed by establishing a Commission for Distance Education. Communication would be enhanced, expertise of personnel would increase, and program accountability would be fostered.

Conduct program evaluations on a regular basis

It is recommended that rigorous and objective evaluations be conducted at all levels of the distance education program on a regularly scheduled basis. These

evaluations would determine the cost effectiveness of the program, attitudes of students, perceptions of lecturers and administrators, quality of materials, and/or levels of student achievement.

One of the benefits of conducting regular evaluations would be the potential for improved program quality. By carefully examining the essential components of the distance education program in an objective and unbiased fashion, workable recommendations for improved program effectiveness could be developed.

Another outcome of evaluation could be the more efficient use of resources. Materials, equipment, and person-hours have been in limited supply in the Zimbabwean teacher education program. An evaluation designed specifically to assess the efficiency of the distance education program could indicate how to make the best use of the resources that are available.

By conducting evaluations on a predetermined schedule, a body of recently-gathered research data would be available. By using criteria accepted throughout the field, such as Keegan's list of characteristics of distance education programs as a guide (1986), standards of international acceptance would increase the credibility and stature of the Zimbabwean distance education program. Administrators (and the Commission

for Distance Education) would have the opportunity to make informed decisions during the strategic planning process -- relying on solid research instead of intuition and trial-and-error methods.

Applied education focus in distance education modules

It is recommended that the distance education modules used by students on teaching practice focus on applied education and the practical aspects of teaching. By emphasizing theoretical education the first year of instruction (while students are on campus), abstract concepts in the fields of educational psychology, sociology of education, and philosophy of education could be introduced. The following year, when the students are on teaching practice, those concepts could be operationalized in applied education assignments using the classroom as a laboratory. The final year, when students return to campus, would be focused on integrating the theoretical and practical aspects of teaching.

This re-focusing process would potentially improve the distance education program in several ways. First, the need for outside library or reference materials to complete assignments would be greatly reduced, if not eliminated. Assignments and projects would be directly

tied to the students' own classroom experiences instead of relying on the availability of published research.

Another benefit would be the integration of distance education coursework with the goals of teaching practice. Modules prepared on subjects such as "Cooperative Learning" or "Writing Examinations" would merge distance education coursework with the student's teaching duties. Rather than viewing the assignments as "busy work" or simply a burden, unrelated to their everyday struggles, students would instead be "working" on their distance education projects while they were teaching their classes.

The quality of the teaching demonstrated by students on T.P. would be likely to improve if the modules were re-focused on applied education. Students would be "trying out" specific teaching behaviors (e.g., questioning techniques, discussion skills) under the guidance of the distance education modules. Their classes would also be likely to benefit from the practical training they were receiving.

If distance education modules emphasized applied education and contained assignments that were practical in nature, the grading/marking process would change, also. The burden of paperwork placed on teachers' college lecturers would be somewhat reduced if distance

education assignments were primarily active demonstrations of specific teaching techniques. T.P. visits by lecturers could include an assessment of those teaching techniques, thus creating a more efficient use of limited staff time. For example, if a student on T.P. was assigned a distance education module on science methods, he or she would demonstrate one or more of the science teaching activities when visited by a teachers' college lecturer. That lecturer would have a copy of the module to consult during the demonstration/lesson and would be able to assess the project and assign a grade without delay and, more importantly, give the student immediate feedback on his or her performance.

By modifying the distance education modules as recommended, student cheating by copying another's work would be eliminated. Assignments would be based on their own teaching experiences observed and confirmed by lecturers on T.P. visits. Written materials submitted for marking would be supplemental to demonstrated teaching skills. An example of "supplemental written materials" could be a self-evaluation of the previously-described science demonstration, which would be supported by the follow-up classroom activities and lesson plans developed by the student.

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By re-focusing the distance education modules as recommended, the students, their teaching practice classes, and the teachers' college lecturers would benefit. The students' teaching skills would be likely to improve in quality and the lecturers' management of distance education assignments would probably improve in efficiency.

Role of the University of Zimbabwe

It is recommended that the University of Zimbabwe take on a more active role in the distance education program. As the accrediting agency for the teachers' colleges, the U.Z., through the Associate College Centre (and other departments), would be an appropriate agency to assume a leadership position in Zimbabwean distance education.

One of the activities suggested for investigation would be the offering of college credit courses about distance education. Offering courses using various distance education methods would help to establish (or reinforce) the University as a demonstration site for educational innovation.

Another activity suitable for the active leadership role of the U.Z. would be the seeking out of external funding sources for upgrading the distance education program. Workshops, faculty training, faculty hiring, and

the bringing in of outside expertise to conduct professional development activities in distance education could be externally financed. This has been accomplished by the A.C.C. (as evidenced by the TTT grant described earlier) and should continue in the future.

The University could act as a consultant to assist with and conduct distance education research as recommended by the Commission for Distance Education. Evaluations, experimental studies, case studies, and attitudinal studies could be implemented and research results published and disseminated.

One of the consequences of the University of Zimbabwe's assumption of this leadership role would be increased opportunities for professional development, leading to greater expertise among distance education lecturers. Workshops, seminars, and short-courses presented on a regular basis and using a variety of delivery methods, would provide intellectual stimulation and the chance to network with other lecturers.

Another benefit would be the increased communication between the U.Z. and other educational institutions that would occur as a result of this role expansion. By "keeping in touch" with the teachers' college lecturers and administrators through workshops and short-courses, and by providing consultative services for research or

course development, the channels of communication would be actively in use.

The University of Zimbabwe has been viewed, historically, as a respected institution of higher learning in Zimbabwe. By assuming a more active leadership role in the field of distance education, that reputation would be further enhanced and eventually extend beyond the boundaries of Zimbabwe. An international reputation for distance education and for teacher education would be of great value to the development of the University.

Another reward would be the deepening of the "talent pool" in Zimbabwean distance education. Well-trained educators need to be educated so they can step into the educational leadership positions that become available, whether at the University, the Ministry of Education, or elsewhere. The development and maintenance of a pool of highly-qualified professionals would ensure the continuation of program quality.

Distance education departments at teachers' colleges

It is recommended that a Distance Education Department be established at each Zimbabwean teachers' college. This department should be staffed by a senior lecturer -- a Coordinator -- who would report directly to the principal. Lecturers would be accountable to the

Coordinator for the distance education component of their respective departments. Office assistance would be required for clerical tasks.

The purpose of establishing a separate department for distance education would be to manage the program at the college level. This could include arranging for the distribution of materials to students on T.P., working with lecturers to continually refine their distance education coursework, and networking with other Distance Education Coordinators to exchange ideas and information about the program.

The benefits of this arrangement would be numerous. By centralizing operations, program accountability would be facilitated; student progress could be easily tracked. Uniformity of distance education procedures across departments would be simplified, and "wait time" for feedback to students on assignments could be decreased, since the Coordinator would arrange for the dispatch and reception of materials, and the lecturer, as subject matter expert, would deal primarily with content.

Communication throughout the system would be enhanced because at each teachers' college there would be a clear hierarchy of responsibility for the management of the program. Students could contact the Distance Education Department with questions and comments rather

than trying to reach several different lecturers to answer questions.

Accountability for program results would be another benefit of centralizing the distance education program within each teachers' college. With one person, the Coordinator, in an authoritative role managing the responsibilities of the system, the effectiveness of the program could be easily assessed.

Establishing a Distance Education Department within each teachers' college would be beneficial to students, lecturers, and administrators. Students could benefit from the improved program quality that would likely result from a Coordinator trained in distance education. Lecturers would benefit from the streamlined management procedures of a centralized program that would reduce their paperwork. Administrators would benefit from the increased efficiency of a distance education department that would eliminate duplication of effort in the provision of distance education coursework.

Summary

Five recommendations were proposed for the improvement of the distance education component of the teacher education program in Zimbabwe. These recommendations were:

- 1) to establish a "Commission for Distance Education";
- 2) to conduct program evaluations on a regular basis;
- 3) to emphasize applied education in the distance education modules;
- 4) to encourage the University of Zimbabwe to assume a more active leadership role in distance education; and
- 5) to establish, at each teachers' college, a Distance Education Department staffed by a Coordinator of senior lecturer rank.

These recommendations were described in detail, with a discussion of the potential benefits to be realized from each. Because they were developed as comprehensive program modifications, they would likely be unsuccessful if implemented only partially or as "surface alterations." The projected positive results described would be long-term benefits that may not be realized immediately.

As described, the five recommendations were proposed based on the strengths and weaknesses of the program that were derived from the evaluative description presented in Chapter Five. This narrative, organized according to the Triad Perspective Model of Distance Education, provided a

comprehensive examination of the needs of the distance education program. It is those needs to which the five program recommendations would respond.

Areas for Further Research

Within the Zimbabwean distance education program studied in this project are several areas that could benefit from further research. Three of these include evaluation, feedback/interaction research, and media utilization studies. Each of these research topics will be discussed in greater detail.

Evaluation

The first research area is evaluation, as was already recommended in the previous section. One specialized aspect of evaluation that could benefit the Distance Education Centre, and ultimately the students using distance education modules, would be field-testing. Rigorous field-testing of distance education modules to provide formative data would improve the quality of the modules and possibly reduce resistance to their use among faculty. The effectiveness of various module designs, including the use of "little media" (such as audiocassettes) would be a research area with immediate application potential.

Another possible evaluation topic would be a cost-effectiveness study. What is the cost per student to deliver instruction using the modules as currently produced? What factors might influence the cost-effectiveness of other types of delivery systems? When resources are limited, controlling the costs per student becomes crucial. A cost-effectiveness study would provide baseline data from which to make long-term decisions about the system's management.

Evaluation of how well the students achieve and how they feel about the program would provide useful data for program design and modification. How many students fail to complete the program? How many stay in teaching longer than one, two, or five years? What are the students attitudes toward the distance education component of teacher education? By studying the students before, during, and after their exposure to distance education, an assessment of its viability could be determined.

Other evaluation designs could also be utilized in order to measure the strengths and weaknesses of the distance education program. As already discussed, using internationally accepted criteria (e.g., Keegan, 1986) would standardize the process and develop program credibility. Regardless of the model chosen, the crucial

element of evaluation is that the results are disseminated and used to improve the quality of the program.

Feedback/interaction research

The various types of feedback and interaction among students and lecturers should be carefully examined. The delay of feedback to students about their distance education coursework was considered a serious weakness in the current system. Modification of the instructional modules, as described earlier, could potentially remedy this problem. Studying the effect of more immediate feedback might influence program management, as could research on different types of feedback (e.g., verbal, written, or non-verbal).

Interaction related to distance education, between students on T.P. and lecturers, needs to be closely studied. How do students and lecturers interact? Through what communications medium or media do they interact, if any? How long do these interactions typically last? Is amount or type of interaction related to student achievement?

Interactions among students and others also may impact on the distance education program. Does amount of interaction with other students on T.P. influence teaching performance? Do high-achieving students

interact more with their T.P. school headmasters? The design and management of the distance education program could be improved by forming a solid research base in the areas of feedback and interaction.

Media utilization studies

The potential for using electronic media in the Zimbabwean distance education program should be examined closely. Rather than dismissing the possibility of "high-tech" delivery of instruction because the technology is not currently available, research should get a "head start" on the hardware.

What are the salient attributes of a high-quality distance education program? How can various media exploit those attributes to deliver instruction? What are the advantages and disadvantages of various delivery systems? What cultural factors might influence the adoption of a particular type of technology? How soon will the media be accessible? What are the start-up and maintenance costs associated with these deliver systems?

Although Zimbabwe does not have widespread capability for advanced technological applications in education, answering these basic questions (and many others) before the technology arrives may allow for a more systematic study of media utilization. Once hardware is available, the pressure to adopt a delivery

system will be great. Research can provide the background for an informed decision when selecting a delivery system.

Applying the TPMDE

Research using the Triad Perspective Model of Distance Education to build comprehensive descriptions of distance education programs is a research possibility. The theory-based approach of the TPMDE and the flexibility of research questions within the model expand its usefulness as a research and development tool. This model could also serve as a design framework for a new distance education system.

The first level of the model, dealing with needs and objectives, would produce research questions about the context in which the distance education program would operate and what unmet needs would be met by the program. The second level of the TPMDE would require an understanding of the essential components of the proposed program and how they would fit together as one system. Level three, the "process" frame of reference, could require a procedural outline, or flowchart, of how the system would function over time. The evaluation level would ensure that monitoring and evaluation procedures designed to regulate the distance education system would be built into the program from the beginning.

Summary

Evaluation, feedback and interaction research, and media utilization studies hold great potential for Zimbabwean distance education. Research should be conducted to improve both the effectiveness and the efficiency of the distance education program.

Applications of the TPMDE were also suggested. Potential studies include replicating this project by describing a different distance education program using the TPMDE and using the model to systematically design a new distance education program.

As distance education becomes increasingly important to traditional educational institutions, the role of distance education research will expand. As unresolved issues in this "new" discipline attract the attention of educational researchers, a solid theoretical foundation will begin to develop. Quantitative and qualitative research will both be needed to create this base, to which this study will also contribute.

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APPENDIX A

DISTANCE EDUCATION SURVEY (DES) RESULTS

Distance Education Survey
Written Results

- 1) Were the original goals of the distance education program made explicit at the beginning of the program?

100 - Not at all.
101 - Yes.
102 - No.
103 - Not sure.
104 - No.
105 - Yes.
106 - Yes.
107 - Partially.
108 - No.
109 - Yes.
110 - Don't know, was not here.
112 - No.
113 - Yes, to those in the Zintec programme.
114 - No.
115 - Yes.
116 - Yes.
117 - Yes.
118 - Yes.
119 - Yes.
120 - Goals were fairly explicit.
121 - Yes.
122 - Yes.
123 - Yes.
124 - Yes.
125 - Yes.
126 - Yes.
127 - Very explicit and directive.
128 - Yes.
129 - Yes.
130 - Yes.
131 - Yes.
132 - Yes.
133 - Yes.
134 - Yes.
135 - Yes.
136 - Yes.
137 - Yes.

- 138 - Yes.
- 139 - No.
- 140 - No.
- 141 - No.
- 142 - No one knew exactly the clear purpose except that pupils must be kept busy.
- 143 - No.
- 144 - No.

2) If yes, what were they?

- 101 - 1. To continue tutoring students on TP during the year out to ensure full coverage of the Tr. Ed. programme syllabi in all areas. 2. To give students chance to relate theory to practice.
- 105 - To cater for the educational needs of our student teachers while they were away from college for two alternate years of their 4 year training course.
- 106 - To help students in rural areas who cannot make use of library facilities; to consolidate what they learnt at the college.
- 107 - To facilitate learning (effective) and teaching despite infrequent face to face contact. Conscientizing [sic] participants of heightened value of DE.
- 109 - To marry theory and practice in the training of efficient teachers in a short space of time, using less funds.
- 111 - To alleviate trs shortage in schools -- this was made clear. And also to accommodate those students who were not able to acquire training/education because of the liberation war.
- 113 - 1. To provide tutorials, both at face to face and at distance levels. 2. To multiply production of trs. for the primary schools.
- 115 - To produce a high quality and quantity of teachers who at the time of their training help alleviate teacher shortage problem.

- 116 - 1. To produce enough teachers for the educational system. 2. To improve the quality of teachers in schools.
- 117 - To produce a sound professionally and academically equipped teacher.
- 118 - Major goals at the launching of the Distance Education programme in Teacher Education were: 1. the alleviating of the serious shortage of qualified teachers in Primary Schools within a period of 8 years; 2. The production of a teacher through an inservice programme who would be versatile and marry theory with practice as well as mesh in with the community and initiate beneficial community based projects.
- 119 - To disseminate information to students in the form of modules which they would use in their teaching/learning when they are out on teaching practice.
- 120 - To provide adequate teachers of a high calibre in schools.
- 121 - To help student know more about the community in which they went by studying some aspect of that community, e.g., water system in the area or study of a mine and its products if there happens to be one.
- 122 - Alleviating the problem of teacher shortage in the schools.
- 123 - To keep students researching when out of campus and accumulate the required number of assignments to pass.
- 124 - 1. To improve student knowledge (broaden him in subject matter) while away from college; 2. Keep student busy and adjust to teach effectively; 3. Help student in research work methods; 4. Help student understand the community in which he works.
- 125 - To produce a teacher able to operate under difficult conditions particularly those working in the rural areas.

- 126 - That the students should continue to learn while they are out on teaching practice.
- 127 - The student at the end of the program should be: a) familiar with the problems met in schools; b) be able to improvise and help where shortfalls occur; c) confident and versatile in his field with time.
- 128 - To make up for content that could not be completed on a face to face situation; to keep student intellectually occupied so as not to break learning continuity.
- 129 - To make students learn out of college residences research materials they need in the daily teaching of their lessons.
- 130 - Professional development of the student teacher; means for continuous assessment; to encourage student teachers to carry out simple research in real classroom environment; academic development of the student teachers.
- 131 - To enable students to continue to grow both professionally and academically.
- 132 - a. To communicate with students while on T.P.;
b. To give the students an opportunity to do research on some practical topics while on T.P.
- 133 - To give opportunity for students to learn/study while giving the required service to the schools out in the rural areas. To produce a teachers who is aware of community problems by making him in the process of acquiring his/her diploma a participant in community service.
- 134 - Training teachers on the job; alleviate shortage of primary school teachers.
- 135 - That they would work on the assignments given and return these to college in order to a) help pupils revise what they taught and b) introduce new but related work.
- 136 - To study the environment in relation to the individual.

- 137 - Teaching and keeping records; make a research project.
 - 138 - To enable the student teacher to learn while assisting the nation by teaching a class/classes in view of the present teacher shortage in Zimbabwe.
- 3) If no, what do you think they were?
- 100 - The implied intentions were to ensure that while on full time teaching practice, teacher candidates would continue to work on their theory.
 - 102 - To supplement the face-to-face lectures while the students were on teaching practice; to enrich students' subject content in various areas.
 - 104 - 1. To upgrade content in students when on teaching practice. 2. To cover topics in the syllabuses not yet covered.
 - 108 - To encourage students to continue or proceed with academic study when they are out on teaching practice so that knowledge could not be subjected to a process of rusting.
 - 110 - To assist the student teacher to continue formal learning while on teaching practice.
 - 112 - Intended for Zintec colleges to increase number of teachers in schools esp. primary schools.
 - 114 - To afford an opportunity for our students in the field to marry theory (which they would be receiving through D.E.) and practice.
 - 139 - To give students chance to learn relevant supplementary material when they are out on teaching practice; to allow or provide for receiving problems or questions from the students when out in the field and help them.

- 140 - I think it was just to fill up the gap when the training programme changed from three years to four years with students spending two years out of college.
 - 141 - To continue to develop the students' academic progress; to help students adjust and teach well in their environment; to assist students as they carry out science project -- monitor their progress.
 - 142 - To keep students at the correct academic level and to complete aspects of the syllabus that had not been done while students were still in college.
 - 143 - To keep in touch with students; to develop students further in courses not covered in college.
 - 144 - To help cover the set syllabi in the time available to keep students occupied.
- 4) Do you think that these original goals have been fulfilled?
- 100 - Not fully.
 - 101 - No.
 - 102 - Only marginally.
 - 103 - Not sure.
 - 104 - Partially.
 - 105 - Up to a point only. There has been no central body to coordinate and monitor the program. Colleges have sometimes been left to their own devices.
 - 106 - Partly yes.
 - 107 - To some extent.
 - 108 - Yes.
 - 109 - Yes -- many schools are manned by the teachers trained under the system.
 - 110 - Not.
 - 111 - To some extent.
 - 112 - Number of teachers increased significantly.
 - 113 - To a large extent -- yes.
 - 114 - Partly.
 - 115 - Not yet, but program has gone quite a long way toward fulfilling these.

- 116 - There has been a considerable achievement in the production of teachers to cope with the needs of the system. However the quality of the teacher has not improved considerably. This has mainly been due the lack or shortage of staff in teacher training institutions.
- 117 - Partially.
- 118 - By and large. The first goal has been fulfilled. It is difficult to say to what extent the second goal has been fulfilled.
- 119 - Yes.
- 120 - Not yet fulfilled.
- 121 - Partly.
- 122 - Yes.
- 123 - Partly.
- 124 - Yes.
- 125 - They have been fulfilled to some extent.
- 126 - No.
- 127 - Yes.
- 128 - No.
- 129 - Partially.
- 130 - Not quite.
- 131 - To some reasonable extent.
- 132 - Partly.
- 133 - Partially.
- 134 - Yes.
- 135 - Not always.
- 136 - To some extent yes.
- 137 - Yes.
- 138 - Yes.
- 140 - Not really because it was difficult to implement.
- 141 - To a large extent yes.
- 142 - No.
- 143 - Only to a very limited exchange.
- 144 - Somewhat.

5) If not, why not?

- 100 - As soon as teacher candidates go out on teaching practice, they assume the duties of a full time teacher -- and their main concern becomes one of sheer survival in the job. The issue of continuing theory work becomes secondary.
- 101 - No systematic dedicated effort by lecturers to implement DE due to lack of expertise and critical staff shortage in the colleges.

- 102 - There are no specifications as to how it should be conducted. Quality of the materials sent to students is never controlled. There are no specialists to adequately advise colleges on what to do.
- 104 - Materials to students were not sent continuously leading to non-coverage of some topics. College could not finance the programme adequately, to buy duplicating paper, postage materials, etc.; shortage of manpower.
- 106 - Problems of dispatch, problems of preparing the materials because the colleges are under staffed.
- 110 - The plans were announced but nothing or very little was done to concretise the aims.
- 111 - Because of poor funding; because of inadequate planning, e.g., projections.
- 114 - Students in their teaching practice year are also full time teachers and thus the theory part is not properly digested. It seems we have to go through it again when they come back to college.
- 115 - Problem of manpower meant limited numbers could be trained at a time and an exodus of already trained teachers going for greener pastures.
- 117 - In the Zintec programme the student teacher tended to be well equipped professionally but deficient academically, lacking in content to give pupils.
- 118 - One would conduct a survey to find out how much of the second goal has been achieved but by and large one could safely say that the present teacher product is more community conscious than the first who tended to be standoffish.
- 120 - There is still teacher shortage.

- 121 - Student do not seem to do this work diligently. Most of them seem to scrap through the work [at] the last minute.
- 123 - Students do assignments, etc. just to get rid of them. No incentive or initiative.
- 126 - Because if the student does not write the assignment well there is no room for going over it with the tutor so the student may leave the college not knowing the correct answer.
- 128 - The tendency by many (most) students has been to copy from each other/previous work or ask other people to do the work for them.
- 129 - Lack of material to produce distance education (paper, typewriters); understaffing of colleges - give lessd chances to hold workshops and seminars.
- 130 - Lack of resource materials (e.g. equipment, books, chemicals, etc.); student teachers complain of lack of time; need for close guidance.
- 131 - Reduced supervision due to lack of materials and shortage of staff.
- 132 - Because students do not manage to get enough reading material while on T.P. It also becomes too much for students since they have lessons to plan, teach, and books to mark.
- 133 - Not as much as we would like it to be due to shortage of: 1. printing materials 2. backup personnel to give enough or adequate feedback to the students.
- 135 - a. lack of back up materials; b. too much work for students; c. very little feedback from colleges.
- 139 - Staff shortage; resource shortage (e.g., paper).
- 140 - There were no specialists or full-time writers (personnel) to write the materials.

- 141 - The main problem lies in the fact that many a student cannot cope with the teaching, assignments, and/or projects.
- 142 - Pupils have a full teaching load and do not have the time to work on the assignments. There is no reference material. No lecturer had been trained in writing distance education material.
- 143 - Lecturers (especially new) are not versed in preparing distance education material; communication by post is difficult; lecturers have too much work with resident students as well as supervising teaching practice.
- 144 - Tutors are overloaded with other work in college.
- 6) Are these original goals still relevant?
- 100 - Well, yes.
- 101 - Yes.
- 102 - They are.
- 104 - Yes.
- 105 - Yes they are still relevant because the nature of the training course has remained the same as originally designed.
- 106 - Yes.
- 107 - Quite so.
- 108 - Yes.
- 109 - Yes. Zimbabwe still needs many teachers.
- 110 - Yes.
- 111 - Not to a great extent.
- 112 - Only number of teachers with certificates.
- 113 - Yes, there is still a great shortage of trs.
- 114 - Yes.
- 115 - Yes.
- 116 - Yes.
- 117 - Not all as Zintec programme has come to an end.
- 118 - They are still worthy goals.
- 119 - Yes.
- 120 - They are still relevant to some extent.
- 121 - Yes.
- 122 - No.
- 123 - Yes.
- 124 - They are still relevant.
- 125 - Yes.

- 126 - They are provided this can be conducted in a better way.
- 127 - Yes.
- 128 - Yes.
- 129 - Yes.
- 130 - Yes.
- 131 - Yes.
- 132 - Yes.
- 133 - Yes.
- 134 - Yes.
- 135 - Yes.
- 136 - Yes.
- 137 - Yes.
- 138 - Yes.
- 139 - Yes.
- 140 - No.
- 141 - Yes.
- 142 - Yes.
- 143 - Yes.
- 144 - Yes.

7) What changes/additions/deletions to these goals would you suggest, if any?

- 100 - The whole issue of continuing theory work for its own sake should take a back seat. The main thrust should be work related to an understanding of immediate practice.
- 101 - Instead of focus on new conceptual knowledge input, the goals could focus on application of what has already been learnt in the on-campus year.
- 102 - 1. That specialists in DE should man DE departments in colleges. 2. That all colleges be provided with enough equipment. 3. That a format or model of DE be given to all colleges. 4. Pamphlets be written and distributed to colleges -- spelling out goals, methods, and evaluative procedures on DE.
- 104 - No changes.

- 105 - 1. There should be a central body to monitor the program. 2. There should be DE specialists at ACC and the colleges to run/monitor DE. 3. There should be provisions for more face to face interaction between tutors and students, especially in the conventional colleges.
- 106 - To supplement what the students already have. To offer guidance in teaching areas which affect them on a day to day basis.
- 108 - There should be a reduction in academic study unrelated to teaching practice since teaching practice on its own is very demanding and takes up a great deal of the teachers' time.
- 109 - Perhaps the speed at which the teachers are trained could be slightly reduced to avoid an overproduction of teachers resulting [in] teachers failing to find jobs in the near future. But expansion in Education should be matched with the production of teachers.
- 110 - A new and determined beginning is needed.
- 111 - More stress on quality of tr., stress on community development, inservicing qualified tr.
- 112 - There was little depth study in the program, i.e., there was little quality so rural primary/sec. schools suffered somehow. Dist. ed was not evaluated on a regular basis, if it was -- results were not made public for professionals to improve.
- 113 - 1. Increased face to face contact hours; 2. Increased workshops for lecturers/students; 3. Consistent programming and evaluation; 4. Increased inputs and participation by the University of Zimbabwe; 5. Increased recruitment of appropriate expert manpower.
- 114 - They should be more explicit than they are now. This perhaps will remove the haphazard approach that that characterize DE in our college.

- 115 - Change in quality of manpower to administer program. Monetary motivation to help retain available manpower both for typing modules and tutoring.
- 116 - I think there should be a reasonable amount of emphasis placed on the co-ordination of the Educational System (Vis-a-vis private colleges).
- 117 - If the Zintec programme were to continue as it does in some colleges, more time should be given to student to equip him with more academic content.
- 118 - None.
- 119 - I suggest that the colleges themselves should tell the DE Centre areas they want researched on and that whatever is written suits the Zimbabwean context.
- 121 - The work given to the students should not involve any use of a library as there aren't any in most of the rural Zimbabwe. Work assigned should be of an investigative nature not a mere reproduction of what the manager of a mine gave them or what the people in the community told them.
- 123 - There should be more accurate and detailed planning. More monetary resources and all details must be taken care of.
- 124 - More of distance education work should be given than at present; especially in areas concerning teaching subject matter. Primary school teachers in Zimbabwe teach all subjects, so each subject area should have assignments for students to work on especially in key subject areas.
- 125 - There is need for closer supervision of student teachers.
- 126 - If the goals are to be achieved, the students could be called back to the colleges for a seminar on the work they would have been asked to do.

- 127 - Additions: 1) To develop teaching skills; 2) To mix theory and practice; 3) To learn the needs in schools and be able to be of help.
- 128 - Assignments or work for distance education should constantly be renewed to minimise plagiarisation and duplications. Tasks per individual should vary in focus to minimise copying.
- 129 - 1. Increasing the number of contact time between students and lecturers; 2. Increasing stationary equipment; 3. Increasing vehicles to send out lecturers to different districts to hold seminars and workshops; 4. Have department at the colleges specifically in charge of d.e.; 5. Increase the funds to run distance education courses.
- 130 - Retain all but less emphasis on assessment; include goals on personal development; encourage critical thinking.
- 131 - Add use of electronic communications medium.
- 132 - 1. Enough instruction be given to students before going on T.P.; 2. Arrange for end of term or beginning of term workshop where students and lecturers can interact.
- 140 - Would rather have full-time writers rather than lecturers who [are] already overloaded with work.
- 141 - Less demand should be made on the student in terms of detailed lesson plans.
- 142 - Amount or number of assignments or topics for distance education should be reduced.
- 143 - Students should carry distance education material/modules with them to minimise communication by mail and performance to be discussed when students return. If it is final year, to leave students to get on with teaching practice without assignments from college as well. They too are overloaded with work as they are full time teachers.
- 144 - None but change of approach.

- 8) What are the major strengths of the distance education program?
- 100 - It can reach more people than would conventional face to face.
 - 101 - Students remain in touch with their college whilst on TP.
 - 102 - It enhances continuity of the learning process with students; it supplements the face to face programmes.
 - 103 - 1. That students on TP remain conscious of the fact that they are still college students who have academic obligations. They thus continue to study to their benefit. 2. That college staff develop skills in distance tutoring.
 - 104 - To upgrade content in students.
 - 105 - 1. The program allows for some form of interactive process between students and colleges in the years when they are not in college. 2. Student progress can be monitored by colleges from assignments and face/face tutorials.
 - 106 - It keeps students in touch with their tutors at the college.
 - 107 - More time to the learner -- maximizing performance. Making teachers think creatively of facilitating learning.
 - 108 - To give students information that they can put into practice -- a good opportunity to marry theory with practice.
 - 109 - Teachers in training get sufficient supervised training in the work they are going to teach. Introduction to work in future is not necessary.
 - 110 - That it seeks to spread qualitative [sic] education even though this has little or no fulfillment.
-

- 111 - Enabled a substantial number of trs. to be certificated. Offers student chance to study while on the job. Does not need expensive extra structure and servicing, e.g., buildings, catering.
- 112 - Production of modules for student teachers.
- 113 - Reaches more persons hence provides adequate facilities for desiring learners.
- 114 - At the moment, there is very little being done that can be strictly called D.E. However it is through D.E. that Headmasters who supervise our students also get to know of new directions/new trends in education.
- 115 - Learners do so at work [thereby?] alleviating manpower shortage in schools.
- 116 - It is a programme which "shoots two birds with one stone." It provides teachers to man the various schools and also attempts to effectively train these.
- 117 - It helps spread education to all.
- 118 - The major strengths of the DE programme as practised in teacher education are that a pressing manpower need is largely alleviated through an inservice programme and the programme is in a sense cost effective as it deals with a very large number of students who could not be catered for in a conventional set up.
- 119 - It gives children all over Zimbabwe a chance to have tutoring by partially qualified teachers than having temporary or no teachers at all -- it has alleviated the problem of teacher shortage in Zimbabwe.
- 120 - Enabling the training of teachers whilst on the job.
- 121 - D.E. enables students [to] work and programme their own piece of research without close supervision from lecturers.

- 122 - It covers a great number of students at a time.
- 123 - Students are kept reading, researching, etc. By the time they come back for 3rd year they haven't forgotten as much. An opportunity for research is more freely available and raw data for desertations [sic] can be easily gathered.
- 124 - It assists student in acquiring more knowledge and keep him in touch with the college to improve his or her teaching strategies.
- 125 - It equips the student teacher with the necessary skills of handling a class under difficult conditions.
- 126 - It enables the students to compile more information on their main subjects. It trains the students to be better resource people.
- 127 - a. Linking theory and practise; b. Development of confidence and versatility; c. Eliminating weaknesses at an early stage.
- 128 - Exposes students to individual effort hence inculcating academic and professional responsibility.
- 129 - More student teachers are produced per year; student teachers on teaching practice are never completely cut off.
- 130 - Maintains link between student teacher and college; gives student teachers opportunity to use classroom situation to try out ideas and solve problems relevant to their work.
- 131 - Students work at their own pace.
- 132 - 1. Continual touch with students on topics in question; 2. Keeps students in mood for study.
- 133 - It gives maximum output from limited manpower resource.
- 134 - Students learn to be teachers on the job.

- 135 - To provide continuity with what students learn while in college; to enable students to revise what they have already learnt.
 - 136 - It helps the student to be in touch with the college and also he enriches his knowledge during his absence from college.
 - 137 - 1. Implementation of theoretical education principles is achieved and assessed. 2. One is given the chance to apply the scientific method to a social problem and suggest a solution.
 - 138 - Student teachers learn via modules while at the same time doing the actual teaching. Faced with teacher shortage, Zimbabwe can only benefit by using student teachers to actually teach "live" classes while trying to be qualified.
 - 139 - Keeps the students in touch with college when they re out in the field; keep the students assisted when they face problems and when questions concerning their teaching arise.
 - 140 - Cannot find them except that some assignments were given to students.
 - 141 - It keeps students in touch with college staff; any problems on student's progress are quickly noted.
 - 142 - To keep the student abreast with his college work and not to be aware of what he is teaching only.
 - 143 - Continued communication between students and their parent colleges through which other problems can be helped.
 - 144 - Students are to do the work or they will fail; they have to do it even if they may not want or they will fail.
- 9) What are its major weaknesses?
- 100 - It needs a heavy initial capital input.

- 101 - 1. Resources for production of DE materials are very limited including human resources with expertise. 2. Lack of structure within colleges (e.g., appropriate dept.) to administer D.E. 3. Weak use of technology in instruction. 4. Poor transport/postal system.
- 102 - Of now there is no clearly defined structure of DE; Evaluation of the programme is nonexistent.
- 103 - 1. Lack of centralisation and proper co-ordination across colleges. 2. Lack of expertise among college staff. 3. Lack of appropriate resources (finance, technology).
- 104 - Not properly structured. Communication channels between institutions and people involved in DE are poor or nonexistent at times.
- 105 - Communication channels are not very apparent between various interested parties, e.g., between colleges and students, ACC and DEC, DEC and colleges. Poor communication systems -- postal service, roads, etc.
- 106 - Very few materials are sent. Those sent might not be all that useful in a classroom situation.
- 107 - Distance -- there can be lack of communication resulting in DE materials being misplaced. Possibility of misinterpretation -- depending on how coherent the modules are and degree of complexity.
- 108 - DE tends to overload the students when the unscrupulous tutors become overzealous in their aim to show that they are doing a job -- i.e., when they want to impress authority.
- 109 - At time the student teachers do not get adequate supervision thus producing an underbaked teacher.
- 110 - No adequate provision for fulfillment -- no teachers, no materials, etc.

- 111 - Staff turnover (high), i.e., frequent changes in staff & lack of continuity. Inadequate planning. Poor funding and resources.
- 112 - Quality of modules. Lack of integration between DE centre/college.
- 113 - Without appropriate technological support, it creates some half-baked ideas which can sometimes be dangerous to use.
- 114 - D.E. is not yet systematic and has no model. Each college does its own thing and yet students receive certificates from same body (University of Zimbabwe). There do not seem to be enough personnel and expertise in the colleges to run a satisfactory DE programme.
- 115 - Feedback not effective as meeting a tutor and learner happens too long after assignment was done.
- 116 - As a result of shortage of staff in teacher training colleges the quality of the programme is suspect. Thus the teacher produced by the system is of inferior quality.
- 117 - Rather an expensive venture if carried out fully and effectively.
- 118 - The major weakness of the programme has been the critical shortage of expertise to man it as well as the critical shortage of materials both print and audio visual that would have greatly benefited it. Shortage of expertise is both in the professional, technical, and ancillary field. There were many contradictions at the inception of the programme about who ultimately ran it -- the University or Zintec National Centre.
- 119 - It takes longer for students to get a feedback from their lecturers on matters/inquiries they might have on certain issues because of the poor communication system that prevails in Zimbabwe.
- 120 - Lack of distance education expertise; lack of distance education media.

- 121 - There is no way in which copying reproduction of work amongst students in different years can be stopped or controlled.
- 122 - Not possible to closely supervise the students to ensure that they do the right work. Open to abuse -- students can copy from other students, or ask some already qualified teachers to do the assignments for them.
- 123 - No reference material, poor housing/lighting conditions. Conflicts with headmasters who find students too adventurous and trying to change too many things. Students too far away for effective supervision, poor mail services. Some schools receive mail after 1 month.
- 124 - Difficult to supervise the work they do before submission for marking. Zimbabwe is a poor country, there is shortage of funds to visit the student at their work places.
- 125 - There is very little supervision of student teachers due to a lack of transport.
- 126 - It does not provide chance for any remedial work. Most of the lecturers are not yet well informed on how this should be conducted. Pupils do not have resource books.
- 127 - Students can be posted very far from parent college and remain unsupervised for some time; no rectification of errors.
- 128 - Authenticity of any work is very difficult to establish.
- 129 - 1. Reaching all students scattered in various districts is difficult. 2. Individual's student problems are not personally solved.
- 130 - If not well structured student teachers may be overworked and hence produce poor quality work; students have to teach as well; lecturers tend to assume too much in terms of guidance they give and also availability of resources; student teachers may copy each other.
- 131 - Expensive and difficult to monitor.

- 132 - Shortage of resource material; 2. Time might be very limited since students have other duties to carry out while on T.P.
- 133 - As earlier stated, these greater needs to increase manpower.
- 134 - Contact time too short; feedback not as good as it should; ratio of students to staff too high (1:50).
- 135 - Lack of resource materials (books--literature) to back the students; inefficient communication between colleges and students (lack of adequate and quick feedback).
- 136 - Some of the work may not be done independently. So that what is thought to [be an] improvement in knowledge may be group work.
- 137 - Lack of deep enough theory to do more research; no chance is given to the implementation of a student's recommendation of a social problem; conditions of teaching practice are variable and some are difficult.
- 138 - The lack of face-to-face regular contact of the students with their lecturers actually leads to "less" learning. Clinical counselling/advice is difficult to give and student teachers ability difficult to assess.
- 139 - Not well coordinated among college depts.
- 140 - Was not coordinated; each college was left to do its own programme; students were engaged on full time TP and no time to do assignments.
- 141 - The postal/mailing system is not always efficient in certain parts of the country. Sometimes letters do not reach the students.
- 142 - The student has no time to do the work. He, the student, is away from reference libraries.
- 143 - Workload on the lecturers and students; postal delays.

- 144 - Lack of manpower. Too little contact. Lack of training on the part of most tutors. May overload students.
- 10) What recommendations could you make for the improvement of the program?
- 100 - There should be more and better co-ordination between colleges and the National Distance Education Centre.
- 101 - 1. Staff development of D.E. personnel in the colleges both professional and technical 2. Create use of technology e.g. video & telecomm. systems in communication with students 3. Set up approp. DE depts within colleges manned by relevantly trained personnel.
- 102 - Have specialists in DE at colleges, ACC, & Ministry of Education; Put serious thought to it. Have more workshops on DE and train people in DE.
- 103 - 1. Centralisation and more purposeful co-ordination of programme. 2. Training of personnel. 3. Provision of resources.
- 104 - DE should be overhauled from ACC, down to colleges. A specialist is required at ACC, separate Distance education departments should be set up in colleges. More money should be set aside to finance the programme.
- 105 - There should be a staff development program to train DE specialists. Workshops of the type held 9-13 Jan should be more frequent; to be followed by regional or college-based ones to disseminate information.
- 106 - Write simple materials which have relevance to day to day teaching of various subjects.
- 107 - More expertise on the part of the University of Zimbabwe. Closer liaison between UZ and Min. of Higher Education (DE Centre) to facilitate the production of quality materials.

- 108 - It should concentrate on helping students with suggestions on how to handle problems that arise during teaching practice.
- 109 - 1. Student teachers be deployed to school that have good headmasters who will give the student daily supervision. 2. College teachers should visit the student teachers regularly. 3. Provision for immediate feedback should be readily available.
- 110 - More staff for the DE Centre, more research on how to provide education. More liaison of institutions with interest in DE.
- 111 - 1. Personnel that has the expertise. 2. Adequate funding. 3. Clear structuring that facilitates communication, e.g., clearly defined roles of each institution involved, etc.
- 112 - 1. Quality modules written by professionals 2. Lack of DE Dept. in colleges. 3. Lack of time for learners in the field as they are full time teachers. 4. Little time for face to face comm. problems.
- 113 - 1. Trained manpower for all levels of its functioning; 2. Technological and material support; 3. Efficient administration, planning, implementation, and consistent evaluation; 4. Follow up programmes.
- 114 - Increase staff; train specialists in different areas; increase finance for materials, etc.; Utilize necessary technology which promote DE.
- 115 - Incentive to attract more manpower.
- 116 - The University must be actively involved in the improvement of the staffing situation in colleges, e.g. by instituting staff development programmes for college staff (teacher training colleges).
- 117 - To train specialists who can make the programme meaningful.

- 118 - The programme would obviously be very effective if the shortage areas already mentioned were to be tackled successfully. In the second leg of the programme there will also be a need to renew the vehicles fleet. The original fleet donated by UNICEF has seen better days.
- 119 - The speeding up of providing efficient communication system -- good roads, telephones, mail, etc.
- 120 - Ministry fo Education in conjunction with A.C.C. should serious [sic] consider staff development of distance education personnel.
- 121 - Work done in D.E. should be kept in colleges to avoid copying. work given to students should be related to the environment in which they work.
- 122 - Assignments given out to the students must never be the same from year to year. This will make it impossible for students to use work from the previous group which could have been marked. The period when students are away from college must be shortened.
- 123 - Improvements in infrastructure (housing, post, roads) libraries operated by post. Selective distribution of students, increased no. of books. Libraries set up in individual schools, seminars for headmasters.
- 124 - Inject more funds for supervision and seminars to be done more frequently.
- 125 - 1. Increased student supervision; 2. More contact with students is essential than is the case at the moment; 3. Feedback from students to teachers.
- 126 - First the lecturers should be enlightened on how best it should be conducted. Meaningful assignments should be given. Sources of materials should be provided.

- 127 - Posting of students should be done with consideration of available transport; if there was unison between schools and expectations of colleges.
- 128 - A well programmed time table guiding students to submit feedback and for lecturers to respond.
- 129 - 1. More contact between students and lecturers; 2. Include students in the formulating of the requirements in terms of their teaching equipment.
- 130 - More tutorials/seminars where student teachers work with their lecturers at weekends, etc.; give more work related to classroom teaching; make available more resources.
- 131 - Increase contact time through seminars and workshops.
- 132 - Students be given an opportunity to make initial research while in college possibly during end of last term before going on TP so that lecturers can give guidance in college.
- 133 - Increase manpower, i.e., lecturing staff to allow for maximum feedback and supervision to the students on T.P.
- 134 - Increase contact time; increase number of staff.
- 135 - 1. Distance education should be based on practical activities related teaching practice requiring very little literature; 2. Less DE would enable students to produce better quality work.
- 136 - Use of tapes in some cases.
- 138 - By increasing the number of staff at colleges and the "stationery and printing" grant more students could be visited and more newsletters and handouts could be posted to the student teachers in the field.

- 139 - That the aims or the goals be made explicit to each and every new lecturer who joins the college including the students themselves.
- 140 - Should be coordinated; should be some full-time writers to produce the materials.
- 141 - Hold holiday seminars each time and discuss all requirements in advance.
- 142 - Have extra lecturers trained to write distance education material.
- 143 - Less workload on students. Workshops for lecturers on how to design and implement d.e. program.
- 144 - Increase tutor manpower. Train all tutors involved. Finance contact sessions.

Distance Education Survey

Distance education program characteristics
ranked by importance

<u>Characteristics</u>	<u>Ranking*</u>						
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>
Face-to-face contact	1	7	4	4	5	12	19
Progress reports	3	2	8	12	12	12	3
Feedback to students	1	0	8	8	13	13	9
Challenging assignments	6	8	9	8	6	8	7
Student input	10	17	3	7	6	2	7
Local supervision	6	8	18	9	5	4	2
Electronic media	25	10	2	4	5	1	5

*Ranking scale: 1 = least important, 7 = most important

APPENDIX B

PRESENTATION NOTES AND WORKSHOP ACTIVITIES

Distance Education Centre: Problems and Prospects

Dr. A. Masunungure

DEC originally the Zintec National Centre; established with the purpose of placing teachers (particularly primary) in the many new schools; Originally 4 Zintec colleges, now only 2 (Morgan and Gwanda)

Problems:

1) Shortage of Writers - because the colleges are understaffed, and the writers are drawn from the lecturers at the colleges (last term there were no writers seconded to the DEC);

2) Resistance by College Faculty - each college may design its own syllabi, and those not using DEC materials resist them (possibly because of the fear of losing autonomy); packets are designed to be supplementary to the curriculum;

3) Few Colleges Represented - four to five colleges supplied writers for the DEC in the past calendar year; NIH syndrome; lack of trust in the writers from other colleges;

4) Delays in Production - caused by a. change of writing staff too frequently (a packet was turned in last year and after the writer was gone, errors were found that delayed release because they had to send it to the writer for editing); b. poorly maintained equipment that breaks down frequently; and c. poor quality typists and stenographers (one module typed 5 times);

5) Changes in Program - 4-year program, now 3-year, need agreement between Ministry and ACC on structure of the new 3-year program; makes planning materials difficult, plus the scheduling of distribution of materials;

6) Evaluation - a comprehensive evaluation is needed on a regular basis.

Prospects:

1) More posts being opened for new staff
2) Use of modules expected to increase
3) Potential for DE to improve unqualified & under-qualified teachers working in the schools (one school with 16 unqualified & underqualified trs and one qualified teacher serving as headmaster!);

4) DEC may eventually move into areas other than teacher education.

The Role of Distance Education
in Zimbabwean Teachers' Colleges

T. Bourdillion

What is the status of distance education in Zimbabwean
teachers' colleges?

Assignments-----Inputs
(to students)

Serious limitations in our current achievement

*Should be doing almost 100% of distance education in
applied education and almost none in other fields

When visiting schools:

- bored (inactive) learners
- dull, routine teaching

Main point: Don't try to teach academic subjects via
distance education. "We" can choose to teach what is
best done "live" and what is best done while on TP

Teach them about applied education while they are in the
"perfect laboratory" -- their own classroom!

They should be given tasks to make them:

- 1) think about why their classrooms are that way,
- 2) determine how to make it better and

-

3) decide how to evaluate their efforts to improve

A joint project between OU and the ACC in the area of Language and Development is in the works; would involve shared units (made in OU) to be modified for use by teachers' colleges

Is the OU model suitable for Zimbabwe's use?

Zimbabwean study guide/OU content materials;

Regional component;

Video materials/audio materials

Will try this out with 60+ teachers throughout Zimbabwe, if the pilot flies, big \$ from International Rotary for "permanent" implementation

TO DO:

1) Tasks requiring teachers to engage students in thinking and learning ACTIVELY

2) DEC materials used in face-to-face courses for supplementary instruction (in other than applied education)

3) In-service courses should have specially-prepared content inputs in Theory of Education and Special Education

"Critical Issues" Brainstorming Activity

Workshop Participant Ideas

Evaluation of DE programme effectiveness
 Problems of setting up DE departments in colleges
 Upgrading quality of DE in Zimbabwe
 Need for DE departments in teacher training colleges
 Structural changes at the DE learning material centre
 DE encourages rote memory since the material students
 have is limited
 To increase student teacher enrolment in colleges
 DE education system regarded or viewed as an inferior
 types of education when compared to conventional
 system of education
 Improve status of DE as compared to conventional
 education
 Generally low salaries in teacher education resulting in
 lack of enthusiasm
 Delayed feedback on distance education projects completed
 Lack of supplementary readers
 Problems associated with DE
 Weighting of DE certificates and degrees with internal
 certificates, do not receive equal respect
 Should there be a separate centre for DE or should the
 Centre be kept part of the established University?
 Official departments of DE in teachers' colleges
 The failure of the Distance Education Centre to produce
 print materials covering all subject areas in
 teacher education curriculum
 The very critical shortage of staff in all teacher
 education colleges to effectively monitor the DE
 component of their courses
 Appointment of permanent/semipermanent staff at the
 National DE Centre
 Specialized training for personnel at the National DE
 Centre
 Distance education needs to be adequately supported by
 trained personnel for it to be a success
 The need to deliberately train DE education experts for
 the selection and processing of DE learning material
 in Zimbabwe
 More staff development courses for DE
 Lack of trained DE writers in Zimbabwe
 Shortage of staff in teacher training colleges
 There is need to recruit people trained in DE
 Engaging people with relevant expertise in the production
 of materials
 DE effectiveness marred by staff shortage

Feedback comes after a long break
 Shortage of staff at the DE centre to write DE materials
 for students
 Ownership of DE institutions (Private or state)
 Need for expertise in planning projects for students
 Lack of personnel
 Lack of adequate face to face contact with qualified
 personnel in rural areas
 Distributing the learning materials
 Lack of publishing DE proceedings as a way of creating
 information base
 Content to be delivered by DE should be identified
 Provision of technological resources for use by the
 National DE Centre and the students
 DE technology in Zimbabwe
 Support services for DE in trs. colleges
 The need to provide material relevant to Zimbabwe
 DE materials should first be explained to those involved
 in teacher education rather than simply being handed
 to them
 The need to publish DE workshop proceedings and papers,
 etc. to benefit Zimbabweans
 Research in Distance Education
 Quality control of DE material
 The need to mount a mobile library service mainly in the
 rural areas in order to boost the variety of
 learning materials that students could use during
 the DE component of their courses
 Production of written materials for DE
 The actual business of writing DE material -- no
 experience, inspiration to actually write the
 learning material
 Increased interaction between students and lecturers
 during DE
 Lack of academic resources (library) for many students on
 TP
 General shortage of relevant stationery esp. paper, etc.
 More workshops like this one to disseminate and share
 ideas
 Communication with students -- how that could be improved
 Same teachers for DE and internal students or separate
 for DE?
 Coordination of distance ed between the Distance
 Education Centre and Teachers' Colleges
 The mailing system of De isn't fast enough to allow for
 an immediate feed back to students and lecturers
 Barriers to effective learner-tutor communication in DE
 in Zimbabwe
 The Ministry of Ed should spell out a policy to guide the
 activities and expansion of facilities at the DE
 Centre

How to improve communication between teachers' colleges and Distance Education Centre and the Educational Radio Channel 4

Logistical problems in DE

Ways of improving the present communication systems (media)

The problem of communication between the sender and receiver given the poor road links and telecommunication links between urban and rurals

Can those taught through DE really become good communicators?

Improvement of the general communication services, e.g., mailing facilities

There is need for staff trained/qualified to produce DE materials

Staff development of DE personnel

Need for distance education specialists in institutions that deal with DE

The DE centre staff should be drawn from those lecturers who have experience and interest in DE

There is a need for the Ministry to embark on staff development programmes at home and abroad in DE

The need to have more administrative staff to speed up the dispatch of materials

The quality of lecturers who write material for DE

The need to have more tutors so as to speed up the marking of scripts

More funds should be made available to the DE Centre

Financing distance education programmes

The expenses involved in producing, processing, and dispatching DE materials

DE as a profit making venture has led to lack of appreciation by many people

Funding of DE programmes

Financial backup for the organisation of DE in Zimbabwe

Need of improving administration of DE in Zimbabwe: Direction and Finance

There is need to train writers of DE materials and to have the DE unit structured from C. Educ. Officer level

There is need to look seriously into the financing of DE.

Need for an exchange programme involving lecturers in DE in Trs. colleges and lecturers/people in "friendly" countries to afford the former opportunities to see what's happening in DE in other countries and to grow

The problem of finding suitable writers to produce materials to replace commercial text books from Longman's, etc.

The need to offer higher education (university) by DE to break the dominance of the University of South Africa and to afford teachers and others the opportunity to improve their skills, etc.

University involvement in DE

Role of UZ in distance education e.g. with colleges

It is necessary to expand facilities to include degree courses for handling by DE centre

University of Zimbabwe to establish courses for DE in some BEd courses

There is need for the presence of expertise in DE at the UZ and for research to be carried out extensively in various aspects of the discipline (DE)

Why not promote the Centre to the status of an Open University?

Rather than concentrate on students in colleges, the centre should reach out to teachers who may need education for non-certificate purposes

DE institutions in Zimbabwe tend to make too much profit on one hand and a small percentage tends to profit from their tuition on the other hand

Lack of finance/equipment

Shortage of staff

Need to establish DE depts in colleges

Need to have experts in DE

Need to have a viable DE Centre

Regular workshops in DE

The need to centralise DE for the sake of efficiency and uniformity

Is Distance Education a viable learning strategy in developing countries faced with the many constraints of undeveloped technology?

The need for modules by experienced trs and educators to be distributed to students on teaching practice to alleviate shortage of books as well as help them (students) to function effectively

Models of DE in conventional trs colleges

What changes are needed in the DE Centre

The need to have face to face contact with the students

DE departments to be established in trs colleges

What is the future of Distance Education in Zimbabwe?

The need for liaison between donor agencies on DE to avoid duplication. This requires the establishment of a national committee to deal with the matter

The need to boost the manpower needs of the Distance Education Centre so that it can function more effectively

Need for change of attitudes towards DE

Attitudes to DE as a serious barrier to effective adoption of the DE strategy to learning

Rank

11

14

15

13

4

6

10

7

12

8

1 2 3 4 5

	1	2	3	4	5
Personnel / Expertise (41)	I ①			III ②	IIII ②
Personnel / Staffing (34)	I ①		III ⑤	II ③	II ⑩
Technology / Materials (25)	I ①	II ④	IIII ⑫	II ⑧	
Communications (31)	I ①	II ④	III ⑨	III ⑫	I ⑤
Financing (29)	II ②	II ④	III ⑨	I ④	II ⑩
Role of U.S. (21)	III ③	IIII ⑧	II ⑥	I ④	
Centralization / DEC (15)	III ⑤	III ⑥		I ④	
Eval / Rev a.c. (20)	II ③	IIII ⑧	III ⑨		
Attitudes / Structure (17)	III ⑤	III ⑥	II ⑥		
Model (17)	IIII ⑥	III ⑥			I ⑤

APPENDIX C

WORKSHOP EVALUATION RESULTS

Workshop Evaluations

1. How much did you learn about Distance Education in the workshop?

A Great Amount - 7

Quite a Lot - 24

A Little Bit - 2

Very Little - 0

Comments: My doubts on distance education as related to teaching practice have been cleared; The definition of DE which was hitherto misty has become a bit clearer; As it was the first time, it really was a worthwhile experience; The workshop ironed out this misconception that teachers took out as DE material; In terms of the highlighting problems and suggesting solutions; Particularly the aspect group discussions and group reports on critical issues of DE in Zimbabwe; A lot of ideas came up during the deliberations and useful recommendations were made; Moreso viz. the DE programs that are operating in Iowa and other countries showed our own program in a very bad light; The workshop highlighted DE as a concept and effectively brought to light the current problems it faces; The theory could have been more challenging; Needed more handouts for study after hours; The groups came out with a number of interesting ideas.

2. Did you feel the workshop was organized effectively?

Very Effectively Organized - 1

Effectively Organized - 21

Organization was O.K. - 9

Poorly Organized - 2

Comments: The papers were thought well - I wish the time allocated for reports had been shortened; Transport facilities not well handled - social considerations not catered for; Transport system needs to be overhauled; It was okay although the tasks could have been increased; It was effectively organized and I like the booklet used for presentation of lectures much; It could have been more effective if more groups instead of five; Everything worked according to plan; However the start of the workshop was rather shaky; The start was

bad; The time was too long; Travelling arrangements should improve; Deliberations showed effective organization; Less time devoted to group work before the presentations; It made it very easy for people to share ideas; The actual deliberations of the workshop were of an impressive standard, however the social aspect was poorly organized; Transport poorly organized, no social aspect.

3. Do you feel Distance Education is an important topic for further effort by Zimbabwe?

Yes, very important - 33

Somewhat important - 0

Not important - 0

Comments: There should be more participation from policy makers; It appears that there are many areas to be examined; Yes, needs development; DE is here to stay and needs to be elevated in status; The immense problems revealed show that more time and tasks could have been done; In a developing country like Zimbabwe concentrated effort by all should be directed towards the establishment of a DE programme; By far DE is an effective instrument for learning; Very important; DE in Zimbabwe needs to be revamped, organized and centralized; DE is here to stay so much has to be done; Much needed in the development of the country; The powers that be have to be involved; It is likely to expand chances for furthering education; More DE experts need to be trained; Need for policy guidelines that are clearer -- Ministry commitment in liaison with ACC to ensure effectiveness of DE programmes; Many areas to be examined still.

4. Did you feel the workshop leaders were knowledgeable?

Yes, Very Knowledgeable - 15

Somewhat Knowledgeable - 17

Not Very Knowledgeable - 0

Comments: They know how to organize and motivate people to think logically and intelligently; The leaders were, but some of the invitees were not so; There is need to have much input to stimulate group discussions; DE workshops should have leaders from all areas of DE and not only one; Especially on educational technology and how it can be used with DE; Very knowledgeable - wish more such communication in the future; Knowledgeable in terms of DE in other countries but knew little about Zimbabwe situation; Leaders not so authoritative on issues involving DE; Not knowledgeable about the Zimbabwean situation; Workshop leaders showed some knowledge of DE but one

can't say they knew everything about DE; Had to be briefed on DE in Zimbabwe - in some cases had been given wrong information; A good amount of preparation was done by the leaders; Quality of papers was high; The use of media by workshop leaders (e.g. overhead) was well done; Needed to be more acquainted with the participants background.

5. What did you like best about the workshop?
- 1 - Discussion
 - 2 - I enjoyed the session on what is DE. The beginning by what DE was not was very effective; cleared the ground to understand DE.
 - 3 - The resolutions
 - 4 - Sharing in groups and the technology aspect of DE by Dr. Rwambiwa
 - 5 - There was a lot of discussion and working sessions which enabled us to participate and exchange ideas.
 - 6 - The worthwhile group activities and suggestions from all spheres of educational institutions
 - 7 - The discussions in groups which generated a lot of ideas
 - 8 - The clarity of objectives
 - 9 - The manner in which it was organized; the simplicity and humaneness of the workshop leaders; the effective use of technology
 - 10 - Group discussions and group reports on critical issues related to De and the technology paper
 - 11 - Group discussions and recommendations; the meals and teas
 - 12 - The topic on evaluation of DE in Zimbabwe
 - 13 - Well organized; discussion was lively; participants involvement was maximised
 - 14 - The resolutions; small group work; major (keynote) presentations
 - 15 - Ideas, books, and other facilities provided
 - 16 - DE was clearly defined and expectations of a good program debated
 - 17 - Tom Bourdillion's paper; group work activities
 - 18 - The focus on the key issues affecting De in Zimbabwe
 - 19 - Soliciting information through group work, although group work was allocated too much time
 - 20 - Group reports and DE in Iowa
 - 21 - The sharing of ideas through group discussion and the use of experts on certain topics

- 22 - There was opportunity for group discussion and cross fertilization of ideas. The food in the dining hall was good. The leaders of the workshop from Iowa were very accommodating of ideas and openminded. They displayed a very scholarly approach in this regard.
 - 23 - I liked the exchange of ideas over selected topics concerning our programme. The topics on evaluation and use of technology were also quite exciting.
 - 24 - The interactions with colleagues at all the other colleges
 - 25 - Group discussion and allowing exchange of ideas
 - 26 - Groups' suggestions and recommendations of what form DE should take in Zimbabwe
 - 27 - There was a fair balance between input by leaders and work by participants
 - 28 - The revelations of the deficiencies of the Distance Education programme in Zimbabwe
 - 29 - I liked the spirit of openness during the various discussions. There was a lot of give and take.
 - 30 - The lecture on educational technology
 - 31 - The cross pollination of ideas through group work and panel discussions. Useful ideas were exchanged.
 - 32 - Group reports
 - 33 - The procedures and proceedings were quite good. Location.
6. What did you like least about the workshop?
- 2 - The timing especially of the allocation of time on lectures like Dr. Rwambiwa's as compared to the time given to tea breaks.
 - 3 - Too many group work sessions
 - 4 - there was too much time for groups discussions. More preparation by leaders was needed.
 - 5 - There could have been more work for Thursday as the bulk of what was done was actually done on Wednesday.
 - 7 - The exercise where we had to use cents brought all the way from the USA
 - 8 - Lack of entertainment
 - 9 - The content in the workshop course was rather limited in depth and width
 - 10 - Attitudes of leaders who initially had a low opinion of the educational calibre of the workshop participants
 - 11 - Transport arrangements to the workshop; the idea of being used was filtering through

- 12 - Lack of entertainment
 - 13 - T. Bourdillons session was too brief. We needed more time for discussion especially on the proposal on applied ed.
 - 14 - Lack of socialisation time; to get to know one another well
 - 16 - Lack of organized socialization in the evening
 - 17 - A lecture on missions, goals and objectives
 - 18 - No attempt was made to teach participants on how to provide effective DE learning materials
 - 19 - Entertainment arrangements were almost nonexistent
 - 20 - Lack of long breaks and little time allocated to technology
 - 22 - The workshop lasted too long. It should have taken a maximum of three days. More activities and less talk should be the key in future.
 - 23 - Perhaps the starting time could have been 8:30 to allow Harare participants to be on time. No informal occasion was provided for workshop participants to mix and talk about other issues of interest as professionals.
 - 24 - The teas -- biscuits every tea time becomes a bit tedious and uninviting
 - 25 - Too much repetition -- there was a stage when groups kept on giving the same information in diferent versions
 - 26 - The workshop was too long. Material prepared would have taken a shorter time.
 - 28 - There was little or no provision for recreation.
 - 29 - The social aspect could have been better
 - 30 - Time wasting on trivial issues; the workshop could have been wrapped up over three days
 - 31 - Lack of entertainment facilities after the days hard work. Lack of depth in the theoretical framework for DE, e.g., system approach and actual process of production and dispatch of materials
 - 32 - The protracted period for group work
 - 33 - Should not have been placed too close to opening of colleges
7. Please give other comments you have about the workshop.
- 1- More should be mounted
 - 2 - We have had some basic ideas on what DE is but I am not sure whether we have now sufficient knowledge to mount workshops on DE
 - 3 - Has made a good start

- 4 - Apart from transport inconvenience and a bit of lack of preparation by the speakers this was a worthwhile experience
- 5 - Next time: a visit to the DE Centre would be necessary. The actual problems could be seen; films on the forms of DE elsewhere and some on Zimbabwe could highlight the importance of attention to specifics
- 6 - More should have been said on how to make distance education material, the approach
- 7 - The fourth day had very little activity. The workshop could have easily been completed in three or four days. The workshop should have taken same.
- 8 - In future time should not be wasted on elaborate definitions
- 10 - Generally workshop terminated on a high note and greater interaction and cordial relationships had been generated
- 11 - More input by workshop leaders; more resource persons with a deeper insight on the Zimbabwean situation
- 12 - We urge that proper publication of this workshop be done which will benefit not only these participants but colleges; such a publication will be a source material
- 13 - Recommendations and resolutions should be followed up and implemented
- 14 - It would have been very helpful if the workshop had dealt with "how to teach different, selected subjects through DE"
- 15 - More workshops should be organized in the future
- 16 - Well prepared presentations by our lecturers from Iowa
- 17 - It was a worthwhile exercise; it gave all of us a chance to meet and share experiences on what happens in various colleges
- 18 - No comment on when to carry out a follow up to check if ideas discussed have been introduced in trs. college
- 19 - Adequate time should be given to presentation of papers, e.g. very little time was given to a paper on technology by Dr. Rwambiwa
- 20 - Participants should be more involved in discussions, presentation, and detailed summary of procedure could be given immediately instead of most time being consumed by note taking
- 21 - Deliberations went on very well, a follow up to this is recommended to sell the ideas to the rest of the college staff

- 22 - People attend the workshop should be consulted in future about the agenda in order to tackle the real issues affecting them on the ground. Technology of distance education should have been given more time as it could help to revolutionize the present concept of distance education in Zimbabwe.
- 23 - I felt the workshop was not only very informative but that it augmented very well the role of universities of creating knowledge as well as provide a teaching function, in this instance in inservice programmes.
- 24 - We hope it will be followed up by other similar workshop at regional and college level
- 25 - Transport arrangements were very poor in some cases but food and accommodations were properly arranged.
- 26 - If ever a handout is given it was no use reading from it together with the presenter rather leave people to read on their own.
- 27 - The first day or so was rather frustrating to me because the resource persons assumptions regarding our general level of knowledge was inaccurate -- its terrible being told things that are part of your existing operational experience.
- 28 - While the workshop lasted for five days, I feel it could have been condensed to last for three days only. Recreational components could have added a lot of flavour to the workshop. More such workshops should be regularly mounted.
- 29 - Workshops of this nature need to be done more often and they are an integral part of professional development.
- 30 - More local input; social life neglected over the evenings -- either occupy with seminars or organize social evenings
- 31 - Some arrangement for participants to visit the DEC premises to see operations would have been useful; There should have been some recorder of proceeds to ensure that participants took back some form of temporary record before final report.
- 32 - Need for more presentations and more specialists to give papers.
- 33 - More lecturers should be involved

APPENDIX D
INTERVIEWS AND CAMPUS VISITS
NOTES

John Masuku
Programme Administration and Training
Senior Announcer/Producer
ZBC -- Radio 4
(January, 1989)

Started in 1982 as part of ZBC

Goal: help the organs of gov't in rural development

Educational programming mostly produced by Audio Visual
Services (arm of the Ministry)

Rural and non-formal ed programming

"Teacher's Magazine" -- twice a week, general issues in
teacher ed (90min/week)

During school term, or total airtime:

16 hours AVS School Curriculum programming (Primary)

26 hours Rural Development

15 hours Cultural programming

25 minutes Religious programming

In eight languages (English, Shona, Ndebele, other --
Kalanga, Tonga, etc.)

Rural district visits with mobile studio van

Some places have weak reception, only low-power transmitters now

Evaluation of Radio-4 effectiveness scheduled to be done (when?) by outside consultants (looking at programming and technical expertise)

No advertising accepted, supported financially by Ministry of Information

Arnold Kashambwa
Director of Audio Visual Services
Ministry of Education
(January, 1989)

Goal is dissemination of information

Programs are written by Zintec lecturers, produced at AVS studios (coordinated by the DEC)

No contributions from DEC last year, not enough staff

Main responsibility is to produce programming for grades 1-7

2 hours am, 2 hours pm (repeated); 10 hrs orig. programming per week

Staff of 4 handles programming and production

"Teachers Magazine" topics culled from headmasters, regional directors, education offices

2 - 45 min programs, one primary, one secondary

Programming evaluated using written form filled out by teachers, probably not too reliable; often not done or done hastily at the last minute

Staff goes out to meet with teachers to help plan programming -- does field research before planning & production

Most schools can receive, but "quite a # of areas can't receive" (mountainous, other interfering signals, etc.)

Some TP programming initiated by lecturers at Gweru in 1986; DEC would coordinate any new initiatives, could request time and get it

Future: Chief Ed. Ofcr. at Ministry interested in using radio more; have not exhausted the possibilities of radio, can see increasing contributions two-fold (at least)

Dr. B. Siyakwazi, Director
Associate College Centre
University of Zimbabwe
(June 1988)

Fourteen teachers' colleges in ACC:

Belvedere

Bondolfi

Gwanda ZINTEC

Gweru

Hillside

Marymount

Masvingo

Mkoba

Morgan ZINTEC

Morganster

Mutare

Nyadire

Seke

United College of Education (UCE)

Role of ACC --

1. Monitor Teachers' Colleges (look at syllabi,
exams; organize workshops for college lecturers)

2. Dept/College Journal (Bulletin) -- professional communication, articles submitted from faculty at colleges and from ACC

3. Auditors/Examiners for "accreditation" (college administrative activities monitored/controlled by Ministry of Education e.g., staffing, budgets, enrollments, etc.)

ACC one of 6 depts in Education; no courses offered, but faculty teach in other depts (90 hours per year); would like to offer courses on teaching preparation, distance education)

Quarterly Principals Meetings, chaired by the Deputy Minister to discuss any admin. issues (not just d.e.) for all teachers' colleges

UZ -- Great support for d.e., but no expertise and competing priorities

U's involvement in d.e.; see Dr. Matshazi;

U participates in de for teachers' colleges only by invitation

Defining d.e. -- they define d.e. loosely; no established def. used in documents, etc.; Need for a solid research base; need to look at d.e. in other sectors;

B. Sibanda doing doctoral work in UK (at O.U.!) on d.e.;
using computers for d.e. is focus

ZINTEC -- expenses from postage and printing and postage
were prohibitive;

lack of coordinating structure in the traditional
colleges

Originally focusing on secondary ed, easier to release
faculty (for new module development) and primary could
use ZINTEC

Module evaluation and revision procedures -- none
formally established; have been a few revisions here and
there;

When DEC was ZNC, funding was good and staffing okay,
then a gradual decline

Use of the same modules over and over results in cheating
by students -- get answers from previous students;

What about financial support (in terms of donated
equipment/mat'ls) from Zimbabwean industries? Or outside
industries. Not much promise, but they could use ditto
machines, computers, paper, etc.

Workshop format -- 3 days/week? 2 weeks? (no way)

Papers and presentations from all sectors (need for support);

presentations from ISU on types of d.e. available, systems, technology and structures?

Radio? In use for many years, radio 4 reserved for education; proposed by not yet implemented; there is a director

Television -- some Swedish funding & models; electrification planned for all growth centers; TV-2 educational programming; problem getting receivers

Private sector support? Maybe, don't know, not much tax relief for industry donations

Grants need to go through the Ministry, need to identify sources of funding

Dr. A. Masunungure
Director, Distance Education Centre
(June, 1988)

Originally "Zintec Centre" designed to serve only Zintec
Colleges; now serving all tc's
Some d.e. modules used for on-campus work, also
Faculty members work in DEC designing modules one term at
a time; moving toward having a permanent staff (now at 4)
Predominantly print format, modules held by college and
re-used (aren't written in by students)
Not intended to replace text (supplemental)
Similar structures, but not exactly alike
No schedule for revision of modules; no formal evaluation
procedures established, because demand is so high for new
modules (can't take the time to revise old ones)
25 (or so) modules produced so far
Have been mainly "theory of ed" types, more being
developed on teaching methods
Doesn't know when first full set of modules will be
"done" and revisions begun on first ones

Dr. Ndlovu

ZDECO

(June 1988)

ZDECO established in 1980; Pres. of African Assoc. for
Dist. Ed., academic & commercial training for people
working or unemployed;
flexibly paced, within reason; min. time line on course
completion;

Prep for Zim. Jr. Cert.

Frustration because UZ can't handle the # of student who
apply and are qualified -- many go to the U of London
external program;

Why can't UZ offer distance ed for students if there
aren't facilities?

May "send" students through U without Walls (CA)

Common ed needs in Africa -- facilities, manpower (need
trained d.e. teachers)

In house workshops to train course writers; modules
evaluated by 3rd party before writer gets paid;

Radio, cassettes, print materials, some video being planned

Students do come to the center occasionally; study facilities available; daytime, evening, weekend hours
7 branches throughout Zimbabwe;

Enrollment at 20,000 - 25,000

Not degree-generating

Dr. Rwambiwa

Ed Tech, UZ

(June, 1988)

Video -- not much

OHP use, slide/tape, Organizing visual presentations,
audio/editing; microteaching; utilization/production of
"appropriate technology"

Distance education primitive, reliance mainly on print;
some audio cassettes

Need more d.e. courses to meet ed. needs of degree
seeking students in outlying areas

Use of TELECONFERENCING for courses -- Matshazi agreed
with this

Radio-4: Educational radio through Ministry; mainly for
el ed; very short programs (10 minutes) programs for
teachers on weekends

Suggests seeing people at Radio 4

Send him a copy of MFT!!!

Dr. Matshazi
Dept. of Adult Ed., UZ
(June 1988)

Originally Institute of Adult Ed.; print materials and audiocassettes; restructured into the dept. of adult ed.

all teaching depts. utilize d.e. somehow (?)

University Extension -- included d.e., credit and non-credit;

design and development of materials (mostly print)

Some hostility to d.e. encountered; more work for faculty (incentives offered such as publications credit, remuneration, load reductions, etc.)

Enthusiasm about d.e. from public and from Ministry

Kenya system -- German assistance; external degrees offered

OU model too expensive for 3rd world countries (target audience not large enough to justify cost)

Norway, Denmark, Sweden all usable models

Norwegian: cooperative models; usable in Zimbabwe,
emphasis on use of existing facilities, use of existing
in-house expertise

In Zimbabwe, agencies need to be "obliged" to participate
because incentives not strong; to be "invited" does not
work

Denmark: 3rd generation model (1st gen.=correspondence,
2nd gen.=multimedia, 3rd gen.=computer networking)

Mr. Muchemwa

Chief Education Officer, Teacher Education

Ministry of Education

(June 1988)

Need originated for d.e. through TP -- Zintec programs
spread to other colleges;

Teachers from colleges sent to DEC -- problems with that
(hard to release them)

Lack of confidence in DEC materials by faculty

U. has a guiding role in d.e.

Original mission of d.e.: Continuation of academic
growth in content areas;

Load during TP -- better to attempt something than not
try at all; difficult to justify paying students on TP if
they're not working full time

Equivalence of modules? Try for some standardization,
but don't crush creativity

Private sponsorship of program -- not so good except
local works well

Govt to govt grants work well (like TTT?)

Good idea (of his): send selected teachers' college
faculty to ISU to work on advanced degrees

Tom Bourdillion
Acting Director, A.C.C
(January, 1989)

Original model (pre-independence)

3-year post O-level: periods of TP that were like student teaching with increasing classroom responsibilities

1st alteration (post-independence) (alleviate tr. shortage) 5-7-9 model -- terms 5, 7, & 9 on TP with full teaching responsibilities (3 terms per year) difficult to administer

ACC developed after independence -- no more student teaching!

2nd alteration (simplified version) -- '83, 1 year on campus, 1 year off, 1 year on, 1 year off (4 year plan); 4th year considered "wasted" by some

(Tom's view -- shared by ACC and tc's -- they keep getting worse!)

3rd alteration -- '88 -- 1 year on, 1 year off, 1 year on campus (3 year plan)

Colleges and ACC opposed to existing model, but accepted because of conditions

ZINTEC

4 separate colleges created, \$ from UNICEF (kids education that had been interrupted by war); a revolutionary response to the situation

Stayed away from the UZ -- uneasy truce existed, ZINTEC thought that UZ was too reactionary; eventually they needed University certification; applied for Associate status; no influence from UZ during first two years; ZINTEC had to become autonomous (break ties with ZNC)

1st model: 1 term on, 10 terms off, 1 term on; when first intake comes back you're "full"; cycle ran 8 years, ended in April '88;

Marymount and Masvingo discontinued as ZINTEC and converted to conventional structure; new model for two remaining (Morgan and Gwanda): 2 on, 8 off, 2 on;

ZINTEC pay was on a sliding scale, originally; eventually got to level of qualified teacher;

Now consistent pay for TP across country, set by Ministry; same budgeting process as for teachers

Marymount Teachers' College

(January, 1989)

While on campus -- theory of ed

TP -- Regional Center; teaching and continued work in theory through d.e.

Assignments to st's; marking/counseling done by regional centers

Lecturers assigned to a group of schools for responsibility of TP st's; tutorial letters; depended on the initiative of the lecturer to supplement the modules;

TP supervision done by assigned lecturer; trips taken for 2 weeks at a time; 2 or 3 visits in 4 months

Lecturer would organize seminars to meet with st's as a group and bring in guest speakers; mainly to help with TP but some d.e., originally designed all by lecturers

Originally: 3 projects req'd of st's

- 1) Research project in ed.
 - 2) Practical project (community development) -- tree planting, chickens, vegetable gardening, etc.
 - 3) Problems of the teaching profession-- written reports
- Eventually, only one project req'd

Originally, only 50 or less st's to supervise

Then over 100 st's plus lecturing

Also the permanent attachment of lecturers to st's for supervision discontinued (to protect st's from "hard" graders)

"Too much remote control of the colleges." (re: ACC)

No regular feedback on assignments (some st's would return to college without ever having seen their corrected papers)

No system for keeping track of st's and work other than an overall checkoff system

Accountability a major problem

* Trying to relate TP to d.e. mat'ls; st's complained of not enough time; too much expected; no close rel. bet. tr. & st., -- confusion over responsibility because of inconsistency; students sometimes copied assignments and no one noticed and grading was inconsistent

* Greater weight on work at college because of lack of feedback while on TP

Conventional

Zintec

1 year: college

16 wks: college

1 year: TP

1 year: college/exams

Much of work previously done while on d.e. now handled at college

Students concentrate mainly on TP (not d.e.) while away; depts "encouraged" to give students "something to do" while on TP;

At least 3 visits during the TP; Marymount has scheduled 4 each, with 5 for remedial students

Morganster Teachers' College

(January, 1989)

TP dept not responsible for d.e., done thru academic depts.

Activities to "enhance" d.e. --

- in schools that are accessible (some within walking distance)

- good postal service

- deployed in groups (12 at one school!, most schools have more TP's than qualified tr's; some have more overall)

- seminars during two breaks (1 week at a time)

- before TP, students given assignments, collected during seminars

- assignments should be do-able at the school (without library references)

Goal is to visit 3 times during TP (year 2)

Headmasters do much supervision & make summary reports on TP students; they attend seminars, to let them know what's expected.

TP allowance is enough to live on

All students do a community project

Upon completion, st's can choose preferences for employment (by province); assigned by a district, then by school (may not get their choice) transfers out of districts or esp. out of province is very difficult (but special can and have been granted)

Seminars are twice a year; headed by the TP head

Old model:

1st year: college

2nd year: TP with d.e.

3rd year: college

4th year: TP (may be in a different school; very little d.e. - prepping for final exams)

New model drops the fourth year

Too much d.e.?

300 on most recent intake; 600 on campus, 300 on TP

On TP, clustered by main subject (st's may get together on their own)

On d.e., assignments are practical applications

Have used the DEC modules -- very complete

Assignments brought to seminar (unreliable post)

Will send registered letters re: overdue materials

Generally good performance because many aps

Students visited at least three times on TP (weaker one
and very bright one seen more often)

Mutare Teachers' College Visit

(January, 1989)

D.E. while on TP is "aimed at continuing the programme started at college."

It provides opportunity to put some aspects of theory of education into practice.

This might be viewed as linking theory and practice of education.

2nd year d.e., project (scientific research in terms of methodology and approach)

Depth Study -- extended study reported on a topic in education; e.g., Dewey's philosophies (about 12 pages)

D.E. is run thru depts.

D.E. is often a continuation of projects already begun at college.

UZ requires d.e. while on TP

Students attend seminars midway through TP

Most within 100k (some close to 200k)

TP visits can be requested by students

4 or 5 visits per day; lecturer/student attachment is rotated to make sure students are not punished by having the same strict grader every time

Overworked lecturers -- they try to schedule visits around their teaching time at the TC; prep time/planning time gets used for TP visits, usually; prep ends up getting done in "spare time"

Students assigned to TP school; some considerations given for personal circumstances; 900 on TP this year, 900 on campus; 75 lecturers to handle 1800 students

For 450 openings in the latest intake, 7000 aps on time, 2000 aps late, 1000 walk-ons; total of 10,000 aps

Students problems: overloaded with full-time jobs and d.e.

Depts. don't have consistent quality package (e.g., intro with new concepts and no feedback until late in the term)
No d.e. dept to handle "checking up" on st's

Close working rel. between headmaster and st's

Half to third of teachers at a school may be on TP

TP st's are externally motivated to do well; those who are committed are successful

Gwanda ZINTEC College Visit

(June, 1988)

Pre-planned program with modules

Problems in d.e.:

- Work not done in the field; procrastination of students; assignments were not concrete and relevant
- Lack of feedback to students on assignments; communication problems
- assignments not academic
- speed of feedback slow
- contact through mail only
- lack of literature/equipment in the field
- too much unmonitored work; need for personnel for supervision of science projects
- up to 600k distance to TP students
- no library/research facilities available

Use of weekend workshops and newsletter; workshops didn't work well

Additional work is not possible to complete; lack of \$ for facilities, books, equipment

Few opportunities for professional development or meeting with others

Music: students given assignments before leaving for TP;
completed and returned; (research on instruments)

Art: Lack of lit. for research; try to give notes on art
areas (e.g., jewelry)

Students suffer from lack of "authority" to ask questions
of on complex subjects -- they flounder with no one to
help

Many off-track (90% one term) and have to re-do

Need: applications courses; practical subjects; materials
for art projects

Lack of subject specialists to contribute expertise

Students don't take the d.e. projects seriously

Gwanda ZINTEC began well staffed but got fewer until only
1 lecturer handling 200 students

Problems: any students had to be failed because of lack
of supervision that allowed students to slough off --
over four years time became a critical issue

Overworked lecturers cannot meet demands placed on them

Lack of resources -- human and material

Expect 1000 students within 4 years and not handling 225 well now -- without increases in staff

Students need to be able to buy books but \$ is decreased to where \$50 is too much

Faculty involvement in preparing modules would be beneficial; now they are preplanned and printed with little input from lecturers; UZ could possibly help facilitate this process

Intercollege newsletter on d.e.?

Isolation is a big problem for students and faculty

Math: difficult to introduce new concepts when on TP;
D.E. just reinforces material already covered

Students didn't take work seriously and less able students tend to not do the work

D.E. needs an assessment component but doesn't have any "progress reports"

Professional math education concepts for 3rd year courses (abstract reasoning, etc.) Assignments are simply problem-solving, not related to their situation.

Some microteaching before they go, but curriculum dev. and lesson planning not emphasized enough

115 first year math students!

5% attrition rate -- low. If requirements were stricter, many more would fail (only need to pass 6 of 9 areas to continue)

English:

2 areas: academic study and professional study

D.E. is individual study -- writing reports on literature

Teaching methods emphasized 3rd year in prof. studies; some prep before TP; Students do find d.e. worthwhile

Professional Studies -- coordination of 9 academic areas; policy-making dept.

Curriculum Depth Study: students study one aspect of a subject in depth to prepare teaching materials in a specific area for several grades; completed during 3rd year for use in 4th year of TP (under old model)

Unfortunately, no one else benefits from it

U.C.E. Visit

(June 1988)

D.E. uses community based assignments to avoid library problems; may have some supervision during TP

Assignments returned 3rd year by students, also major project of student's choice

400+ on TP

Problems finding resource materials when out on TP

Motivation is a big problem because they have to do projects in their spare time;

Problem: lack of equipment for science SO
students required to produce their own "equipment"; a very successful project; 9 learning aids for first year made, they have to actually use it in their teaching

Making use of local industries for instruction; Reading is encouraged during breaks

Art: given 2 assignments before leaving; practical applications using environmentally available materials

No supervision on projects and no mechanism for reaching students

Need some way to make progress checks on projects

Students lack confidence in teaching the practical subjects;

Prof. Ed.: given assignments for d.e. before leaving; because they are full-time teachers, they choose not to overwhelm them with work

5 visits or so during TP; 60 or so for each lecturer

Students feel overworked and low quality results because they are teaching full-time and d.e. seems like "busy work"

Students return to campus for 3 days in the middle of the school term; meet with all depts., etc.

Hillside Teachers' College Visit

(June 1988)

Administrative Problems!!!

Ed. theory for d.e.

Lack of reading mat'l

African languages, research on local traditions or local history; do "local research"

Students on TP are often not teaching the subjects for which they were trained

Lack of student support services

Staffing inadequate to handle students on TP CRUCIAL

APPENDIX E

DOCUMENTS

UNIVERSITY OF ZIMBABWE

MEMORANDUM

From: Dr. N.T. Chideya, Assistant To The Vice Chancellor Date: 25/10/88
 To: E. Waungana, Senior Administrative Assistant, A.C.C. Phone Ext: 1244

RE: APPLICATION FOR CABINET CLEARANCE

As per our telephone conversation last week, I write to seek cabinet clearance for resource people who will conduct two workshops scheduled for January 1989.

The document of Institutional linkage between Iowa State University and the University of Zimbabwe was signed by President Eaton and the Vice-Chancellor, Professor W.J. Kamba respectively in which provision for Science and Distance Education workshops was made.

The workshop objectives are as follows:-


- to upgrade the quality of teaching Science by sharpening lecturers skills and curriculum design and the teaching of Science in Teachers' Colleges.
- to discuss and exchange new scientific approaches in the teaching of Science.
- to discuss patterns of Distance Education and technological approaches of Distance Education.

The workshops are scheduled for 9-13 January 1989 and will be co-sponsored by Iowa State University and the University of Zimbabwe.

Participants for both workshops will be drawn from Iowa, the University Faculty of Education staff and lecturers from the 14 (fourteen) Teachers' Colleges. Names of Iowa participants are as follows:-

Dr. M. Simonson
 Ms S. Zvacek
 Dr. Lynn Glass

I should be most grateful if cabinet clearance was sought on behalf of Associate College Centre. Many thanks for all your assistance.


 E. Waungana (Mrs)
SENIOR ADMINISTRATIVE ASSISTANT

C.c. Dr. B.J. Siyakwazi

MINISTRY OF HIGHER EDUCATIONMinutes of the 1st Meeting of Principals of CollegesDate: 4 May 1987Time: 8.40 a.m.Venue: Ambassador House (Boardroom)Present:HEAD OFFICE

Mr Q.M. Bhila - Deputy Secretary
 Mr K.M.M. Muchemwa - CEO Teacher Education
 Mr M.S. Machawira - EO Teacher Education
 Mrs E. Madzongwe - EO Students Assistance
 Mrs M.S. Murandu - EO Teacher Education

Government Colleges

Mr L. Chaduka - Andrew Louw
 Dr H.V. Moyana - Belvedere
 Mr S. Mlambo - Gwanda
 Dr E. Hutubuki - Gweru
 Mr W. Bako - Hillside
 Mr S. Madzokere - Marymount
 Mr J. Bwerazuva - Mkoba
 Mrs J. Makawa - Morgan
 Mr A.D. Mukeredzi - Mutaro
 Mr T. Kuwengwa - Seke
 Mr R. Phiri - UCE

Private Colleges

Mr H. Chikukwa - Bondolfi
 Mr R. Rushwaya - Morgenster
 Mr C. Shahwe - Nyadire

University of Zimbabwe A.C.C.

Dr B.J. Siyakwazi
 Mr R. Baty

A. Opening Remarks

The Chairman began by apologizing for the late start. He then welcomed Mr T. Kuwengwa the new Principal of Seke Teachers' College, Mr Mlambo the A/Principal of Gwanda Zintao College. Everybody was welcomed to the first meeting of the Principals of Teachers' Colleges in the new Ministry of Higher Education. Dr R. Zvobgo's presence was noted.

B. Corrections

On page 3 Seke's enrolment figure for first years was left out. The figure was given as 340 students.

Mr Bako proposed that the minutes be passed as a correct record and Dr Moyana seconded the motion and the minutes were adopted as a correct record.

C. Matter Arising

Page 3 : Developments in Teacher Education

Mr Bhila told the meeting that Teaching Practice under the 3 year programme would be during the whole of the second year. Dr Siyakwazi indicated that the University expected the Ministry to put this in writing.

The chairman took this opportunity to remind Principals that a pass in English Language at 'O' level was now an entry requirement into all Teachers' Colleges. Grade 11 students with passes in six subjects including English Language were eligible for entry into colleges.

Page 3 : 1988 First Year Students

Principals updated first year enrolment figures in their respective colleges as follows:

Andrew Louw : 486	Hillside : 583
Belvedere : 525	Mkeba : 330
Gweru : 550	Mutare : 492
U.C.E. : 300	Bondolfi : 176
Morgenster : 253	Nyadire : 113
Seke : 340	

Page 4 : Handbook

A definite decision on the matter would be made shortly.

Page 4 : Distance Education

It was felt that Distance Education was still a necessary component of our teacher training programmes. Accordingly therefore, colleges should assist by strengthening the Distance Education Production Unit. The meeting agreed that the number of lecturers at the Distance Education Centre should be increased. Mrs Makawa pointed out the need to increase staff at the 2 Zintec colleges as a lot of marking of distance education assignments was involved.

P5 : Quality of B.Ed Lecturers

Some participants expressed disappointment with the quality of our B.Ed graduates. In reply Dr Siyakwazi said this could be because some B.Ed graduates who specialized in Home Economics for example, were asked to teach Physical Education or Art & Craft. He suggested that any observations on the weaknesses of the B.Ed course should be put down in writing and forwarded to the University.

P6 : Acting Allowances

Principals voiced concern over delays in the processing of applications for acting allowances. They said that some lecturers end up not getting the allowances. Mr Bhila told the meeting that the period for which a lecturer was entitled to an acting

REPORT

OF THE

TEACHER EDUCATION

REVIEW COMMITTEE

1986

14. Distance Education

- 14.1 The Committee supports the proposal that a national centre for distance education be created; this new facility should be called "Distance Education Centre" (DEC).
- 14.2 The functions of the new Distance Education Centre should be:
 - 14.2.1 To co-ordinate distance education for students on teaching practice;
 - 14.2.2 To identify core topics in the various subject areas and plan distance education material;
 - 14.2.3 To serve the non-formal sector of education and collaborate with the Curriculum Development Unit in making plans for this sector;
 - 14.2.4 To assist in the organization of distance education workshops.
- 14.3 Further Recommendations
 - 14.3.1 Qualified personnel should be appointed at the rank of Lecturer or at a higher grade to serve at the proposed centre.
 - 14.3.2 Tuition through distance education should be continued.

15. Structure of College Administration

- 15.1 The Committee makes the following recommendations:
 - 15.1.1 The Professional and Academic autonomy of the College should be preserved;
 - 15.1.2 All colleges should make provisions for the following deliberative and administrative bodies: College Council, College Academic Board, Disciplinary Committee, Student representative council,, Hostel Management Committee, Library Committee and any other committees relevant to the needs of each colleges.

16. Recruitment of Teaching Staff

- 16.1 The Committee makes the following recommendations:
 - 16.1.1 High standards should be rigorously maintained as qualifications are considered in recruiting and appointing college Lecturers.
 - 16.1.2 Applicants should normally have a minimum of a good first degree plus a professional teaching certificate.
 - 16.1.3 Prospective lecturers should be routinely interviewed before offers of appointment are tendered.
 - 16.1.4 All applicants should have at least four years of qualified teaching experience before being considered for appointment to lectureship positions.

UNIVERSITY OF ZIMBABWEASSOCIATE COLLEGE CENTREINFORMATION ON ASSOCIATE COLLEGES 1988

COLLEGE	ADDRESS	LINK PERSON	NO. OF STAFF	NO. OF STUDENTS.
BELVEDERE	Box BE100 Belvedere Harare	Mr. Mhundwa	84	1st Year - 507 2nd Year - 509 3rd Year - 555 4th Year - 495 Total - 2066
BONDOLFI	Box 9050 Masvingo	Dr Siyakwazi	28	1st Year - 165 2nd Year - 214 3rd Year - 219 4th Year - 224 Total - 822
GWERU	P. Bag 9055 Gweru	Mrs Siyakwazi	65	1st Year - 582 2nd Year - 427 3rd Year - 356 4th Year - 383 Home Economics 1st Year 67 Home Economics 2nd Year 49 Home Economics 3rd Year 45 Home Economics 4th Year 61 Agriculture - 31 Total - 1941
HILLSIDE	P. Bag 2 Hillside Bulawayo	Mr. Mhundwa		1st Year - 357 2nd Year - 299 3rd Year - 338 4th Year - 345 A Level - 226 Mature 2nd Year 44 Total - 1309
MKOKA	Box MK20 Mkoba Gweru	Mr R M Baty	40	1st Year - 332 2nd Year - 318 3rd Year - 347 4th Year - 355 Repeats - 53 Inservice- 130 Total - 1635
MUTARE	Box 3293 Paulington Mutare	Mr Bourdillon	65	1st Year - 303 2nd Year - 403 3rd Year - 423 4th Year - 380 S.T.C. 2nd Year - 134 S.T.C. 3rd Year - 85 Total - 1728
MORGENSTER	P O Morgenster	Mrs Siyakwazi	24	1st Year - 257 2nd Year - 207 3rd Year - 233 4th Year - 305 Total - 1002

Region 24 216
64 250
Staff 37 231
64 216

COLLEGE	ADDRESS	LINKPERSON	NO. OF STAFF	NO. OF STUDENTS
NYADIRE	Box 210 Mutoko	Dr Chivore	20	1st Year - 113 2nd Year - 210 3rd Year - 214 4th Year - 149 Total - 686
SEKE	Box 41 Seke Chitungwiza	Dr Chivore	50	1st Year - 326 2nd Year - 352 3rd Year - 329 4th Year - 284 Inservice - 116 Total - 1407
UNITED COLLEGE OF EDUCATION	Box 1156 Bulawayo	Dr Siyakhazi	59	1st Year - 300 2nd Year - 243 3rd Year - 522 4th Year - 422 Inservice - 123 Visually Handicapped - Hearing Impaired - Mentally Retarded - Total -
ANDREW LOUW MASVINGO	Box 760 Masvingo	Mr R Baty	37	Intake 11 - 151 1st Year - 500 2nd Year - 304 Total - 955
GWANDA	Box 5832 Gwanda	Dr Chivore (Acting)	22	Intake 11 - 206 Projected May Intake - 200 Total - 406
MARYMOUNT	Box 20 Mutare	Mr T Bourdillon	20	Intake 11 - 150 Ref - 7 Total - 157
MORGAN	Box 1700	Mrs Siyakhazi	34	Intake 11 - 263

17 January, 1988

Dear Head,

1. PREAMBLE The Department of Teaching Practice of Marymount Teachers' College welcomes you very warmly to the partnership of supervising the teaching practice exercise for the pioneering group of conventionally trained student teachers. As you have already read in the Information Letter 01 from the Acting Principal, Mr P.K. Nhenga, this college ceased to be a ZINTEC college at the start of Term 2 of 1988 with the launching of a three-year conventional system of training teachers. The above change must not be construed as implying that ZINTEC was an inferior system to the conventional one. The ZINTEC system was as effective a system as the conventional one but because of the high costs it places on the limited national resources government has had to terminate it at this college. For many of you the partnership with this college in training teachers is not new at all since you were heavily involved with our ZINTEC students between 1981 and 1987. The experience you gained in that bold and innovative programme will prove very decisive in the new programme just as the college-based colleagues of yours (i.e. Lecturers) have been finding in the residential period of 1988.

2. IMPLICATIONS OF CHANGE OF SYSTEM

The change from ZINTEC to conventional has one major point that you need to take note of:

the amount of time for real classroom teaching has been drastically reduced from 3 years and 1 term to 1 year only. This means that a more business-like approach to the supervision of student teachers is greatly called for. The U.Z., who are the final arbiters in this exercise, will still expect the student teacher in this programme to attain the same minimum level of proficiency in teaching as they demanded of ZINTEC students despite the disparity in the amount of time

3. ROLE OF HEAD

By receiving student teachers in your school you automatically became a member of the Supervisory Team. Your job is to supervise the student teacher in his exercise of learning how to teach. Many people believe that to supervise means to use force to make people work. This kind of supervision may produce desired results for a mechanical task like digging a garden or sweeping a floor. For complex and predominantly intellectual tasks like teaching the approach will definitely not work. Supervision within this context is the offering of expert guidance to the student teacher in his search for the most effective methods of teaching children in a wide range of circumstances.

Teaching is taken as a process of applying the theoretical body of principles and ideas to bring about maximum learning.

The students coming to you have acquired a certain amount of theory on child behaviour including learning and instruction. What they need is to be given the opportunity and support to explore the most effective ways of applying these ideas to the classroom. Some heads are known to have told new student teachers to forget about the theories they have learnt at college and to teach as per their word. This approach is sterile & retrogressive and is, therefore, strongly discouraged. The practice of the student must derive from his grasp and interpretation of theory. Otherwise there will be no point in bringing them to college first. Teaching must, therefore, remain a perpetual marriage of theory and practice as neither of them can stand on its own.

4. EFFECTIVE SUPERVISION

The following are some hints on how to enhance the effectiveness of your supervision:

4.1 Establish good working relations with the student who should develop confidence in you. This can be done by ensuring that whatever you suggest to the student is accepted by the student on the strength of the sense it makes and not because you have threatened the student. The following would not do much good to your attempts to build good working relations:

- (i) drinking in the company of students especially on Sundays and working days,
- ii) displaying lack of grasp of the theoretical principles upon which teaching is based, and
- iii) showing clear tendency to favour some students.

4.2 Be easy to approach and allow for a dialogue between you and the student

4.3 Be thorough and firm. Never let a student operate without the requisite documents listed in paragraph 5. If a student persistently fails to produce any of the documents warn him in writing and send a copy of this to the college.

5. REQUISITE DOCUMENTS

Each student teacher should always have available the following documents in his or her classroom during working hours:

5.1 T.P. File containing:

5.1.1 Schemes and detailed lesson plans (one detailed lesson plan per subject per week).

5.1.2 Records (Progress, Remedial, Social and Innovations)

5.1.3 Formats

5.1.4 Lesson Critiques

5.2 Block Plan Book: Thick hard-covered; and to be provided by the school

6. DUTIES OF HEADS VIS-A-VIS STUDENTS

6.1 Using your own local report book the college requires you to make a minimum of one supervision report for each student in one week. The student gets the original and you retain the copy. No assessment symbol should be awarded. Only indicate weaknesses and make suggestions for improvement.

6.2 Towards the end of each term assess the student on the basis of the supervision programme he has gone through with you. Using college schedules that are enclosed prepare a report with an overall grade symbol. Give the student the original and send the copy to the college.

The grade-symbols for use are as follows:

A Very distinctive and exceptional performance.

A-

B+

B Very good and clearly above average performance

B-

C+

C Mediocre performance, Ordinary or routine teaching

C-

D+

D Poor but redeemable performance

E

F+ - Completely hopeless and irredeemable performance. Must leave course
 F - immediately (see note(ii) below)

- N.B. (i) In supervising students try to see him teach each of the subjects on the curriculum. There is a tendency to neglect certain subjects especially practical ones.
 (ii) When you award an F grade symbol to a student, you do not dismiss him immediately. You write a letter to the college drawing our attention to the main contributory weaknesses and requesting the college to dismiss the teacher. Let me reiterate that an F symbol means the student cannot be saved by any amount of supervision.

7. CORRESPONDENCE

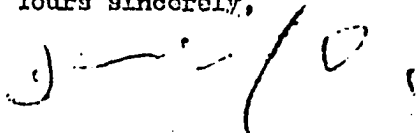
All correspondence pertaining to T.P. and related issues should be directed to:

The Principal
 Attention: Department of Teaching Practice
 Marymount College
 P.O. Box 20

MUTARE

In conclusion may God bless you and provide you with a happy and fruitful 1989. It is our hope that we shall work closely and amicably to produce teachers who are going to serve the nation honestly and efficiently.

Yours sincerely,



A. Matongo
 A/Principal Lecturer (T.P.)

- c.c. Regional Director
 E.O. Primary (Nyanga)
 E.O. Primary (Rusape)
 D.E.O.'s NYANGA (5)
 D.E.O.'s RUSAPE (5)

UNITED STATES OF AMERICASCIENCE DEPARTMENT DISTANCE TEACHING PROGRAMMEFOR C E 66 STUDENTS FROM JANUARY 1987 TO DECEMBER 1989

Each main subject Science student while doing his/her teaching practice for the whole of 1987 is required to submit the following pieces of work in part fulfillment for the certificate of education to be awarded on successful completion of course in December 1989.

1. Select a minimum of 3 major topics per term from the Environmental Studies (Physical) Syllabus and according to the Grade (Class) you are assigned prepare the following:-
 - (a) All Learning Aids used for each TOPIC. This involves charts, do it yourself apparatus, models, collections of live samples of organisms (could be preserved) dry plant specimens (herbarium) rock/mineral samples and so on.

You must use as much ingenuity, creativeness, imagination and applicability in the making or designing of the above mentioned aids for the teaching of science. In other words we put challenge to each one of you to see how resourceful you can be when placed in a school with limited resources.
 - (b) When you return to college at the beginning of 1988 you will submit to the Department all learning aids you have designed for each of the three major topics taught for each term. Neatly label or attach a tag or place in separate cardboard boxes the various charts, improvised apparatus etc. used for the grade you were teaching. In addition provide samples of practical work done by your pupils for each of the topics - perhaps 3 - the best, the average and the poorest one. Remember to mention for which topic you had designed these learning aids and apparatus.
 - (c) You are well advised to collect and take to the school before the start of each term an assortment of discarded items like, empty glass and plastic containers, bottle tops, string, boxes, cardboard and anything and everything you can possibly carry in a sack etc. A minimum of expense should be incurred perhaps you might think of purchasing a small roll of sellotape or masking tape, bright coloured (fluorescent) charts and so on.
 - (d) Finally you might as well be informed that the submission of these pieces of work will be assessed and grades will be carried over for the final assessment in 1989.

UNITED STATES OF AMERICASCIENCE DEPARTMENT DISTANCE TEACHING PROGRAMMEFOR C E S STUDENTS FROM JANUARY 1987 TO DECEMBER 1987

Each main subject Science student while doing his/her teaching practice for the whole of 1987 is required to submit the following pieces of work in part fulfillment for the certificate of education to be awarded on successful completion of course in December 1989.

1. Select a minimum of 3 major topics per term from the Environmental Studies (Physical) Syllabus and according to the Grade (Class) you are assigned prepare the following:-
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 - (d) Finally you might as well be informed that the submission of these pieces of work will be assessed and grades will be carried over for the final assessment in 1989.

EA/zmo

EBRIT ESAT

ASSIGNMENT NO.2 FOR CE 83 - SCIENCE DISTANCETEACHING PROGRAMME FOR THE YEAR 1984

During your year out on Teaching Practice you will soon discover you will be living within proximity of some major industry which play an important role in the development of Zimbabwe. You are to choose one from the following many industries of Zimbabwe, make a detailed case study and write a report of your findings about the particular industry you have chosen. Your report should be not less than ten pages and not more than fifteen pages that is both sides of foolscap paper.

The report will be assessed and graded in part fulfillment of the Certificate of Education. This report must be submitted to the College by the 30 September, 1984.

1. Sugar fermentation and ethanol production at Chiredzi.
2. Iron and Steel industry at Redcliff.
3. Paper industry in Mutare.
4. Ammonia Manufacturing plant in Harare or Bulawayo.
5. Sulphuric Acid Manufacturing plant in Harare or Bulawayo.
6. Drug Manufacture by Datlabs - Bulawayo.
7. Fertilizer Manufacture by Sable Chemical Industries (Kwe Kwe)
8. Energy resources of Zimbabwe (Select Two).
9. Coal Mining in Wankie/Products.
10. Food Industry (In many towns/cities).
11. Soap Manufacturing - Detergents.
12. Research into Cattle Breeding or Plants and Plant Diseases.
13. Plastic Industry.
14. Sugar Refinery Industry.
15. Rubber and Allied Products Industry (Dunlop).
16. Cement Industry.

You are expected to do much of your data finding and write up during the school holidays. In all cases the study must be relevant to Zimbabwe. Pictures, Photographs, large diagrams, sketches or maps placed or drawn on your sheet of paper will not be counted, in the ten to fifteen page report.

Before you leave the College, you must collect a large envelope to be used for sending us your report as well as a note authorising you to see the management concerned in your particular area of study.

O MOYO

E ESAT

SCIENCE DEPARTMENT
UNITED COLLEGE OF EDUCATION
P O BOX 1156
BULAWAYO

MARYMOUNT TEACHERS' COLLEGETEACHING PRACTICE SUPERVISION/ ASSESSMENT SCHEDULESTUDENT'S NAME: SCHOOL:DATE: TIME: GRADE:SUBJECT: LESSON TOPIC:TUTOR'S NAME & SIGNATURE:ATTRIBUTE/ CRITERIONTUTOR'S COMMENTS1. PREPARATION & PLANNING1.1 Schemas:

1.1.1 Aims

1.1.2 Breakdown and sequencing
content units

1.1.3 Others (Specify)

1.2 Block Plans

1.2.1 Objectives

1.2.2 Activities

1.2.3 Aids

1.2.4 Others (Specify)

1.3 Detailed Plans

1.3.1 Objectives

1.3.2 Introductions

1.3.3 Aids

1.3.4 Logical Development

1.3.5 Imagination

1.3.6 Conclusions

1.3.7 Others (Specify)

1.4 Classroom Environment1.4.1 Use of wall, floor & roof space
for charts, corners, aids, etc.

1.4.2 Seating Arrangement

ATTRIBUTE CRITERIONTUTOR'S COMMENTS2. Teaching (Lesson Observed)

2.1 Type of Lesson taught
(ie. is it concept/s development, problem solving, skills development, etc.)

2.2. Introduction:

Is this appropriate and suitable?

2.3 Lesson Development

2.3.1 Logical sequencing of matter

2.3.2 Clarity of explanations

2.3.3 Effectual use of aids

2.3.4 Interactions:

(Is lesson

Teacher centred, child centred, etc?)

2.4. Conclusion

Was it appropriate and effective?

2.5. Result

Did the children learn something ?

3. TEACHING FOR MOTIVATION

3.1 Does teacher use appropriate and effective strategies for motivating pupils ?

3.2 Any problem of discipline ?

3.3 Do pupils respect the teacher and do they love their work ?

RECORDS

4.1 Individual Social

4.2 Progress

4.3 Remedial

4.4. Others (Specify)

5. EVALUATION

5.1 Schemes

5.2 Block Plans

5.3 Detailed Lesson Plans

5.4 Children's Work

(ie marking)

ATTRIBUTE CRITERION

TUTOR'S COMMENTS

6. OVERALL IMPRESSION

6.1 Main Weakness of Teacher

6.2 Suggestion for Improvement

6.3 Assessment Grade

.....

.....

TEACHING PRACTICE ASSESSMENT REPORT

Student's name: No. ZIN/ / / /

Student's school address:

Lecturer's name:

Lecturer's comments

① Lesson Observed: "Good People & Bad People" R.E. Grade 5

(a) Introduction: Sch. T.T. asked chn. to list school rules and rules of the home.

(b) Development: T.T. asked chn for the ten commandments and related issues.

(c) Comment: Your teaching was haphazard and disjointed. The rationale of teaching some of the items was never made clear. Your children do not do not even know the relevance of rules/laws in social interactions. They, for example, do not know why not smoking and drinking and bad when their parents do it.

② T.P. File: Top cover is has "Mhandambini School", Why? Include Mwanamant College and your student number. File organization is still incomplete. No table of contents. Dividers for DLP's and Records are still missing. Records are still incomplete. DLP's are mixed with schemes. Most schemes are not dated and, therefore, one can not determine

Assessment grade Lecturer's signature: Date:

National centre recorded: Date:

TEACHING PRACTICE ASSESSMENT REPORT

Student's name: (cont) No. ZIN/ / /

Student's school address:

Lecturer's name:

Lecturer's comments

whether they are complete or not.

③ Children's Work: Not much has been given so far! especially in creative work.

④ Classroom Work: There are still not many. I saw them on 13/09/88.

⑤ Overall Comment:

You do not remain satisfied with your work. If you do not make it you shall have no one except yourself to blame.

N.B. Ignore comment on "Mhandambiri".

Assessment grade E Lecturer's signature: Date: 21-07-88

National centre recorded: Date:

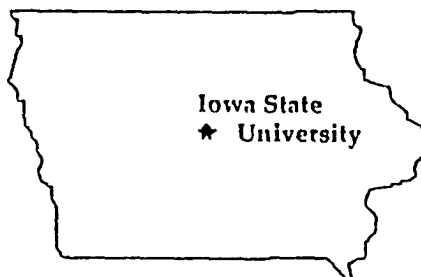
APPENDIX F

PROCEEDINGS FROM
DISTANCE EDUCATION -- A WORKSHOP

PROCEEDINGS
of
DISTANCE EDUCATION
-- a workshop --



January 9-13, 1989
Harare, Zimbabwe



Edited by:

Susan Zvacek, Graduate Assistant
Dr. Michael R. Simonson, Professor

College of Education
Iowa State University
Ames, Iowa USA

PROCEEDINGS
of
DISTANCE EDUCATION
-- a workshop --

Presented at the Associate College Centre
University of Zimbabwe
Harare, Zimbabwe

January 9-13, 1989

Edited by:

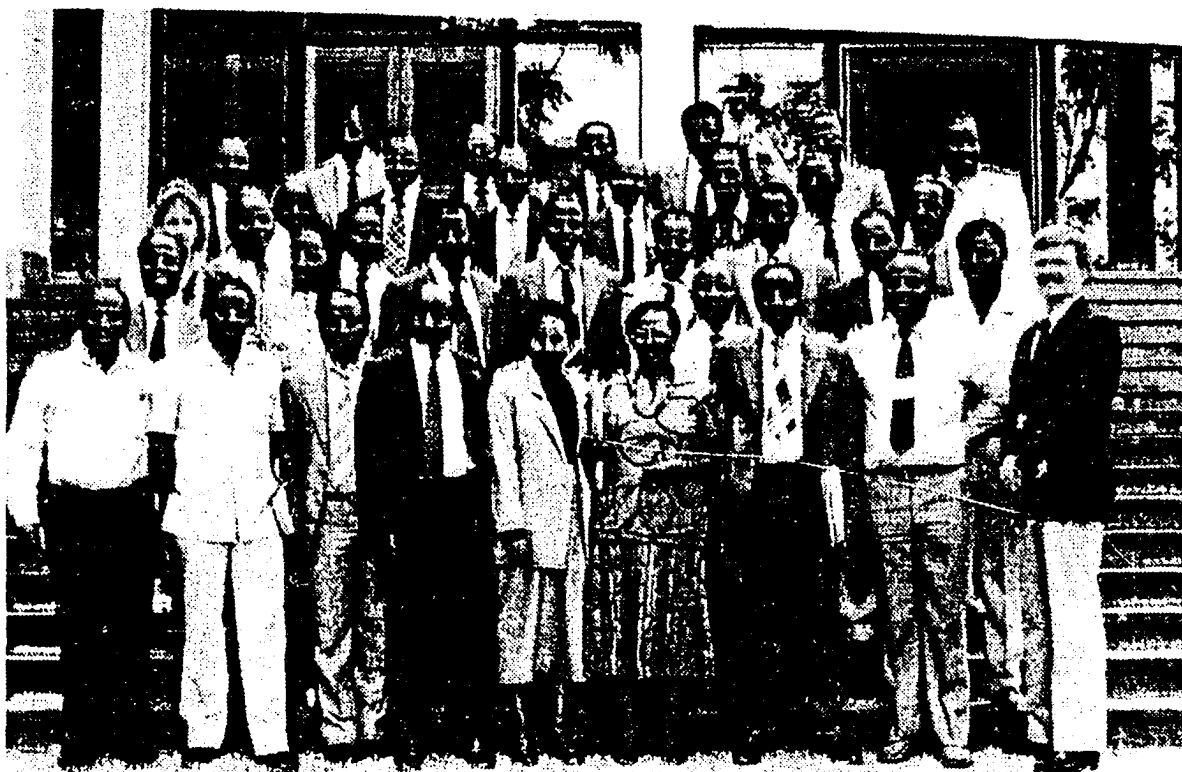
Susan M. Zvacek

Dr. Michael R. Simonson

College of Education, Iowa State University

Sponsored by a grant from the
United States Information Agency

IA-AEJL-G7193095



Distance Education Workshop Participants

Left to Right:

1st Row: J. Mthethwa, G.R. Mhiribidi, W. Gwatiringa,
B.R.S. Chivore, C. Kadada, D.T. Makalisa, E.S.
Dube, F.T. Kanyowa, M. Simonson

2nd Row: M.I. Chitsungo, T. Simba, P.M. Chizana,
E. Zikhali

3rd Row: S. Zvacek, A.P.D. Masunungure, B.C. Muropa,
A.K. Senah, W.T. Shumbayaonda, L. Mupfeka,
C. Chinomona, T. Gwarinda, D.C.H. Mugwagwa

4th Row: D. Dhliwayo, G. Mavundukure, M. Mhlanga, A.M.
Shoko, L. Mhondoro, S. Tichareva, A. Chikona

5th Row: T. Mutsambi, E. Nyawera, J.G. Mutambara, H.
Tapela, C. Matikiti, S.K. Gore

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Introduction

These Proceedings are the tangible results of a Distance Education Workshop held at the Associate College Centre, University of Zimbabwe, January 9-13, 1989.

This workshop was funded through a grant from the United States Information Agency, IA-AEJL-G7193095, "Development of Zimbabwean Secondary Schools Through Graduate Study and Workshops." The workshop fulfills one of the components of the original proposal coordinated by the Teachers/Texts/Technology program of the USIA.

The workshop was led by two presentors from Iowa State University, a fully-accredited university with a strong commitment to international research, education, and development. The leaders were Dr. Michael R. Simonson, Professor of Secondary Education and Susan M. Zvacek, Doctoral Candidate in Curriculum and Instructional Technology.

There were participants from each of the fourteen teachers' colleges coordinated by the Associate College Centre. The participants were, for the most part, senior lecturers or administrators with direct involvement in, or responsibility for, distance education at their respective institutions. Many had attended distance education workshops in the past, although the level of experience and training in _

distance education varied greatly throughout the group. A complete list of participants can be found in the Appendix.

The workshop activities included presentations by the workshop leaders, presentations by guest speakers from the University of Zimbabwe and the Distance Education Centre, large-group discussions of the role and status of distance education in Zimbabwe, brainstorming sessions on the critical issues in distance education, and small-group presentations on those critical issues. Most of these activities are represented in this Proceedings in papers or transcriptions of discussions and presentations.

The contents of this publication are organized somewhat chronologically, according to when they occurred during the workshop. There is also an Appendix that includes the Workshop Agenda, the Syllabus, and a list of participants. The Proceedings were edited, compiled, and printed at Iowa State University.

Group Activity

Defining Distance Education

As one of the workshop topics, the "Definition of Distance Education," produced lively discussion among the workshop participants. As a focusing activity, the participants were randomly placed into small groups with the following assignment: Write a definition of distance education for your program -- as it is or as it should be. The resulting definitions and the discussion accompanying their presentation helped to solidify for many the distinguishing elements of the Zimbabwean distance education system.

"Distance education is a process of learning and teaching under which the teacher and the learner are separated in space and often in time as well."

"Distance education in Zimbabwe is the learning/teaching at a distance which may include face to face contact."

"Distance education is a systematically organised form of self-study covering great numbers of learners in various locations of Zimbabwe by means of media, e.g., printed word, radio, etc. In this form of education, the learner and the tutor are separated but with periodic feed-back."

"A learning/teaching programme characterized by periodic separation of teacher and student, using printed materials with regular radio programmes and occasional face-to-face sessions."

"Distance education is a system of learning/teaching which complements, replaces or supplements the conventional learning in which the teacher and the learner are for a greater part of the time physically separated, communicating mainly through printed materials and radio."

"It involves the preparation of learning material with clear instructions and varied well-defined tasks which are dispatched to the student who will work through the material over a given period. Feedback is in the form of marked work, sometimes supplemented by face to face contact."

The common elements among these definitions include references to:

- teaching and learning
- physical separation (space)
- separation in time
- systematic processes
- mediated delivery systems (print, radio)
- face-to-face contact
- self-study principles

By carefully delineating what constitutes distance education in Zimbabwe, a "common ground" can be established and a foundation built upon which decisions regarding this program can be made. Until there is agreement on the most basic issue of all, "What is distance education?" there can be no consensus of opinion on what the program will eventually evolve into. This activity was designed to assist in progressing toward that consensus.

Establishing Mission Statements, Goals, and Objectives

Susan M. Zvacek

When designing a new instructional program, there must be a clear understanding among all involved parties of the mission, goals, and objectives. These are all statements of intention and purpose that give a focus and direction to the planning, implementation, administration, and evaluation of the program. The mission, goals, and objectives of an instructional program will grow out of the perceived needs within the environment or social context in which the program is intended to operate, and will unify the efforts of those charged with implementing the new program. This paper will describe the characteristics and purposes of missions, goals, and objectives, and discuss the relationships among them as well as their importance to a distance education program.

Mission Statements

The general statement of purpose that provides an overall focus for a program, institution, or organization is its mission. "An institution's 'mission' expresses the expectations which society has of it. It is also a broad statement of the conditions on which its continued existence is predicated." (Rumble, 1986, p.88) In this context, the mission takes external influences into account, concentrating on the role that the institution

will play in the larger environment. If the institution ceases to fulfill this role, its mission is not accomplished and its reason for existence evaporates.

A sample mission statement provided by Rumble (1986) lays down the following role:

To provide education at university and professional levels by distance means to meet the needs of non-traditional students and to contribute to the educational well-being of the community in general. (p. 145)

Missions may vary in degree of specificity and be quite broad like the above example or more narrowly focused. Some other examples of phrases typically found in mission statements are "developing good citizenship habits", "providing quality health-care services to the community", and "to advance the field through timely and innovative research."

A mission is a long-term expression of an institution's characteristics. It will not be amended frequently but instead will act as a focal point for more specific statements of purpose, such as goals and objectives, that are revised according to a predetermined schedule or as changes in the context/environment dictate.

Goals

Goals are statements specifically tied to the strategies for accomplishing the mission. Morris and Fitz-Gibbon (1978) described the types and purposes of

goals in educational programs. First, goals may describe either the "ends" -- that is, the measurable outcomes -- of the program, or the "means" -- the processes or activities for accomplishing these outcomes. For example, an ends goal might state: "To provide courses in the liberal arts to students at a distance." The accompanying means goal might say: "To develop new communications technology for disseminating instructional materials to distant students." Both of these goal statements relate to the fulfillment of the mission stated earlier.

One of the purposes of goals is to provide a direction for program planning by focussing on what is to be accomplished. Once the outcomes have been specified -- e.g., to increase attendance at symphony concerts, to improve achievement test results, or to develop a basic vocabulary of the Russian language -- planning the instructional program is a matter of devising strategies for implementing the goals. Instructional activities should be designed to advance the learner toward the goal; those that do not should not be included.

Another purpose for goals is to facilitate the evaluation process. Statements that are clearly written and agreed upon by all parties help evaluators assess whether the stated goals have been achieved and to what extent.

If goals are to have a motivational aspect, they must be realistic in terms of the possibility of achieving them. Are there sufficient materials, time, money, facilities, and people to accomplish the goals as they are stated? Overly-optimistic goals may prove counter-productive if they lead to frustration instead of providing motivation.

In the process of writing goals, Gagne, et al (1988) caution that goals are best expressed in statements describing "human activity." Think in terms of doing, not being, when writing goal statements and instead of stating the goal as "citizenship," describe the desired outcome as "carries out the activities of a citizen in a democratic society." (p. 41)

The relationship between the mission and goals is described by Rumble (1986) as a "'cascade' structure ... in which the mission of the institution [is] progressively refined and made more specific through the definition of goals." (p.145) By directly linking the mission and goals, consistency and accountability are enhanced throughout the program.

Performance Objectives

Performance, or behavioral, objectives are precise, measurable statements of desired outcomes that are written as specific capabilities. (Gagne, et al, 1988) Objectives written with the outcome as an observable

performance are unambiguous and allow precise measurement of attainment. Whereas goals are usually statements of strategies (instructional processes), objectives are statements of intended results.

Robert Mager, a pioneer in the use of instructional objectives, described three main purposes for their use:

- 1) To provide direction in designing the materials, content, and method of the instructional system;
- 2) To provide cues to the students regarding what is important and what is expected of them; and
- 3) To guide the evaluation process. (Mager, 1984)

Again, the "cascade" structure described by Rumble (1986) may be utilized to ensure consistency throughout the instructional program. Objectives will be derived from the goals established for the program and the goals are derived from the mission statement.

There are three parts to a behavioral objective. (Mager, 1984) First, a statement of the conditions under which the learners are expected to perform; e.g., "given a list of 35 chemical elements ..." or "when provided with a standard set of tools ..." should be included. The conditions statement should be detailed enough so that others clearly understand the intent of the writer.

The second component of a behavioral objective is the performance statement. This describes what the learner is expected to do, or a product or result of the action. The significant element here is the use of

observable behaviors to determine learner capability. Unambiguous terms, such as list, solve, design, or recite, allow learners to demonstrate their grasp of the subject. This component is the most important part of an objective.

The third component is a criterion, or mastery, statement. This describes how well the learner must perform in order to demonstrate mastery. In other words, how good is good enough? How well does the learner need to do something so that the instructor knows that the learner knows? If the overall goal is for the learner to make a free-throw in basketball, what percentage of free-throws need to be successful in order to demonstrate an acceptable level of learning? How quickly should the learner be able to build something or solve a mathematical equation?

These three components comprise a standard performance objective and although there is often resistance to specificity, objectives need to be specific in order to determine whether they have been accomplished and to what degree.

Objectives for a distance education program can be based not only on learner performance but also on operational plans for the program itself. For example, a performance objective for a distance education program might state:

Given the time and talent of a subject matter specialist and the necessary educational resources,

three distance education modules on educational research will be produced within one year.

Objectives are related directly to goals and goals are related directly to the mission. In this way, the system is unified in an unambiguous and straightforward manner. For a centralized distance education system that operates within several autonomous institutions, clarity and unity of purpose and intention are important factors to consider. A program that is developed around these statements has a greater chance for success and achievement of the universal mission for quality education.

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Group Activity

Developing Mission Statements and Program Goals

In six small groups, workshop participants developed a mission statement for the distance education program in the teachers' colleges. Based on this mission, they then wrote one goal statement facilitating progress toward mission fulfillment. These statements were as follows:

Mission: To provide high quality education in our students through adequate coverage of college syllabi.

Goal: Through judicious selection, processing and dispatch of distance education learning materials to the student.

Mission: To produce good quality teachers who fulfill societal expectations, e.g., effective teaching, community consciousness, exemplary life style.

Goals: a) to recruit and enrol students with high secondary qualifications in all teachers' colleges;
b) to write ten modules per subject for distance education.

Mission: To produce qualitative and quantitative teachers in Zimbabwe.

Goal: To provide supplementary teaching/learning materials for our student teachers.

Mission: To overcome the shortage of teachers created by the expanding education system without lowering the quality of the trainee.

- Goals:** a) By instituting a four-year programme, two years of which would be spent at college while the other two would be spent out in the field;
- b) By designing an effective teaching practice supervision programme.

Mission: To supply our schools with teachers who are community-oriented and able to marry theory with practice in an effort to alleviate teacher shortage.

Goal: To release partially trained teachers into the field and continue tutoring them through distance education.

Mission: To help train enough efficient and effective teachers to meet the needs of a rapidly expanding system of education in Zimbabwe.

Goal: Linking theory with practice concurrently through provision of a distance education component while students are on teaching practice.

Common elements among the mission statements included references to the quality of teachers prepared, the quantity of teachers to alleviate the shortage, and

preparing teachers who are community-aware. The goals were more varied, but many included specific references to using distance education during teaching practice, producing and distributing educational materials, and the supervisory structure of teaching practice.

The importance of a unified mission and commonly-understood goals among all members of an educational system cannot be overemphasized. Through this exercise, workshop participants were able to discuss these issues with colleagues and make decisions about what they considered the aims and intentions of the distance education program to be -- or what they ought to be.

ZIMBABWE'S EXPERIENCES IN THE EVALUATION OF DISTANCE EDUCATION PROGRAMMES

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INTRODUCTION

As a way of putting this discussion into its perspective, there are key terms which need examination and analysis. These key terms are 'distance education' and 'evaluation'. In addition, it should be made clear that the evaluation discussed is based on an innovative programme known as the Zimbabwe Integrated National Teacher Education Course (ZINTEC). To appreciate the evaluation carried out, it is essential therefore to discuss the aims, objectives and implementation of this programme. While distance education was an important component of this programme, it should be understood that the evaluations carried out involved more than distance education. Aspects such as staffing, logistical support services, structures, philosophy among several others were evaluated since they had both direct and indirect bearing on distance education.

DISTANCE EDUCATION

According to Moore [1983 : 157] :

Transactional distance is a function of two variables called 'dialogue' and 'structure'. Dialogue describes the extent to which, in any educational programme, learner and educator are able to respond to each other. This is determined by the content or subject-matter which is studied, by the educational philosophy of the educator, by the personalities of the educator and learner, and by environmental factors, the most important of which is the medium of communication. For example, an educational programme in which communication between educator and the independent learner is by radio or television permits no dialogue. A programme by correspondence is dialogic, yet not the same extent as one in which correspondence - or radio or television - is supplemented by telephone communication.

In distance education therefore, there is 'transactional distance'. One of the most comprehensive definition of distance education is that proposed by Keegan [1980], which he modified in 1986. Keegan also based his definition on definitions by Holmberg [1977], and Moore [1973]. Keegan [1986 : 49 - 50] identified about seven characteristics in distance education. These are: the separation of the teacher and the student; the influence of an educational organisation, the use of technical media; the provision of two-way communication; the absence of group learning, with students taught largely as individuals, with possibilities of seminars; among a few others.

It must be emphasised that while the above characteristics are broad there are differences in application when it comes to individual countries. Zimbabwe is a case in point because distance teacher education involved face to face sessions through seminars and vacation courses as will be elaborated.

EVALUATION

Several attempts have been made to define the term 'evaluation'. It is impossible in a paper of this size to make a comprehensive analysis of this term. A working analysis will be made. The Development Communication Report No. 29 of 1980 defines evaluation as 'a process of delineating, obtaining and providing useful information for judging alternatives'. Alkin [1969 : 30] defines evaluation as:

The process of determining the kinds of decisions that have to be made; selecting, collecting and analysing the information needed in making these decisions; and reporting this information to appropriate decision-makers.

Ross and Freeman [1982 : 20] argue that:

Evaluation is the systematic application of social research procedures in assessing the conceptualization and design, implementation, and utility of social intervention programmes which involves the use of social research methodologies to judge and to improve planning, monitoring effectiveness and efficiency of health, education, welfare and other human service programmes.

Grabe [1982 : 13] sums up evaluation as:

A process of analysis and control designed to determine the relevance, effectiveness and the degree of efficiency with which they are carried out, with reference to the immediate objectives for which they were designed and planned and within the wider frame of reference of the more comprehensive, often longer term development objectives of the programme of which a project or group of projects form part.

Several more definitions could be cited but the ones referred to above should suffice for this discussion.

THE ZINTEC PROGRAMME

One of the most celebrated post independence educational programme in Zimbabwe is the ZINTEC programme. The ZINTEC programme, started in January 1981. Its aims and objectives included [Chivore and Masango 1982 : 29]:

- (a) To meet primary teacher shortage through an in-service type of teacher education;

- (b) To develop a teacher education system relevant to specific problems facing the Zimbabwean people in their everyday lives in the community;
- (c) To develop a teacher education programme which is better placed in terms of better dissemination of knowledge guided by socialism as an ideology for Zimbabwe;
- (d) To effect developmental changes through teacher education whose practical operation must highlight learning by doing - thus effecting theory with practice;
- (e) To develop a professional teacher with skills needed in the appropriate teaching technique capable of providing active learning experiences to pupils for example the concept of education with production;
- (f) To develop an all round primary teacher with positive attitudes and values that would promote meaningful involvement in community development.

STRUCTURES

When the Zintec programme started, its structures consisted of the following: the National Centre based in Harare, and the colleges and their external wings.

The National Centre

The National Centre consisted of the following:-

- (i) The Administrative Unit;
- (ii) The Production Unit
- (iii) The Evaluation and Co-ordination Unit.

The Administrative Unit consisted of the Director who was Chief Education Officer. The post of Director was reduced in status to Deputy Chief Education Officer level in 1985. The Administrative Unit has overall responsibility for the whole programme which includes liaising with Regional Officers through the Regional Directors in the recruitment and deployment of student teachers, liaising with the University of Zimbabwe on the certification of students, initiating seminars, workshops and vacation courses and general supervision of Zintec Colleges. It is this unit which sees to it that distance education materials are distributed through Zintec Colleges in the regions where students are deployed in the schools.

The Evaluation and Co-ordination Unit was responsible for planning research, formative and summative evaluation of the Zintec Programme. These duties involved assessing the aims and objectives of the programme, pre and post testing of modules produced by the Production Unit, co-ordination of assessment procedures, assessment of the human and material resources among other things. At the end of 1982, however, the Evaluation and Co-ordination Unit was moved to the Head Office of the then Ministry of Education where it became part of the Planning Division to evaluate not only ZINTEC but all the educational programmes in the Ministry of Education.

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The Production Unit is responsible for the writing of all distance learning materials used by student teachers during the deployment period. In carrying out these duties, the Production Unit sees to it that modules are dispatched to the regions, through ZINTEC Colleges, writing and modifying syllabuses, attending seminars in the regions and research. As Ncube [1984 : 46] put it:

It may be appreciated that the National Centre is basically, therefore, the initiator and co-ordinator of all ZINTEC activities in Zimbabwe. It is the watchdog of ZINTEC objectives as envisaged by the founders of this teacher education programme. There is also a sense in which the National Centre is representative of the new thrust in terms of educational practice and interpretation in Zimbabwe.

When the programme started in 1981, there were five regional centres. These were Mashonaland [in Harare], Manicaland [in Mutare], Midlands [in Gweru], which became part of Mkoba Teachers' College], Gwanda [in Gwanda] and Masvingo [in Masvingo]. Following the 1982 Evaluation Report [Chivore and Masango 1982] regional centres merged with ZINTEC colleges administratively and physically to become external wings of the colleges.

There were four colleges under this programme, namely: Morgan in Harare, Andrew Louw in Masvingo, Marymount in Mutare and Gwanda in Gwanda. As will be noted, from 1988 onwards only two colleges, Gwanda and Morgan remained under this programme. Others became conventional colleges.

The functions of ZINTEC colleges can be divided into two main categories: those functions relating to the residential courses and those functions relating to the supervision of students deployed in schools. College functions could be summarised as follows:-

- (a) Recruitment of students.
- (b) Deployment of student teachers in close consultation with the Ministry of Primary and Secondary Education.
- (c) Provision of a condensed programme of the theory and applied education.
- (d) Organising micro-teaching programmes.
- (e) Dispatching distance learning materials to students in the schools from the National Centre.
- (f) To supervise, monitor and assess students in the field;
- (g) To arrange and conduct vacation courses and weekend seminars for students;
- (h) To organise assessment of students in conjunction with the University of Zimbabwe's Department of Teacher Education.

There were certain things expected from students. Among these were:

- (a) Student teachers were expected to learn basic psychological, philosophical and sociological aspects of teacher education;
- (b) Acquire professionally relevant survival skills such as class management, classroom management, questioning techniques, community work, seminar discussions and making reports;
- (c) Review critically, literature, distance learning materials and write assignments.
- (d) Attend vacation courses;
- (e) Abide by rules and regulations [Public Service or UTS] guiding teachers and the teaching profession as a whole.

Course Duration

The ZINTEC programme lasts for four years. When the programme started, students spent initial 16 weeks and final 16 weeks at colleges. During the initial 16 weeks students were introduced to theories of education, that is psychology, philosophy, sociology and history of education in Zimbabwe, as well as applied education in the subjects they would teach in primary schools. The final 16 weeks were devoted to preparations for and writing of final examinations. From 1988, however, instead of 16 weeks initial and final residential courses, the period was increased to two terms - that is three months, or 24 weeks.

Student Supervision

Supervision of students is done by lecturers in the external wings of the colleges. Lecturers in the external wings interchange in that one group goes into the field to supervise students say for a term while the other group remains at college. Lecturers in the external wings supervise students in both theory and practical teaching. As far as theory is concerned, this is in the form of assignments, projects and tests contained in the modules or distance education materials that come from the National Centre. Student teachers do their assignments while at schools where they are deployed. These assignments are posted to the lecturers at colleges. Special seminars are convened from time to time to discuss problems students encounter in the writing of assignments.

With regards to teaching practice, lecturers visit students at least twice each term. In addition, headmasters, district education officers and education officers supervise these students in teaching practice as well. These officials send reports for each individual students to the colleges at least once a term. It should be noted that district education officers, education officers and headmasters do not supervise student teachers in the theory of education. This is partly because some of the headmasters for example, may not have the necessary academic qualifications to enable them to supervise students in the Theory of Education.

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There are other support units which assist the ZINTEC programme. These are: the audio visual services, especially in graphics, national radio for educational broad casts, conventional colleges which also supervise ZINTEC student teachers, the Planning Division of the Ministry of Higher Education through its overall evaluation of the programme and the University of Zimbabwe since it is the one that certifies the students at the end of the four years of training.

One of the most important points about the ZINTEC programme is the fact that from the start of their course, student teachers receive a salary. At the same time, in line with other teachers, ZINTEC student teachers receive a bonus of their annual salary and at the end of their four years' training, they receive a starting salary like any other non-graduate teacher primary or secondary. More than anything else, it would seem that salaries paid to student teachers during training were responsible for low dropouts.

EVALUATION OF ZINTEC

Since the ZINTEC programme started, several evaluations have been carried out by the Ministry of Education officials, UNICEF and other interested scholars. In this study two evaluations will be cited. These evaluations were carried out in 1982 and 1987.

Reason for Evaluating the ZINTEC Programme

It is not possible to include all the reasons why the ZINTEC evaluations were carried out. Only main reasons are outlined which were:

- (a) To determine the degree to which the purposes, aims and objectives of the programme were being attained;
- (b) To provide evidence on the value of the ZINTEC programme necessary for both internal and external funding.
- (c) To provide data on the ZINTEC programme and teacher education essential for teacher education and general educational planning covering such issues as teacher supply and demand, college staffing, admission procedures and the dual system of teacher education;
- (d) To collect data essential for the continued on-going improvement of the programme;
- (e) To have a critical but objective analysis of the main problems encountered and recommendation thereof, useful for the improvement not only for ZINTEC, but education in general and teacher education in particular;
- (f) To determine the relevance of the ZINTEC programme to teacher education, the schools and the community in which students so trained work;
- (g) To determine whether the ZINTEC programme met one of its main aims for its formation, that is primary teacher shortage;
- (h) To determine the impact of ZINTEC on Teacher Education, Zimbabwe's education system and the Zimbabwean society in general.

- (i) To determine the effectiveness of ZINTEC student supervision and other support services.
- (j) To identify and determine the availability, adequacy, relevance and effectiveness of material and human resources in ZINTEC.
- (k) To determine the cost effectiveness of the ZINTEC programme.

[Source : Chivore and Masango 1982, and Preliminary Summary Report of the ZINTEC Evaluation 1986].

It will be noted that the list of reasons for evaluating the ZINTEC programme is relatively long. This is mainly due to the fact that an attempt has been made to combine reasons for evaluating ZINTEC from two evaluations: One carried out in 1982 and the other in 1986. In both these evaluations the reasons given were basically the same. This is partly because both evaluations were summative evaluations which drew heavily from the formative evaluations since the programme had an Evaluation and Co-ordination Unit based at the National Centre.

Areas and Aspects Outlined for Evaluation

The main areas evaluated were:-

- (a) Attitudes - this involved collection of data on the background of and reasons why people (student teachers) took up teaching under the ZINTEC programme;
- (b) The effectiveness of primary teachers trained under the ZINTEC programme;
- (c) The cost effectiveness of the ZINTEC programme;
- (d) Resources [human and material] in the ZINTEC programme;
- (e) Structures and organisation;
- (f) Ideology.

Methods and Techniques Used in the Evaluation of ZINTEC

In both the 1982 and 1986 evaluations, a variety of methods and techniques were used. These methods were not exclusive but complementary to each other. These methods were:-

- (a) Documented data;
- (b) Observations - formal and informal;
- (c) Questionnaires;
- (d) Interviews;
- (g) Special selected studies [which may have included questionnaires].

Methods Used in Data Analysis

The methods used in data analysis depended on the methods used in data collection. For data collected using questionnaires, a computer (SPSS) of the University of Zimbabwe was used. Descriptive statistical analysis was employed. This consisted of the number [N] of items and the equivalent percentage [%] frequencies.

The Sample [1982]

For the 1982 evaluation, the sample was randomly selected using even numbers from given college totals of first, second and third intakes. These were in the January, May and September intakes of 1981. Questionnaires were then collected by the evaluators at the end of the exercise. This ensured that there was a 100.0 percent return of filled in questionnaires. In all there were 621 student teachers who took part.

The Sample [1986]

As in the 1982 evaluation, the 1986 sample was also randomly selected, using the same method of even numbers. The observations and findings were based on a sample population of:

- (a) A randomly selected 25.0 per cent [1160] ZINTEC students;
- (b) 612 headmasters where ZINTEC students taught;
- (c) 36 District Education Officers and 5 Education Officers;
- (d) 463 Non-ZINTEC students for comparison purposes;
- (e) 19 Non-ZINTEC college principals, principal lecturers and senior lecturers (combined);
- (f) 73 ZINTEC staff-lecturers;
- (g) 229 members of the general public;
- (h) 625 primary teachers working with ZINTEC students.

It will be noticed that the samples used were fairly representative of the community at large. Consequently sources of information also varied. This included the ZINTEC National Centre, College records, records from the Associate College Centre of the University of Zimbabwe, head office of the Ministry of Education, the Regional Offices and schools where ZINTEC students were deployed. We would like to emphasise and stress that the information gathered was also voluminous. That being the case, it is not our intention to report details but highlights of the major findings.

Discussion of the 1982 Evaluation Findings

Reasons for Joining Teaching Under ZINTEC

In the original questionnaire, there were 23 possible reasons which may have prompted people to join the ZINTEC programme. Out of 23 reasons on the original questionnaire, 12 were rated as relatively important by all the respondents. This means they scored at least 50.0 per cent score. In their order of strength the following reasons were rated as important in prompting ZINTEC students to take up teaching under this programme:

- (a) I wanted to assist in meeting primary teacher shortage in Zimbabwe;

- (b) I enjoy teaching;
- (c) To train young people to meet future manpower needs in Zimbabwe;
- (d) The ZINTEC programme offered me the chance to do further education;
- (e) I wanted to assist in teaching literacy in the community through the ZINTEC programme;
- (f) I wanted to train in a secure profession;
- (g) I joined ZINTEC because it is a revolutionary teacher training programme;
- (h) Because the ZINTEC programme was a new programme by a new African government;
- (i) Under the ZINTEC programme I can earn while training;
- (j) These days teaching is a well paid profession/career;
- (k) Teaching nowadays is a prestigious career/profession;
- (l) There are promotion prospects in teaching, e.g. as headmasters, deputy headmasters, education officers etc.

It would seem that the reasons given as having prompted ZINTEC student teachers to take up teaching as a profession were positive. The most important reason given was that they wanted to assist in meeting primary teacher shortage. The reasons rated as relatively important could be classified as follows:-

- (a) Developmental - that is meeting primary teacher shortage, meeting manpower needs, teaching literacy in the community;
- (b) Remunerative - that is train in a secure profession, earn while training, teaching is a well paid profession, promotion prospects and teaching being a prestigious career;
- (c) Ideological - ZINTEC being a revolutionary teacher training programme and a new programme by a new African Government;
- (d) Other reasons - enjoying teaching and chance to do further education;

How genuine were these reasons? It is possible that ZINTEC student teachers rated as important reasons they thought acceptable to the evaluators. At the same time it can also be argued that once a person chose to join teaching, it goes without saying that the reasons given for joining that profession would be positive. This is a possible explanation if it is remembered that students knew that the evaluators were from the Ministry of Education. Under such circumstances students may have given reasons they thought 'acceptable' to the evaluators. Having said that, it should be remembered that attitudes change. A person may enter teaching with positive attitudes. But with the discovery that the reasons for joining are far from realities, such a person drops-out. For the ZINTEC programme dropouts were negligible which may be an indication that positive reasons given were genuine so much so that these candidates completed their course.

These positive reasons were also important in that most of these reasons

were among the aims and objectives for which the ZINTEC programme was started. In other words aims and objectives for starting the ZINTEC programme were in line with reasons for taking up teaching under this programme.

ZINTEC STRUCTURES

It was noted that the National Centre was responsible for ZINTEC activities only. The evaluations carried out recommended that the National Centre should be responsible for all teachers' training colleges in as far as distance education was concerned. This recommendation was accepted and as a consequent the ZINTEC National Centre became the Distance Education National Centre.

The Evaluation And Co-ordination Unit

One of the main issues highlighted in the 1982 evaluation related to the Evaluation and Co-ordination Unit. Before the establishment of the ZINTEC programme, there was no formalised institutionalised evaluation in the Ministry of Education. Due to that state of affairs, the 1982 evaluation recommended that the Evaluation Unit be part of the Planning Division of the Ministry of Education at Head Office. The 1982 Evaluation Report [Chivore and Masango 1982 : 37] recommended:-

The Evaluation Unit should become part of the Head Office Planning Unit but continuing monitoring such projects as ZINTEC programme as well as other innovations that may be launched.

The present author in one of his papers [Chivore 1982 : 62] argued:

That the evaluation done in ZINTEC touches upon these 'other issues' means something is wrong with regards to where an evaluation unit should belong. Professionally evaluation is part and parcel, and the other 'coin face' of educational planning. Structurally the unit that deals with evaluation should be part of the unit that deals with educational planning.

This recommendation was accepted and implemented. For the first time in the country's history the Planning Division of the Ministry of Education had an Evaluation Department responsible for the evaluation of the Ministry of Education's activities, distance education inclusive. This was mainly as a result of experience gained under the ZINTEC programme.

Regional Centres And Colleges

When the ZINTEC programme started, its regional centres and colleges were separate from each other. The 1982 evaluation recommended that colleges and regional centres should administratively and physically be united. This facilitated for closer co-operation in the integration of theory and practice, between field and college lecturers; and maximum efficient and effective utilisation of facilities such as libraries. This recommendation was accepted and what were regional centres became part of the college under the college principals.

STAFFING IN ZINTEC

Two issues need highlighting under staffing. These are quantity and quality of staff especially in the colleges. In terms of quantity,

information gathered through staff returns showed that on average, the lecturer student ratio was 1 : 40. The situation was worse for staff-student ratios for lecturers responsible for field supervision which on average was 1 : 60. Simply put there was quantitative shortage of staff. This had adverse implications on the work load for lecturers which became heavy in terms of visits to students, marking of distance education assignments, supervision of both theoretical and practical work and holding vacation seminars. The problem of staff shortage was not confined to ZINTEC colleges but to conventional colleges as well, which, by 1982 had introduced distance education as part of their mode of training. As the 1986 Annual Report (1986 : 8) noted:

ZINTEC as well as what used to be conventional colleges are adversely affected by the staffing situation as well as support services. It is recommended that as far as practicable, more lecturers should be appointed otherwise the process of primary teacher training will continue to suffer.

The quality and relevance of education in a developing country such as Zimbabwe depend on the quality and relevance of the teacher. The 1982 as well as the 1986 evaluations established that the vast majority of lecturers in the ZINTEC programme as well as conventional colleges were University graduates trained to teach at secondary level. Some lecturers had Masters and Ph.D. degrees. There were some lecturers with 'O' and 'A' level academic qualifications. The majority of these lecturers taught so called practical subjects such as agriculture, home economics, physical education, woodwork, art and craft among others. Because of the fact that they were not University graduates, their chances of promotion and being made substantive were very limited. The 1982 Evaluation recommended that a special B.Ed. Programme be mounted at the University of Zimbabwe. This evaluation report [Chivore and Masango 1982 : 44] stated:

It would be in the best interest of the ZINTEC programme, and indeed teacher education as a whole, to make arrangements with the University of Zimbabwe so that these lecturers are admitted to the B. Ed. part-time degree course as a matter of priority. They can pursue such studies under curriculum studies with special reference to say home economics, music, art and craft, etc.

On the same point, the present author [Chivore 1982 : 56] argued:

The Ministry of Education and Culture should make arrangements with the University of Zimbabwe so that practical subject lecturers are admitted for the B.Ed. course on a priority basis. The Ministry of Education should give an undertaking that admitted lecturers can be released whenever they are required for studies at the University. This recommendation is made on the strong belief that practical skills and knowledge, are important in that they permit the teacher so trained to act as a general all round agent for change in the village, offering leadership combined with technical know-how. We are

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advocating that teachers should be part of an education equation in which students learn by doing, in which understanding is derived from practical experience, and in which knowledge is a function of proven and experienced local needs. This can only be achieved with well trained and job satisfied lecturers.

Following this recommendation, special B. Ed. programmes were started at the University of Zimbabwe under the Department of Curriculum Studies in the so-called practical subject areas. Lecturers from both ZINTEC and conventional colleges as well as teachers from schools were enrolled. In terms of distance education, the quality of modules produced for students was bound to improve.

The Effectiveness of the ZINTEC Teacher

The first stage in the assessment of the effectiveness of the ZINTEC teachers was based on headmasters' opinions. Headmasters were requested to assess ZINTEC teacher effectiveness in terms of teaching practice, involvement in community work, theoretical work especially how this filtered to other teachers at the school.

Headmasters have an important input in both ZINTEC and conventional teacher education. Headmasters were (still are 1989) with ZINTEC student teachers for a considerable length of time during training. It became imperative to seek their opinions on ZINTEC student performance using variables contained in the Teaching Practice guidelines which included planning, scheming, class management, classroom management, learning and teaching aids, language skills, education and the community, evaluation, teacher punctuality and so forth. Headmasters were requested to do two things : first to assess the effectiveness of ZINTEC teachers using the above variables under the following codes 'not satisfactory', 'satisfactory', 'more satisfactory' and 'most satisfactory'. Secondly, headmasters were requested to compare the effectiveness of ZINTEC teachers with untrained teachers, student teachers from conventional colleges and trained teachers using variables outlined above. A total of 17 headmasters took part. Headmasters assessed ZINTEC teachers to be effective in the following areas:-

- (a) Professional approach compared to untrained teachers;
- (b) Integration of school activities with the community;
- (c) Interest in school programmes;
- (d) Punctuality;
- (e) Leadership qualities;
- (f) Planning and scheming;
- (g) Learning and teaching aids.

The comparison between ZINTEC, untrained teachers, students from conventional colleges and trained teachers according to headmasters' assesment revealed that ZINTEC student teachers were better than untrained teachers; compared favourably with both students from conventional and trained teachers. As far as headmasters were concerned, one of the advantages of the ZINTEC programme was that teachers trained on-the-job, attempting to put theory (through distance education and face to face teaching) into practice as opposed to spending three years at college. ZINTEC student teachers were in a relatively better position to find which theories were applicable to the Zimbabwean teaching situation and the transition from studentship to teachership was not only quicker but realistic and more effective. Ncube [1983 : 48] expressed similar sentiments when he argued:

There is a great deal of interaction during this stage between the student teacher on the one hand and the education world on the other. Students are exposed almost constantly to the world or reality. They see that problems of teaching and education as they are. Whatever solutions emerge are practical in the sense that the student teachers are constantly grappling with those problems both within and outside the school just as they would as full teacher practitioners in a normal school/ community.

Having observed what appears to be positive assessments of the effectiveness of the ZINTEC trained teachers, caution need to be exercised. The 1982 evaluation was at an early stage of the ZINTEC programme. At the same time some headmasters, though experienced, had lower academic qualifications than the ZINTEC student teachers they assessed. It was very possible that such headmasters gave information they thought was 'socially acceptable' to the evaluators. In as far as theory was concerned these headmasters were limited in their assessment as will be noted.

The Effectiveness of the ZINTEC Teacher - A Case Study of 50 ZINTEC Student Teachers

Under the previous section, an attempt was made to determine the effectiveness of the ZINTEC teacher using a general survey that was based on headmasters' assesment. Under this section, ZINTEC teacher effectiveness was assessed using a relatively small group of 50 student teachers selected through the stratified random selection method. Issues highlighted were generally the same as those used by headmasters. The difference lay in the method used in the collection of data. Instead of getting the opinions of headmasters, on the performance of the ZINTEC teachers, this time the evaluators visited all the 50 students, interviewed them face to face, examined their records and observed them teaching. Visits were made to see projects which students may have been implementing; plan books, and scheme books were also examined. Discussions were also held with headmasters where these 50 students were teaching, as well as discussions about other students who may have been teaching at these schools to ascertain these students' performance as well. The evaluators rated students' performance using

the following codes 'not effective', 'least effective', 'effective', 'somewhat effective', 'more effective' and 'most effective'.

The evaluators also gathered information relating to headmasters' academic and professional qualifications, frequency of visits by lecturers in the process of supervising both practical teaching and theoretical work, maximum number of distance education assignments received by each intake, the number of assignments submitted to field lecturers for marking and those returned to students after marking and problems encountered by students during deployment.

Headmasters' Qualifications

It was established through these evaluations that the majority of headmasters where the 50 selected ZINTEC students were deployed had either Standard Six or the Zimbabwe Junior Certificate academic qualifications. Only 16 (32.0 per cent) had (CSC/'O' level academic qualifications. As regard professional qualifications, only 15 (30.0 per cent) headmasters had T3, that is the standard teaching qualification needed to teach at primary level. The rest had Primary Teachers' Lower (PTL), or T4 qualification regarded as non-standard. In the 1986 evaluation, it was reported that of the 465 headmasters who responded to the questionnaire, less than 30.0 per cent had CSC/'O' level academic qualifications and in terms of professional training less than 25.0 per cent had standard qualification of T3 or Primary Teachers' Certificate. In other words the situation was basically similar to that reported in the 1982 evaluation. The academic and professional qualifications of headmasters had implications on students' attitudes, teaching practice and theory of education supervision, distance education included. As far as attitudes were concerned, the ZINTEC teacher knowing that his/her headmaster/headmistress had lower academic qualifications than his own, was likely to look down upon or despise that headmaster/headmistress.

In addition, the headmaster with relatively low academic qualifications was not able to supervise the ZINTEC student teacher as adequately or confidently as one with qualifications ('O' levels) prescribed for entry into the ZINTEC programme. In fact when these 50 student teachers were requested to state problems they encountered during deployment, 84.0 per cent stated that they received no assistance from their headmasters in the theory of education (distance education modules). This was to be expected since the information contained in the modules would be above the comprehension of headmasters with Standard Six (end of primary) or ZJC (two years secondary) academic qualifications. Consequently the theoretical work of ZINTEC teachers was bound to suffer.

The same applied to professional practical teaching supervision. Some headmasters had been on the job for fifteen years and more. They trained under conditions that were at variance with the kind of training given to people training to be teachers in the 1980s. In the 1986 : 5 Evaluation Report, it was reported that of the 465 headmasters who responded to the questionnaire, 98.9 percent had received Teaching Practice Assessment forms from ZINTEC Colleges but relatively low proportions had received guide lines on block planning format, detailed lesson plans format and project report formats. Lack of specific guidelines on these crucial aspects meant that headmasters gave instructions to ZINTEC students according to what the headmasters thought to be the right thing. This resulted

in some students doing things that were contrary to college expectations. It was not surprising that 60.0 per cent of the 50 students in the sample mentioned that 'professional guidelines of District Education Officers and some headmasters conflicted with those of ZINTEC. Some of the areas of conflict related to planning, scheming, interpretation of subject matter in terms of relevance and philosophy (ideology).

Due to the relatively low academic and professional qualifications of the headmasters, it was recommended that these headmasters undergo some in-service training. According to Chivore (1982 : 31):

To some of the above problems it would be to the benefit of education in general and teacher education in particular if headmasters who do not have 'O' level qualifications are requested to do 'O' levels within a specified period of time. For those who may have done private studies up to 'O' level but with PTL or T4 qualifications, there is need to have in-service courses that would upgrade them to the level of T3 that is 'standard' qualified teacher. On the whole headmasters should attend seminars arranged under the auspices of ZINTEC in their regions so that they acquaint themselves with what is expected of a teacher in a new Zimbabwe.

Failure to implement the above recommendations would have meant that whatever fine training was given to newly trained teachers would disappear once these new teachers were deployed in schools. The headmasters with relative low academic and professional qualifications were looked down upon by these ZINTEC student teachers and worse still such headmasters were not able to assist students training on the job because the distance education material was above the headmasters' grasp.

A two year in-service course was started at Mkoba, United College of Education, Seke and Mutare Teachers' Colleges. This course was (still is 1989) for primary teachers with 5 'C' levels who want to be upgraded professionally. This upgrading course proved extremely popular with primary teachers, headmasters and district education officers. The present author as part of his monitoring duties with the Associate College Centre, made a follow up of students deployed at schools with headmasters who did the two-year in-service course performed a more effectively in comparison with students who were deployed at schools where headmasters had not done the two-year in-service course or were underqualified. It was very rare to find student teachers failing both teaching practice and theory at schools manned by headmasters who did the two year in-service course.

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Field Supervision by Lecturers

Information collected indicated that the majority of student teachers (80.0 per cent) were visited once per term, 8.0 per cent were visited twice while 12.0 per cent were not visited when the 1982 evaluation was carried out in September. The 12.0 per cent were 4th intake who had just been deployed. This picture was representative of what was taking place in the programme as a whole at the time. The question is: Were these field visits adequate? The answer would be negative. Submissions made to the Evaluation and Co-ordination Unit by the Field lecturers voiced concern over the inadequacy of visits. One college wrote: 'It is impossible to visit students regularly because of Tutor/Student ratios'. Another college requested 'more staff to facilitate for more visits to students and more face to face interventions with students'. At the same time, 96.0 per cent of the 50 students who participated stated that 'Field supervision by field lecturers is inadequate'. In fact this was rated as the most crucial problem by the student teachers. In the 1986 evaluation the inadequacy of field supervision was again highlighted.

The 1986 evaluation analysed the quality of the supervision carried out. The lecturers spent more time on checking schemes of work, lesson plans and records rather than assist students in reinforcing concepts, skills and linking theory with practice. This was partly due to lack of funds, vehicles and staff. This Report (1986 : 4) noted:-

The students did not receive adequate supervision from college lecturers because of shortage of funds, vehicles and understaffing of the colleges.

The number of visits paid by field lecturers to ZINTEC students was crucial in several ways. During their visits field tutors spent more time on practical teaching than theoretical work (module assignments, major assignments). Under such circumstances students' theoretical work once more suffered.

Distance Education : Modules and Module Assignments

Two aspects should be highlighted. These are : whether students understood what was contained in the modules and the number of assignments students were supposed to do while deployed.

The Evaluation Unit pre-tested modules produced by the Production Unit to determine the content, relevance and comprehensiveness of these modules. It is impossible to go into details of all that took place in this area. One simple method used was to request students to underline words and concepts contained in the modules which they did not understand. At the same time students were requested to define or explain certain terms such as 'mand response', 'hypothesis', 'telegraphic utterances' among others. As the 1982 : 103 Report notes:

In their written assignments, the majority of students failed to explain terms using their own words.

Not only that students found it difficult to comprehend some terms and it became clear that some of the modules were above the comprehension of these students. It was recommended that the Production Unit produce simple modules. Added to that was the problem that at the beginning of ZINTEC, writers tended to copy directly from their sources such as books. With time this improved.

As part of their continuous assessment, ZINTEC students wrote (still write 1989) assignments contained in their modules. They were supposed to write four assignments per term. Students were also expected to receive 15 module assignments from the Production Unit. On the whole it was established that the Production Unit was up to date with the production of the number of required assignments. On the other hand ZINTEC students were not up to date with the writing of their assignments. Field lecturers were also not up to date with the marking and returning of students' assignments. Late marking and returning of students' marked assignments to students by lecturers tended to demotivate students and in turn had the effect of making students submit their assignments late. It became a vicious circle. It meant students wrote and submitted assignments without the necessary feedback vital for their professional and academic growth. As the 1986 : 6 Report noted:

The delay meant that students did not benefit from the tutors' comments since they (students) wrote the next assignment before receiving the first, second and sometimes third assignment.

ZINTEC students were late in submitting their assignments because of lack of reference materials at their schools of deployment, inability to carry out research, heavy work load since they were also full time teachers and poor postal services in some areas.

Professional Effectiveness of the ZINTEC Teacher

Under this section, professional effectiveness relates to planning, scheming, teaching and learning aids, classroom management, class management, language and communication, education with production, education and the community, extra-mural activities, evaluation and record keeping.

ZINTEC student teachers, in order of strength, were assessed and found effective in the following areas:-

- (a) extra-mural activities;
- (b) language and communication;
- (c) teaching and learning aids;
- (d) class management;
- (e) record keeping;
- (f) classroom management.

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On the other hand evaluators found these same students relatively ineffective in these areas:-

- (a) planning;
- (b) class evaluation;
- (c) education with production;
- (d) scheming;
- (e) education and the community.

In other words out of 11 assessed items ZINTEC student teachers were found effective in 6 items. It would be useful to try and explain why ZINTEC student teachers in the sample were found not effective in key areas such as planning, scheming, evaluation, education with production and education and the community.

Scheming and Planning

That the majority of the 50 students were found to be weak in planning and scheming was in line with earlier studies (ZINTEC Teacher Effectiveness Report submitted to the Academic Board, 23 March 1982). Among the reasons responsible for this state of affairs included: confusion between aims and objectives; some headmasters who requested student teachers to follow planning and scheming formats of their schools with the result that ZINTEC students could not put into practice what they were taught at college; and some ZINTEC colleges which did not equip their students with 'proper' scheming and planning guidelines. In the 1986 Evaluation however, and other subsequent studies that followed (Chivore 1985, 1986 and 1988) scheming and planning were not among the weaknesses of the ZINTEC students. ZINTEC students had imported in the areas of planning and scheming.

Education with Production/Education and the Community

Education with or for production, education and the community, for practical purposes are one and the same thing. This is because education and what is produced through that education should benefit the community. Education with production has two sides : the conceptual (ideological) and the practical side. Both complement each other. Most of the factors as to why the 50 ZINTEC students and all student teachers whether ZINTEC or conventional, were not effective in education with production had little or nothing to do with the student teachers. Among the reasons why ZINTEC teachers were not effective as far as education with production was concerned were: lack of clear theoretical conceptual framework needed as a basis for understanding education with production, lack of policy document from the Ministry of Education on the concept of education with production, lack of teaching this concept at college level, discouragement by some headmasters among other factors. Due to these factors different interpretations were given as to what education with production really entailed. Thus in one of his papers the present author [Chivore 1982: 61] observed:-

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Conceptually, however, there seems to be little comprehension as to what this [education with production] is all about. To some people education with production is no different from what people like Jowitt advocated to others it is 'self management' or re-written community concept education for maintaining privileges, to another group it is the F2 concept re-introduced. Different interpretations go on.

In the 1986 evaluation the situation seemed to have improved a little bit. All the 1160 ZINTEC students in the sample indicated that they made attempts to develop socialist principles and attitudes through the usage of group work in their teaching. On the whole, however, the understanding of socialism among these students was still very weak. Hence the Report [1986 : 3] concluded:

The disparity in response among the students as regards the concept of teaching socialism reflected badly on the colleges' basic understanding of teaching socialist ideology.

With regards to participation in community projects, people in the community especially rural areas welcomed this. Yet teachers' colleges did not prepare their students adequately for participating in community projects. The Evaluation Report [1986 : 4] noted:

The evaluation revealed that lecturers did not seem to be attaching any socialist significance to community projects as a means of raising the local community's standard of living and also as a way of ushering in a new socio-economic order. This was reflected by the fact that the field lecturers frequently found themselves with inadequate time to visit students' projects or time to discuss problems, weaknesses or strengths of the community projects.

Other studies related to education with production painted a gloomy picture. In an Evaluation of education with production in secondary schools under the Zimbabwe Foundation for Education with Production in 1987, it was concluded that the pupils, teachers and education officers did not comprehend the concept of education with production. This is not surprising. It would seem that Zimbabwean society as a whole has not yet been schooled in and accepted the concept of education with production. On their own, schools, teachers' colleges and other institutions of education, cannot be expected to successfully implement new concepts if society at large has not fully comprehended such concepts.

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Problems Encountered by ZINTEC Student Teachers

During both the 1982 and 1986 evaluations student teachers were requested to write down problems they encountered during their training particularly during the deployment period. The problems mentioned by these students were basically similar to those problems already discussed above. Consequently at this stage, a summary of these problems would suffice. The main problems mentioned were:

- (a) Inadequate supervision by the lecturers;
- (b) Lack of feedback on assignments and projects to students from the lecturers;
- (c) Lack of supportive resources in the form of books during deployment;
- (d) Poor postal services in some areas which hindered communication between colleges and students;
- (e) Relatively heavy teaching loads which resulted in some student teachers failing to strike a proper balance between their duties as student teachers and their duties as full time teachers.

Most, if not all the above outlined problems have been confirmed in other studies [Chivore 1986a, 1986b, 1988]. The Government has done a lot in an attempt to solve most of these problems through the implementation of recommendations made in the evaluations of ZINTEC.

The Impact/Achievement of ZINTEC Evaluation in Zimbabwe's Education System

One of the most interesting things when examining Zimbabwe's experiences in the evaluation of distance education through the ZINTEC programme, is the way the Government took seriously and pragmatically the recommendations made in the evaluations. Not only did these recommendations influence teacher education but general education in the country. The system [ZINTEC] evaluated and what came out of these evaluations yielded far reaching results. We will concentrate on major recommendations which affected policy.

(a) The Mode of Teacher Education

Following experiences gained in the ZINTEC programme, the mode of training non-University graduate primary and secondary teachers changed from three to four years. As the National Report [1984 : 17] observed:

The success of ZINTEC revealed by the evaluation exercise resulted in the 'Zintecisation' of teacher training colleges. In place of the 3 years conventional training programme, a four year course comprising first year residential second year on-the-job, third year residential and fourth year on-the-job has been instituted.

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True, in 1988, the training of non-University graduate teachers for conventional colleges went back to three years but the influence of the evaluation carried out remained especially in the area of distance education.

(b) Distance Education

Before the ZINTEC programme, and subsequent evaluations carried out - evaluations that highlighted the importance of distance education - there was no distance education in teacher education in Zimbabwe. Evaluations carried out stressed the importance of systematic, properly structured distance teacher education to ensure that the training of teachers on-the-job was effective. Due to these evaluations, even under the present [1989] three-year mode of training, distance education remained a permanent feature as is the case with the two remaining ZINTEC colleges [Morgan in Harare and Gwanda in Gwanda].

(c) National Centre for Distance Education

Both the 1982 and 1986 evaluations recommended that the ZINTEC National Centre should be a National Distance Education Centre for all non-graduate teacher training colleges whether ZINTEC or conventional. The Government implemented this recommendation. Today [1989] the National Distance Education Centre produces modules for all teachers' training colleges, for student teachers deployed in the field. It is possible that this Centre may expand to be responsible for academic correspondence courses catering for primary and secondary education so that people who want to do their education through distance education will not rely on private commercial colleges which charge exorbitant fees.

(d) In-Service Courses for Headmasters

The evaluations carried out revealed that the majority of headmasters who supervised student teachers deployed in schools were under-qualified. A recommendation was made that headmasters and other teachers who obtained 5 'O' levels through private studies should undergo a two year in-service course. This recommendation was carried out. As already noted headmasters who underwent this two-year in-service course were more effective than headmasters who were under-qualified in supervising student teachers. Another interesting feature of this two-year in-service course was the fact that three quarters of the trainees' time is on-the-job while doing the course through distance education.

(e) The B. Ed. Degree Courses

One of the issues highlighted by the evaluations referred to in this discussion was that lecturers of practical subjects were disadvantaged since they would not easily be promoted until they became University graduates. The evaluations recommended a special B. Ed. programme to be worked out between the Government [Ministry of Education] and the University of Zimbabwe, so that lecturers in practical subjects can study for B.Ed. degrees in those areas.

The implementation of this recommendation went further in that M. Ed. programmes in practical subjects such as woodwork, metal work, building, art and design were mounted jointly between the University of Zimbabwe and selected Universities in Sweden. Candidates sent to Sweden would be employed to replace expatriates who started the special B. Ed. programme, thus making the University self-sufficient in these areas.

(f) The Institutionalisation of Evaluation

Before the ZINTEC programme, evaluation as a discipline and professional activity was not known in Zimbabwe. The evaluations that took place in ZINTEC and their impact on the country's education scenery, as well as the acceptance by the Ministry of Education to transfer the ZINTEC evaluation unit to the Planning Division, meant that evaluation became a permanent feature in Zimbabwe's education system. Today the Evaluation Department is a strong unit that services both the Ministry of Higher Education and the Ministry of Primary and Secondary Education. The evaluation reports produced such as Primary School Dropouts, Zimbabwe Secondary Science Projects, Zimbabwe Foundation For Education with Production Technical kits, to name a few have had considerable impact on the country's education system. These evaluations can be traced to the humble beginnings of the ZINTEC programme and activities such as the evaluations carried out under that programme.

The Future of Evaluation in ZINTEC

To say that evaluations are essential in innovative educational or curriculum programmes, distance education inclusive, is an understatement. What has been discussed above is testimony to this. Looking into the future, several things need to be done. If we are going to have systematic, efficient and effective distance education in Zimbabwe, then the importance of evaluation should not be under-estimated. The last major evaluation of ZINTEC was done in 1986. More than ever before, a major evaluation needs to be carried out to assess the effectiveness of distance education since distance education is now a feature in all non-University graduate teachers' colleges. In addition it is now time to evaluate the effectiveness of teachers trained since Zimbabwe attained independence. These are the teachers trained using distance education. It is vital to produce effective and competent teachers because money used to produce incompetent teachers is money wasted.

CONCLUSION

Since independence, Zimbabwe invested heavily in education. In that, investment, new innovative programmes such as ZINTEC needed and still need to be evaluated to ensure that the country's limited resources are utilised effectively and efficiently. The most pleasing thing about the ZINTEC programme was the speed with which recommendations were implemented not only for the benefit of the ZINTEC programme but for the benefit of the system of education as a whole with far reaching implications for the country. In addition the evaluations carried out tended to be very open and critical. It is hoped that the experiences gained in the process of evaluating the ZINTEC programme will be consolidated and improved upon for the benefit of the country's education system.

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By

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What are the features of technology that contribute to the efficient development of distance education?

The features of modern technology include various instructional materials or media which are generally known as audio visual aids (e.g., films, slides, film strips, video, TV, audio). The importance, nature and quality of audio visual aids have increased as a result of several factors.

For example, miniaturization of both the hardware and software materials. (See some of the examples presented). This trend has led to lower cost, increased ease of operation, and portability and hence to increased access and use of instructional media in both the conventional and distance learning situations.

The other important factors are the effects, which various modes of teaching have on the quality and amount of learning acquired by the student. For example, some research studies have revealed the following information.

Reading alone effects only about	10% of learning
Hearing (e.g. lectures)	20% of learning
Seeing (things to be learnt)	50% of learning
Doing (acting on lesson)	80% of learning
Saying and doing	90% of learning

This information can be a useful guide in the planning of distance education curricula. It is however, important to realize that without appropriate media to convey the teaching/learning process, the quality of education will be less than otherwise. Efficient and effective application of media is therefore central to the success of any education system.

Distance education has come as an alternative to the conventional face-to-face methods of teaching. This feature has been largely caused by the difficulties encountered in trying to provide conventional education for everyone. Despite the difference in the modes of delivery, distance education is by no means inferior to the conventional methods. Indeed instances can be cited where products of distance education systems have made better achievements than many of those from conventional institutions.

The Application of Media

Administrators and producers of distance education materials the world over, are to a large extent influenced by the technological developments in their choice of media. Initially it was mainly print media that crossed between tutor and tutee of distance education, but today as McLuhan (1962) notes technology has made the world a global village. It has enabled us to communicate both visually and verbally while physically separated by oceans and continents. Distance education is taking advantage of some of these developments.

In the past decade several studies have been undertaken to gather information on the types and effectiveness of media used in distance education.

The purpose of this paper is to try and inform (in a summary form) the Zimbabwean educator on some of the media that have been aimed at improving teaching and learning at a distance. The range of media available is vast and much of it is still under-exploited (Dates 1983). Rather than bother the reader with the full range of media, some of which have strange and complex names, the paper will attempt to describe the utilization of the major types of media.

The basic modes of delivering learning materials can be considered under four major categories: (a) Print, (b) Audio, (c) Video and (d) Computer-based media.

Print, as already indicated has long been the main vehicle for correspondence education. Although there have been some predictions that the age of print will soon be replaced by electronic media (use of screens such as video and computers), learning from print has become inherent or a tradition which appears to be almost impossible to do without. Moreover, the development of new technologies is causing some improvements which in turn are improving the appeal of print media more than ever before (Keegan, 1983). For example, beginning from the 70's some great advances have been made in the production and presentation of print-based media. They include the introduction of typesetting using computers, the harnessing of instructional design to course material development and better understanding of the use of layout, illustration and colour. A whole science of the use of advance organisers, guidelines, overviews, pretests, objectives and questioning techniques have been developed to facilitate teaching and learning at a distance.

Audio-based distance education

This involves information which is purely aural in form. For example, the use of tape recorders and radio. The literature shows that radio broadcast

has some distinct advantages particularly in developing countries (Young et.al. 1980). They include the ability to reach remote and isolated audiences quickly and at relatively low cost.

Radio has four strategic functions: (a) accessing students, (b) publicity and recruitment (c) variety (d) enrichment and motivation.

The medium does, however, have some disadvantages and limitations. For example, students have to listen at fixed and often awkward broadcast times. When transmission facilities are of poor quality, listening can be very frustrating. Another major limitation of radio is that usually only a small number of students enrol for certain subjects. In these cases broadcast authorities find it uneconomical to spend that air time for only a few listeners.

Audio cassette tapes have found their way into the homes of many distance education students. Some of their advantages include portability and durability; they are simple to operate and can be used almost anywhere including moving vehicles and in the dark. They thus offer more opportunities for learning than other media.

The Open University of the U.K. which has been described as probably the most successful example of a distance education system in the world (Coombs, 1985) has used audio cassettes as their greatest media development. Distance teaching by telephone has also been a success in some parts of Britain (Bates, 1983).

Video-based media

In the video mode either a video cassette or television broadcast is made using a TV screen for viewing.

Other forms of video-based teaching and learning are :

- (a) Tele-conferencing - An interactive learning experience between teacher and students both of whom will be miles apart. For example, an instructor may videotape a lesson for transmission via a closed circuit distribution system, and after it has been shown, or while it is even being shown, engage in a dialogue with the audience through a telephonic communication system specially designed for this purpose.
- (b) Satellite transmission enables visual communication from any part of the earth. It is capable of giving better rural coverage and a uniform national or regional service. But like other forms of broadcast, commercial and financial structuring severely limit its availability to every one, especially the less wealthy.

- (c) T.V. Broadcast of course subjects for students who are registered with the relevant broadcast service such as the Open University (U.K). Student view the broadcast and can record for future playback. Sometimes pre-recorded video cassettes can be sent to study centres or to individual students in possession of video players.

Computer-based. Students with micro computers use cassettes or discs that are mailed to them by the tutors. Using special gadgets called modems, micro computers can be linked to other computers via telephone lines.

This feature enables two or more people to communicate, for example the teacher can get direct responses from his/her students. This method is still being limited by : lack of compatibility between computers; the cost of both hardware and soft-ware and the problem of having specially trained instructors.

Although much of the audio-visual media is not yet fully exploited the major current trend is towards a greater use of video cassettes rather than national TV or radio broadcast.

The popularity of video cassettes arises from their facility to offer both sound and vision and the student has the opportunity to play back as many times as he/she needs to master the lesson. Almost any subject can be taught more realistically and convincingly through video than by most of the other types of media. This fact has been continuously documented for the past two decades (see Rwambiwa, 1987).

Cost is still the main prohibiting factor but those education systems which have fully recognised the potential of video-based distance education are counter-acting the cost by encouraging group viewing. The students are organised to form study groups at various centres which are furnished with video equipment. They view together whatever lessons they may have in common. In doing so they help each other to understand the subject matter.

Some distance education systems combine correspondence with face to face tuition which they periodically organise to take place at certain centres, for example school or university centres during the time conventional students are on vacation. This has the essential feature of human touch. To summarise, Gagne (1971) lays down the following as a vade mecum for educationists on the application of media for instruction.

"Instruction involves gaining and controlling attention, stimulating recall, guiding the learning, providing feedback, arranging for remembering, performed by various media of instruction, and to a considerable degree by the learner himself. One should not expect, I think, to find that a single medium is best

fitted to all of these things. Instead, it seems likely that carefully designed combinations of media may be required to achieve the kind of instruction that is most effective, and which at the same time exploits the properties of media to fullest advantage." (Emphasis added, p. 315)

Implications for Zimbabwe.

This paper has attempted to describe trends towards certain types of media that are aimed at improving the quality of instruction at a distance. Almost all the features that have been mentioned e.g. improved techniques in print, use of audio and video cassettes, teleconferencing, are part and parcel of the technologies which are readily available in the developed countries, but are scarce or non-existent in developing countries such as our own. However, rather than simply mourn on the state of our economy it is better to focus on our objectives and to analyse the manner in which we spend those funds that are made available for education.

There can be no doubt that our educational objectives are to raise the quality above mediocrity. Our aspirations are to raise the present socioeconomic state to that of the developed countries or even better.

But it appears that our failure to improve is not necessarily due to lack of funds but how we translate or implement our definition of teaching and learning and how we channel the funding as a result.

Macquarie University, (1978) defines teaching as the provision of an environment for effective learning. This definition has several pedagogical implications; among them is the fact that learning can take place in the physical absence of a teacher; that a learner can be his own teacher. The definition widens the role of a teacher beyond that of a "presenter" to that of a diagnostician, planner, consultant, assessor and evaluator.

An analysis of the factors regarding the provision of learning material in this paper indicates that the teaching force must be appropriately trained and constantly exposed to the technologies that assist in the production and delivery of the learning materials.

First, the training of our teachers. Bruner (1966) notes that teacher education is the single known factor that has a multiplier effect built into it. But the multiplier effect in our system seems to rotate on a vicious circle which lacks the efficiency and effectiveness of successful systems elsewhere. The situation was admittedly, created during the dual system of the colonial days, when the funding was 13 times more for European education than for the Africans (Colelough & Murray 1978). But those who now administer

the educational funding appear to have been unwittingly and permanently diverted from focussing on the effective aspects of educational funding. For example, investing more on teaching and learning resources (or educational media) and training for their use, which is what the colonialist did for their schools, and exposing and training their teachers on the efficient application of teaching/learning aids.

Since Independence, 1980, the government has made efforts to redress one of its pre-independence objectives "education for all". But the main problem in the process of trying to achieve such aims is that of maintaining quality. How do we measure the quality?

Among the major factors for determining the quality of education are (a) the concentration of teaching/learning resources per student and (b) the efficiency which these inputs are managed and structures within the system (World Bank 1985).

Funding to undertake such tasks may appear beyond our means, but the truth appears to be that there is less knowledge and information on what can be made readily available than what it actually costs. For example, Rwambiwa (1987) has analysed the distribution of educational funding by the Ministry of Education and found that for a period of three consecutive years (1984-1986), of the hundreds of millions of dollars allocated to education for each year, less than 0.1% went into educational media (Audio Visual Aids). This amount is about 100 times less than what used to be spent on the former A Schools (European).

In the 1984-87 Annual Reports it is clear that the audio visual services has not been allocated funds to enable them to increase or even to maintain the equipment and materials that are needed. It is therefore not fair to blame the quality of our education on the scarcity of funds but on distribution and allocation of funds.

To give a typical example of how an apparently expensive media such as video can be made cost effective, we can take a hypothetical distance education centre of 1000 students. The centre has 10 video sets bought for \$1000 each (i.e. \$10,000). This means each student will have contributed \$10 for the purchase of the video. The average cost of a video cassette (which can last up to 6 hours on slow speed) is \$15 or \$150 for 10 cassettes (i.e. about 15 cents per student).

If each lesson lasts 30 minutes, a six-hour cassette can contain 12 lessons (i.e. 120 lessons in the 10 cassettes).

If it is further considered that the equipment and lessons will be used by several generations of students, the initial cost can become quite insignificant - a matter of a few cents per student, while the quality aspect continues to improve and increase in the variety of topics.

To conclude, the more realistic and effective means of distance education combines print and audiovisual media. Occasional of face-to-face video instruction is also vital. Once the potential of media such as video is fully appreciated, the problem of cost will be very insignificant. Funds must be made available to train and expose teachers to the new technologies that enhance the effectiveness of teaching/learning processes.

In describing the world educational crisis of teacher education Coombs (1968) says :

"Clearly, education systems will not be modernised until the whole system of teacher training is drastically overhauled, stimulated by pedagogical research, made intellectually richer and more challenging and extended far beyond preservice training into a system for continuous professional renewal and career development for all teachers". (emphasis added) (p.168)

And on the aspect of Management, he says: "Unless the educational systems are well equipped with appropriately trained modern managers, who in turn are well equipped with information flows, modern tools etc., the transition from its semi-handicraft state is not likely to happen. (p. 168).

Among the media methods cited in this paper, teleconferencing can be made more immediate than the long wait for a second university to be built. The method can make use of any existing buildings and can serve all the regions of our country. Such provision would effectively help towards solving the current imbalance on higher education, where only those who live in or near Harare have access to university education.

There should also be a close liaison between professional teachers and ZBC, particularly in the area of design, production and delivery of educational media that have to be electronically delivered to the learners. (e.g. Radio and TV). Experience has shown that the absence of such a relationship can be disastrous to the success of distance education. The case of the Ivory Coast Educational Broadcast is one example (Coombs 1985); while the U.K. Open University with its special co-operation with the BBC is an example of harmony and great success.

Zimbabwe has the capability for assembling and maintaining and the potential to manufacture technological material for its education system. All that is required is desire and objective organisation of its human resources.

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Group Activity

Needs Assessment/Issues Identification

In order to focus the workshop on specific needs, a four-part activity was conducted. First, participants spent several minutes individually brainstorming to generate a list of the needs and critical issues of the distance education program. Ideas were written on pieces of paper which were then collected and posted on the wall. All in all, 100 pieces of paper with issues and/or needs appeared.

Next, these issues were categorized by subject so that similar ideas could be grouped together. These categories initially were named Financing, Personnel-Expertise, Personnel-Staffing, Technology, Administration, Communication, Resources, Role of A.C.C./U.Z., and Model-Structure. After discussion and debate on the relative value of working on these topics, there were a few changes made in the list. The categories of Administration and Resources were deleted and three new categories were added, Centralization/D.E.C., Evaluation/Research, and Attitudes/Status, to bring the total to ten.

The third step in this process involved ranking the issues in order of importance for consideration as a workshop research group topic. This exercise required individuals to "vote" for topics by placing American

pennies next to the category on a piece of paper. Each participant had only 25 pennies to distribute and was allowed to place up to five pennies next to any one category on the page. In this way, at least five topics would receive votes from each participant. The initial rankings, based on votes, were as follows:

- 1 - Personnel-Expertise
- 2 - Personnel-Staffing
- 3 - Communication
- 4 - Financing
- 5 - Technology
- 6 - Role of A.C.C./U.Z.
- 7 - Evaluation/Research
- 8 - Model-Structure
- 9 - Attitudes/Status
- 10 - Centralization/D.E.C.

The next step was to decide which topics would be reported on by the workshop research groups. A total of five were to be chosen, and although they had already been ranked by the participants, some topics found high on the list were not chosen as report topics. The final five topics were:

- Personnel Expertise
- Personnel Staffing
- Communication
- Role of A.C.C./U.Z.
- Model-Structure

Individuals were given the option to join any group they wished, based on their particular interest in the topic. Those who felt strongly about the importance of a particular topic were allowed to "campaign" for group members by speaking briefly about the value of their specific issue. Once each workshop participant had decided upon a topic, the groups met and began to prepare the outlines for their reports. Blocks of time were given over the next two days to discuss these critical issues and prepare recommendations and implementation strategies to be included in the reports.

The work of these small groups may be found in the five reports that follow.

Group #1

The Role of U.Z. in Teacher Education
Distance Education in Zimbabwe

Group Members:

Cde G.R. Mhiribidi, Morgenster Teachers' College
 (Chairman)

Cde W. Gwatiringa, Bondolfi Teachers' College (Secretary)

Cde M.I. Chitsungo, Morgan Zintec

Cde T. Gwarinda, Hillside Teachers' College

Cde G. Mavundukure, United College of Education

Cde A.M. Shoko, Mkoba Teachers' College

Cde E. Zikhali, Bondolfi Teachers' College

1.0 Statement of Issue

1.1 U.Z. is not sufficiently involved in Teacher
 Education Distance Education in Zimbabwe

2.0 Current Status of the Issue

2.1 There is no Distance Education expert among the
 staff at A.C.C. or even U.Z. as a whole

2.2 There is no department of Distance Education at U.Z.

2.3 To date U.Z. has neither mounted in-service courses
 for Distance Education nor monitored Distance
 Education programmes.

2.4 Apparently there is no research at A.C.C. or U.Z. to
 support Distance Education

3.0 Background

3.1 U.Z., through A.C.C., certifies students in
 Teachers' Colleges. Therefore, U.Z. would be
 expected to play a significantly greater role in
 effecting Distance Education in Teachers' Colleges.

4.0 Recommendations and Methods of Implementation

- 4.1 U.Z. should establish a Distance Education Department and appoint or train suitable staff that has the expertise.
- 4.2 A.C.C. should mount Distance Education staff development programmes for all Colleges of Education in Zimbabwe. Lecturers should be given the opportunity to develop academically in and through Distance Education.
- 4.3 U.Z. through A.C.C. [needs] to initiate the study of several models of Distance Education in order to come up with a "Zimbabwean model."
- 4.4 The Publications Office of U.Z. should, in close cooperation with Distance Education Centre, publish Distance Education materials for Teacher Education.
- 4.5 U.Z. [needs] to establish a research unit to evaluate Distance Education programmes at regular intervals.
- 4.6 U.Z. should liaise with the Ministry of Higher Education to spell out a uniform policy on Distance Education.
- 4.7 When the U.Z. presents its budget proposals to Parliament, it should have a separate vote for Distance Education. Distance Education should be a distinct item of that budget.

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- 4.8 U.Z. is expected to lead by example in Distance Education by doing the following:
- 4.8.1 Providing facilities that will enable those bent on furthering their education to do so through U.Z. so that Zimbabwe's almost servile dependency on UNISA is removed.
 - 4.8.2 Providing facilities in Distance Education which will enable those who want to study to do it from any part of the country without having to confine the avenues to Harare residents only.
 - 4.8.3 Making provisions that allow teachers, even those teaching Grade I, to improve their qualifications to degree level and use them for the benefit of the learners they are in contact with. There should be a stage when graduates are allowed to teach in Primary Schools without the risk of being poached by the Secondary Schools.
 - 4.8.4 The Zimbabwean citizen has very high academic ambitions. The thirst can only be quenched through launching a D.E. programme on a very large scale. U.Z. is the best qualified leader to answer the challenge.

Group #2

A Model for Distance Education in
Teachers' Colleges in Zimbabwe

Group Members:

Dr. J.G. Mutambara, Nyadire Teachers' College (Chairman)
Mr. P.M. Chizana, Gweru Teachers' College
Mr. B.C. Muropa, Belvedere Teachers' College
Mr. A.K. Senah, Belvedere Teachers' College
Ms. T. Simba, Nyadire Teachers' College

1.0 Statement of Intent: To provide a framework for an effective teacher education programme.

1.1 Goal Statements:

- i) To examine, review, and analyse the current situation of Distance Education in various Teachers' Colleges in Zimbabwe;
- ii) To devise and provide a viable model for Distance Education in Teachers' Colleges in Zimbabwe;
- iii) To suggest and offer recommendations for Distance Education in Teachers' Colleges in Zimbabwe.

2.0 Background and Current Information

2.1 The ZINTEC model is perhaps the most elaborate, with well-defined support systems. But its Distance Education packages tend to emphasise the Theory of Education, with less emphasis on modules for Applied Education.

2.2 Conventional Teachers' Colleges

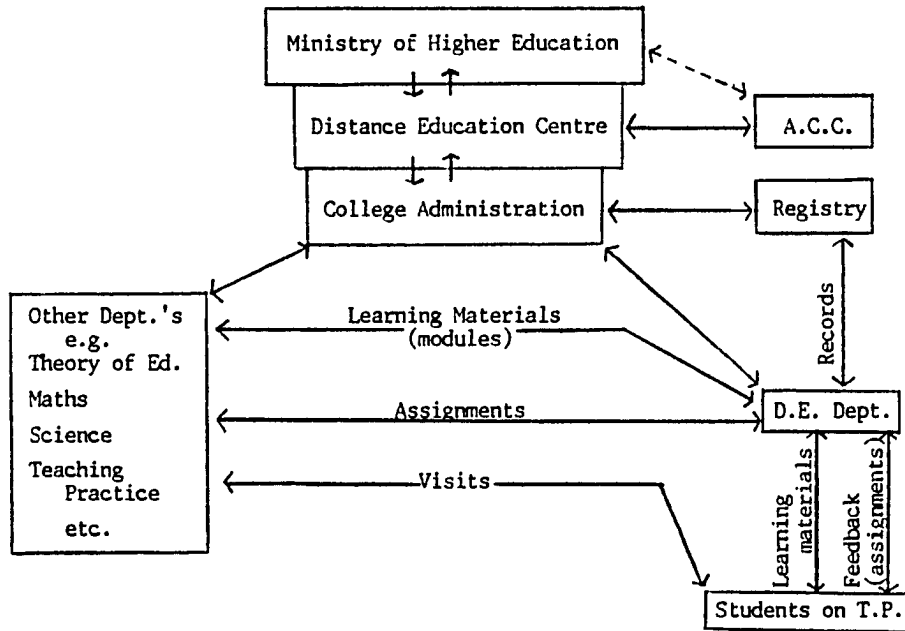
- i) These colleges tended to mistake structured assignments and/or projects for Distance Education.
- ii) There is an apparent confusion as to the exact nature and scope of Distance Education even from some Ministry officials. For example, when an invitation for this workshop was sent out to Teachers' Colleges, the invitation was open to any lecturer in a College; then a second letter followed to correct the mistake to the effect that only Principal Lecturers responsible for Teaching Practice and their assistants should attend the workshop. One is left wondering whether the officials concerned equate Teaching Practice with Distance Education, or whether Distance Education is an extension of Teaching Practice or the other way around.
- iii) There are apparently no discrete Distance Education Departments in all conventional Teachers' Colleges.

3.0 Proposed Changes in Distance Education at Teachers' Colleges in Zimbabwe.

3.1 Distance Education Departments should be established in all Teachers' Colleges. This would go a long way towards correcting the distorted picture of Distance Education; the Distance Education Department should

be manned by senior personnel who have some expertise in the discipline of Distance Education.

3.2 The structure and functions of the Distance Education Department have been adapted from the Australian model (see diagram).



3.3 Functions of the Distance Education Department:

- i) Coordination of Distance Education in the College, e.g., collation of learning materials from other departments, monitoring of the production of learning materials (modules, lecture handouts).
- ii) Receiving and dispatching of learning materials of all sorts, e.g., assignments, warnings, commendations.
- iii) Guidance and counselling of problem students.

- iv) Monitoring the students' progress and handling and forwarding feedback for both students and departments.
- v) Organisation of seminars, etc.
- vi) Evaluation of the effectiveness of Distance Education in the College.
- vii) Taking charge of the support services, e.g., typewriters, duplicators, photocopiers, etc.
- viii) Liaising with College administration on matters concerning Distance Education.

4.0 Recommendations. We recommend the following action plan:

- 4.1 The establishment of a Distance Education Department in each college (with full status). This department should be manned by a senior person who has either some training or a sound knowledge of distance education.
- 4.2 There should be regular feedback between the national Distance Education Centre and Distance Education Departments in all colleges.
- 4.3 All college departments should be actively involved in Distance Education programmes organised and coordinated by the Distance Education Department.

Personnel -- Expertise

Group Members:

M.M. Mhlanga, Mkoba Teachers' College (Chairman)
E.S. Dube, Hillside Teachers' College
L. Mhondoro, United College of Education
F. Kanyowa, Masvingo Teachers' College
S.C. Tichareva, Marymount Teachers' College
C. Kadada, Distance Education Centre

I. Statement of the Problem

The lack of professional and technical expertise in distance education is responsible for the ineffective implementation of distance education programmes in the Zimbabwean Teachers' Colleges.

II. Background and Current Status

A. Conventional Colleges

- 1) Initially, student teachers did not replace classroom teachers but worked alongside the teacher on an apprentice basis for short periods.
- 2) With introduction of the year-in, year-out system there arose concern over the possible lack of contact with students during the year out hence the need for distance education.
- 3) Without adequate preparation/training of relevant personnel there was a rush to implement the distance education strategy, but what actually happened was not genuinely distance education.

B. Zintec Colleges

- 1) Initially, there was a long Teaching Practice period and minimal on-campus tuition necessitating distance education for a greater part of the time (i.e., 3 1/3 years).
- 2) The writing and production of module materials was, in the initial stages, done by ill-trained personnel. However, after a while, some form of personnel training was instituted. Sadly, most of the trained personnel has not remained long with the national centre.
- 3) The initial provision for weekend and end of term face-to-face seminars faded progressively as an acute staff shortage hit every college.

C. Integrated Approach

- 1) Currently, the Distance Education Centre writes and produces module materials for all student teachers on Teaching Practice irrespective of whether they are Zintec or conventional.
- 2) The small core of Distance Education Centre permanent staff is complemented by personnel drawn from Teachers' Colleges

which in many cases have no training at all in distance education.

III. Recommendation on Expertise Needed

Professional, technical, and evaluation/research expertise needs to be developed in the distance education personnel.

A. Professional:

- 1) Writing personnel must be knowledgeable in the content areas for which modules are written;
- 2) Communication skills through print or radio media;
- 3) Understanding of target group characteristics;
- 4) Editing skills for print materials and radio programmes.

B. Technical:

- 1) Technicians: operators, mechanics;
- 2) Typists/stenographers and binders with some level of literacy in relevant content areas;
- 3) Artists/cartoonists;
- 4) Cameramen.

C. Evaluators/Researchers:

- 1) Materials written;
- 2) Radio presentations;

- 3) Reception of distance education materials/programmes by users (target group);
- 4) Equipment used/needed.

IV. Method of Implementation

- A. The secondment approach must cease and the Distance Education Centre accepted as an important institution on its own with adequate career and professional prospects for its staff.
- B. The role of the Distance Education Centre must be extended to include inservicing of college staff in addition to its own resident staff, particularly to change attitudes in an endeavour to improve "receptivity".
- C. Where specialised training is needed, people could be sent to relevant outside countries for such training.
- D. The University of Zimbabwe would need to play a role in the training of the distance education personnel, e.g., a B.Ed. Distance Education option.
- E. The personnel from the Distance Education Centre could be trained to work in close liaison with Radio 4, the educational channel of ZBC.

Group #4

Staffing Shortage in Distance Education

Group Members:

Mr. J. Mthethwa, Gwanda Teachers' College
Mr. T.P. Mutsambi, Masvingo Teachers' College
Dr. H.M. Tapela, Seke Teachers' College
Mr. E. Chikona, Morganster Teachers' College
Mr. E. Nyawera, Marymount Teachers' College

Statement of the Issue

The critical shortage of staff in the various organs of the distance education programme, i.e., U.Z., Teachers' Colleges, the Distance Education Centre, and other various distance education institutions has inhibited the effectiveness of the distance education programme.

Background Information

Before the advent of Independence, very little was done to train staff for the conventional educational system, let alone the distance education mode of education which was virtually non-existent except as practised by the private correspondence colleges. African education operated on a shoestring budget while European education was liberally funded.

When Independence came in 1980, the new leadership faced a crisis of expectations in all areas, including education. The Government had to address itself to the national needs which meant the needs of the previously underprivileged African masses. The exigencies of the situation demanded a massive increase in school enrolment

wihout the manpower to man those schools. The distance education mode of training was seen as the best method to churn out qualified staff in as short a period as possible as it attempted to supply both quantity and quality of teachers as well as being cost effective.

At Independence, the critical shortage of staff to man the schools was further aggravated by the fact that the little staff that was available was siphoned off to fill in the vacuum that had been created in the civil service as well as in the private sector. The manpower that was supposed to man the distance education programme had no skills whatsoever in the management of distance education and were in many cases not trained to train primary school teachers either. They had done their education in conventional institutions and as a result, in many cases, they had contempt for the whole concept of distance education. This could only further prejudice the quality of input into the distance education mode of training.

II. Current Status of the Issue

The problem of staff shortage still stands out as the most crucial of all problems confronting the distance education programme in Zimbabwe. To illustrate the problem, it is useful to examine the position in three major distance education institutions, i.e, the Distance Education Centre, the University of Zimbabwe, and

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Teachers' Colleges, as well as in the private distance education institutions.

A. The Distance Education Centre

There are at the moment only three full-time professional staff members when ideally the staff complement should be fifteen. This makes a mockery of the role of the centre in the production of distance education materials for all colleges in the country and for their great diversity of subjects. The orderly and timely dispatch of materials has accordingly been adversely affected to the detriment of the distance education programme. The few staff that join the centre very quickly move out to more lucrative jobs as soon as the opportunity avails itself. This does not make for consistency, growth, quality, or professionalism.

Ancillary staff, like copy typists and technicians, are said to be of low calibre at this centre. In some cases print materials have to be done five times before they can be termed ready for dispatch to colleges. This is wasteful of scarce resources not to speak of the time factor that adversely affects the receipt of these materials by the target group.

B. University of Zimbabwe and Teachers' Colleges

These institutions are mainly operating at half or even less than half their staff complement. This

does not augur well for the effective supervision of students in the field as well as the dispatch of supplementary resource materials.

The critical staff shortages towards the end of the first Zintec programme adversely affected the quality of the end product. Many students came back to college for the final session with very few of their field assignments marked. The breakdown of the feedback system meant that students were denied the chance to grow professionally whilst they were out in the field. It must also be observed that these institutions operate with very few and in many cases no distance education experts.

C. Private Institutions of Distance Education

The quality of some of the tuition material reflects low staff calibre. The staff shortages in these institutions is reflected by their unrelenting drive to recruit lecturers in Teachers' Colleges on a part-time basis to lecture to students in the evenings. These people would have exhausted the better part of their energies and zeal on their main jobs but they are largely enticed by the factor of monetary reward to join as part-time tutors. This obviously does not speak very well about the quality of their input at these colleges.

III. Recommendations/Implementation

The Faculty of Education at the University of Zimbabwe, with the aid of foreign expertise, should offer courses in distance education locally in order to cover a large body of staff.

The Ministry of Education should staff develop the existing manpower especially in Colleges so that they become more effective in the supervision of distance education. In pursuit of this noble objective, the Distance Education Centre, once it is fully manned by permanent staff should be used to staff develop at least one lecturer from each college. Such a person would go back to his/her college and staff develop college-based staff. He could also form the nucleus around which a Distance Education department could start at college. This would be responsible for the smooth communication between the Distance Education Centre and the college as well as other interested parties.

Since Teacher Education is no longer a prerogative of the Colleges alone but a joint venture with the A.C.C., the Regional Office, District Education Officers, and Headmasters, the incipient Distance Education department at each college should extend their distance education expertise to cover all these interested parties in the interest of uniformity, upgrading of skills for the ultimate benefit of the student teacher. This could best be done through workshops and seminars.

In order to retain staff in the Colleges and attract more, the Ministry should think seriously about creating attractive conditions of service including remuneration to induce staff to join and alleviate the critical shortage so far being experienced in the distance education programme. Staffing is so crucial that if the present inadequate position is not seriously addressed and perhaps allowed to deteriorate further, it could easily lead to the virtual collapse of the distance education programme in teacher education.

Group #5

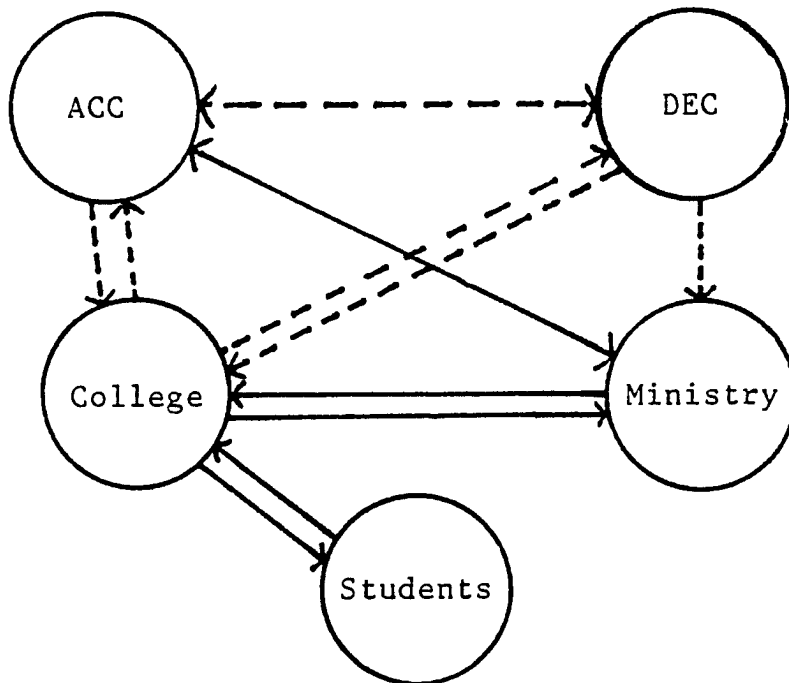
Communication

Group Members:

- Mr. W. Shumbayaonda, Gwanda Teachers' College (Chairman)
- Mr. C. Chinomona, Nyadire Teachers' College
- Mr. S. Dhliwayo, Seke Teachers' College
- Mr. D. Hwami-Mugwagwa, Mutare Teachers' College
- Mrs. D.T. Makalisa, Morgan Teachers' College
- Mr. C. Matikiti, Belevedere Teachers' College
- Mr. V. Nyawaranda, Associate College Centre

I. Statement of Issue

For the success of any programme, effective communication is essential. But in our situation there is no smooth communication between various institutions and people involved in the implementation of the distance education programme as demonstrated in the diagram below.



KEY: ----- Communication not smooth
———— Well-established, discernible

II. Current Status

A. Associate College Centre - Colleges

At the moment there is no distance education specialist at the A.C.C. and at the majority of colleges there is no Principal Lecturer or Senior Lecturer for distance education. The channel of communication between the two is not very clear except through a link person who handles all other college matters -- not distance education matters specifically.

B. Associate College Centre - Distance Education Centre

Again there is no direct channel of communication and the relationship between the two is not very clear. There is need for more discussion just as there is between the A.C.C. and Principals of colleges.

C. Distance Education Centre - Colleges

As evident from our general discussion and questions asked by some participants in the plenary sessions, there is marked ignorance about the D.E.C. and how it operates. This is because of lack of communication in this relationship.

D. College - Student

There is communication in this relationship through teaching practice, hand-outs, face-to-face tutorials, and seminars, but attempts to have more

effective communication are impeded by poor communications systems in the country:

- 1) Postal Service - This is either very poor or non-existent in some parts of the country. Students can use this as an excuse for not doing their distance education work. Where the postal service exists, mail is not collected on a daily basis and some schools may not have their own mail bags or boxes; mail may, therefore, be lost. Buses are sometimes used to transport the mail but these are not reliable because of roads that are mostly in a state of disrepair, or the shortage of vehicles, spare parts, and tyres.
- 2) Radio - This means of communication is militated against by the shortage of batteries, lack of continuity in broadcasts, and mechanical breakdowns. The radio network is broken because of lack of or poor transmission in remote areas. Some schools don't even have radio sets. There may be problems of decoding the broadcast materials where material meant for reading is used for aural purposes. What exists of this is not properly coordinated. Lecturers are appointed on an ad hoc basis if known to those responsible for the educational broadcasts.

3) Printed Materials - The production of these was efficient for the Zintec programme. The material is produced by lecturers from various colleges but not all colleges are represented in this exercise. The head of the Distance Education Centre has stated that the material may not be readily accepted by all user colleges. Another problem is that those who develop the material may not necessarily be the ones who tutor the students. There is also no instant feedback when using printed material because of the slowness of the communication process.

III. Proposed Changes and Recommendations

A. Associate College Centre - Distance Education Centre

1) There should be closer liaison in the distance education programme with the Head of the Distance Education Centre being invited to attend meetings on matters pertaining to distance education.

2) That there be a specialist in distance education at the Associate College Centre.

B. Associate College Centre - Colleges

1) That there be a separate Department of Distance Education in each College to liaise

with the specialists at the Distance Education Centre and the Associate College Centre.

- 2) This Department would also act as a link with the other Subject Departments in the College in matters relating to the running of the Colleges' distance education programme.
- 3) The establishment of such a Department would also mean that the lecturers' time in the other departments would not be divided between in-house and distant students.

C. Distance Education Centre - Colleges

- 1) There should be more contact between the Distance Education Centre and Colleges to discuss content, production, processing and dispatch of materials. This may also involve the evaluation of materials after the use of modules by the students.
- 2) Distance Education Centre members could also move to colleges and schools to acquaint themselves with the conditions under which the students operate. This may influence the production of subsequent modules and the writers' expectations of students' performance.

D. Colleges - Students

- 1) The Colleges should make more use of the registered mail service so that the excuse of non-receipt is pre-empted.

- 2) The Ministry should seriously consider allocating more vehicles and funds for the supervision of students in the field and for the purchase of stationery.
- 3) The use of the radio in distance education needs to be revived and more booster/relay stations could be installed to improve radio coverage.
- 4) Permanent, trained module writers would improve the quality of the modules and write in a diction that is more carefully edited.

IV. Conclusion

It is the group's view that if these suggestions and recommendations were implemented, there would be more effective communication between all parties involved in the Distance Education programme in Zimbabwe.

Summarizing Comments on the Distance Education Workshop

Dr. Michael R. Simonson

Based on the input obtained from workshop participants, from presentations by workshop leaders, and from documents presented during the workshop it is possible to identify nine summarizing statements about distance education in Zimbabwe. While these statements have not been validated empirically, they evolved logically from the information presented during the workshop. These summarizing statements are offered to provide direction to future efforts. They are certainly not comprehensive. Other equally important trends may emerge from the Proceedings of the distance education workshop as its recommendations are evaluated.

- 1) Distance education is necessary and is here to stay, but a re-evaluation of its effectiveness is needed in order to make credible recommendations for program improvement.
- 2) A major strength in the distance education program is the group of dedicated, hard-working professionals concerned about the status of distance education in Zimbabwe.
- 3) There is a need for a Distance Education Department and/or Coordinator in each Teachers' College and a strong network among them.

- 4) The University of Zimbabwe should be more involved in distance education -- possibly by offering courses using distance education and courses about distance education.
- 5) Programs are significantly understaffed at all levels; the tradition of re-assigning key staff must stop.
- 6) Communication will be improved when Departments of Distance Education identify appropriate responsibilities, assume a role of authority, and expect accountability.
- 7) The effectiveness of Radio-4 and mail service should be re-examined for utilization.
- 8) Courses using distance education should be offered locally using trained staff; professional development workshops on a local level, for example.
- 9) A national commission to study distance education and make formal recommendations for change should be established and maintained.

-

Workshop Evaluation Results

Susan M. Zvacek

At the conclusion of the Distance Education Workshop, a brief written evaluation was conducted. The instrument contained four Likert-type questions that participants could respond to simply by circling the appropriate response. These questions also included room for written comments. Three open-ended questions allowed participants to write out their answers and give more detailed comments and suggestions. (See instrument attached.)

Thirty-three evaluations were returned. A summary of the results follows.

1) How much did you learn about Distance Education in the Workshop?

There were four possible responses to this question: A Great Amount, Quite a Lot, A Little Bit, or Very Little. 73% of the participants indicated "Quite a Lot" and an additional 21% responded with "A Great Amount." The remaining two workshop participants indicated that they learned "A Little Bit."

2) Did you feel the workshop was organized effectively?

The possible responses to the question were: Very Effectively Organized, Effectively Organized, Organization was O.K., or Poorly Organized. "Effectively

Organized" was the rating given by 64% of the participants, and 27% rated it "O.K." One participant thought it was "Very Effectively Organized" and two thought it was "Poorly Organized." Suggestions for improvement focused on local arrangements, transportation, and the arrangement of subjects in the workshop content.

3) Do you feel Distance Education is an important topic for further effort by Zimbabwe?

It should come as no surprise that 100% of the participants answered "Yes, Very Important" to this question. Distance Education clearly is a critical issue in the teacher education program in Zimbabwe.

4) Did you feel the workshop leaders were knowledgeable?

The choices on this item were: Yes, Very Knowledgeable, Somewhat Knowledgeable, or Not Very Knowledgeable. 53% of the participants indicated "Somewhat Knowledgeable" and 47% chose "Very Knowledgeable." The comments on this question dealt mainly with the limited knowledge the workshop leaders had of the Zimbabwean distance education system, as opposed to distance education in general.

5) What did you like best, or most, about the workshop?

The written responses to this open-ended question focused on three ideas. First, identifying and discussing the critical issues in distance education was the most frequently mentioned strength. Directly related to these comments were statements by some participants that the preparation of the group reports was the most beneficial aspect of the workshop.

The exchange of ideas among colleagues was another popular response to this question; those respondents appreciated the opportunity to interact with other teacher educators to discuss a topic of mutual interest.

Several participants wrote about the "give and take" atmosphere that was fostered and the "openness" of the workshop discussions that allowed participants to express their opinions and ideas freely. There were also comments about specific presentations and activities, and a couple of participants mentioned the tea breaks, also.

6) What did you like least about the workshop?

The most frequently mentioned weakness of the workshop was the lack of social activities or opportunity for social interaction during the evening. This is not a frivolous complaint; stimulating professional exchanges and networking can continue throughout the evenings and "off-times" if a pleasant atmosphere conducive to relaxed conversation is provided. Obviously, this was a planning oversight.

Another common response was that the workshop was too long -- that the activities could have been completed in three days instead of the four and a half that were scheduled. There was "not enough work" for these participants, although there were also comments indicating that there should have been more formal presentations and speakers, and fewer discussions.

There were some comments dealing with the content of the workshop; these participants felt that there were specific topics (e.g, .preparing distance education materials) that would have been helpful to them professionally. Unfortunately, these ideas weren't communicated to the workshop leaders far enough in advance so that they could have been included as part of the agenda.

The final question simply asked for other comments about the workshop. There were many excellent suggestions and comments about the workshop. A couple of the participants suggested a "field trip" to the Distance Education Centre so that the facilities could be seen firsthand and the problems better understood.

Several participants suggested that some sort of follow-up activity regarding the dissemination, consideration, and implementation of the proposed resolutions be undertaken. The workshop would be more valuable if it generated activity beyond its limited duration.

Many of the participants wrote in general terms about various aspects of the workshop experiences overall. There were many contrasting comments, which is to be expected in a diverse group. For example, some of the participants felt that the introductory activities were too basic and elementary, while others wrote positively about foundational issues being clarified and definitions solidified.

In summary, the comments on the evaluations were generally positive. Most of the participants felt that the experience was worthwhile and many offered constructive criticism and suggestions for improvement. The results of the evaluation suggest that other workshops designed to continue these activities further would be successful and productive.

Distance Education
 - - a workshop - -

END-OF-WORKSHOP EVALUATION

Circle one

- | | | | | |
|--|----------------------------|------------------------|------------------------|------------------|
| 1. How much did you learn about Distance Education in the Workshop?
Comments: | A Great Amount | Quite A lot | A Little Bit | Very Little |
| 2. Did you feel the workshop was organized effectively?
Comments: | Very Effectively Organized | Effectively Organized | Organization was O.K. | Poorly Organized |
| 3. Do you feel Distance Education is an important topic for further effort by Zimbabwe?
Comments: | Yes, very important | Somewhat important | Not important | |
| 4. Did you feel the workshop leaders were knowledgeable?
Comments: | Yes, very knowledgeable | Somewhat knowledgeable | Not very knowledgeable | |
| 5. What did you like best or most, about the workshop? | | | | |
| 6. What did you like least about the workshop? | | | | |
| 7. Please give other comments you have about the workshop. | | | | |

APPENDIX

- A. List of Participants
- B. Agenda
- C. Syllabus

A. LIST OF PARTICIPANTS

Distance Education Workshop
List of Participants

Teachers' Colleges Representatives:

Belvedere Teachers' College -	Mr. A.K. Senah Mr. C. Matikiti Mr. B.C. Muropa
Bondolfi Teachers' College -	Mr. W. Gwatiringa Mr. E. Zikhali
Gwanda Teachers' College -	Mr. J. Mthethwa Mr. W.T. Shumbayaonda
Gweru Teachers' College -	Mr. P.M. Chizana Mr. L.M. Mupfeka
Hillside Teachers' College -	Mr. E.S. Dube Mr. T.C. Gwarinda
Marymount Teachers' College -	Mr. S.C. Tichareva Mr. E. Nyawera
Masvingo Teachers' College -	Mr. F. Kanyowa Mr. T.P. Mutsambi
Mkoba Teachers' College -	Mr. M.M. Mhlanga Mr. A.M. Shoko
Morgan Zintec College -	Mr. M.I. Chitsungo Mrs. D.T. Makalisa
Morgenster Teachers' College -	Mr. A. Chikona Mr. G.R. Mhiribidi
Mutare Teachers' College -	Mr. S. Gore Mr. D. Hwami-Mugwagwa
Nyadire Teachers' College -	Dr. J.G. Mutambara Mrs. T. Simba Mr. C. Chinomona
Seke Teachers' College -	Mr. D. Dhliwayo Dr. H.M. Tapela
United College of Education -	Mr. G. Mavundukure Mr. L. Mhondoro

Associate College Centre Representatives:

Mr. T.J.E. Bourdillon (Acting Chairman)

Dr. A.K. Babugura

Mr. R. Baty

Dr. B.R.S. Chivore

Mrs. C. Marira

Mrs. T. Nagel

Mr. V. Nyawaranda

Mrs. E. Waungana

Distance Education Centre Representatives:

Dr. A. Masunungure, Director

Mrs. C. Kadada

B. AGENDA

Distance Education Workshop

Schedule

Monday 9th January

- | | |
|----------|--|
| 8.00 am | Arrival and Registration of Participants |
| 8.45 am | Welcome and Official Opening by
Dr. Arlene Jacquette, USIS |
| 9.30 am | Introduction of Course Tutors and
Distribution of Materials |
| 9.45 am | Distance Education: Definitions and
Characteristics
(Dr. Mike Simonson) |
| 10.15 am | TEA |
| 10.45 am | Definitions and Characteristics
(continued) |
| 11.45 am | The Distance Education Centre: Problems and
Prospects
(Dr. A. Masunungure) |
| 12.45 am | LUNCH |
| 2.00 pm | Principles and General Examples of Distance
Education
(Dr. Mike Simonson) |
| 2.45 pm | Roles for Distance Education in Zimbabwean
Colleges
(Tom Bourdillon) |
| 3.15 pm | TEA |
| 3.45 pm | Research in Distance Education
(Susan Zvacek) |
| 4.30 pm | Adjourn |

Tuesday 10th January

- 8.00 am Defining Distance Education
(Simonson & Groups)
- 9.30 am Writing Mission Statements, Goals, and
Objectives
(Zvacek & Groups)
- 10.15 am TEA
- 10.45 am Missions, Goals, Objectives (continued)
- 11.30 am Concepts in Distance Education
(Simonson)
- 12.30 pm LUNCH
- 2.00 pm The Evaluation of Distance Education in
Zimbabwe
(Dr. Boni Chivore)
- 2.45 pm Communication Theory and Behaviorism
(Simonson)
- 3.15 pm TEA
- 3.45 pm Distance Education Systems in Iowa
- 4.30 pm Adjourn

Wednesday 11th January

- | | |
|----------|---|
| 8.00 am | Systems Approach to Distance Education
(Simonson) |
| 8.30 am | Categories of Distance Education Institutions
(Simonson) |
| 9.00 am | Needs Assessment/Issues Identification and
Categorization
(Groups) |
| 10.15 am | TEA |
| 10.45 am | Issues Ranking and Groups Selection
(Groups) |
| 12.45 pm | LUNCH |
| 2.00 pm | The Role of Modern Technology in Distance
Education
(Dr. John Rwambiwa) |
| 3.15 pm | TEA |
| 3.45 pm | Group Work |
| 4.30 pm | Adjourn |

Thursday 12th January

8.00 am	Research Information Session
8.30 am	Group Work
10.15 am	TEA
10.45 am	Group Work
12.45 pm	LUNCH
2.00 pm	Group Reports and Discussion
3.15 pm	TEA
3.45 pm	Groups Reports (continued)
4.30 pm	Adjourn

Friday 13th January

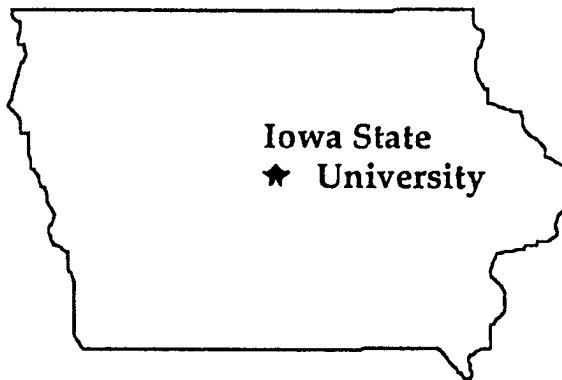
8.00 am	Announcements
8.15 am	Panel Discussion and Comments: Critical Issues in Zimbabwean Distance Education (Zvacek moderating)
9.30 am	Workshop Summary (Simonson)
10.00 am	Distribution of Books
10.15 am	Break
10.30 am	Workshop Evaluation
10.45 am	Pictures
11.00 am	TEA and Cake Cutting
11.30 am	Closure of the Science Education and Distance Education Workshops (Vice-Chancellor, Professor Walter Kamba)

C. SYLLABUS

DISTANCE EDUCATION -- a workshop --



January 9-13, 1989
Harare, Zimbabwe



Dr. Michael R. Simonson, Professor
Susan Zvacek, Graduate Assistant

College of Education
Iowa State University
Ames, Iowa USA

WORKSHOP GOALS & OBJECTIVES

GOAL: to appreciate the importance of distance education techniques and to gain an understanding of distance education techniques.

OBJECTIVES:

- define distance education and give its characteristics
- explain the dimensions of distance education
- explain the premises that describe distance education
- understand the sequence of technologies that support distance education
- explain the characteristics of course materials designed for distance education
- explain differences between distance education and conventional education systems
- describe the categories of distance teaching institutions and give their characteristics
- explain the Australian system of distance education
- differentiate between distance education and indirect education
- differentiate between distance education and other types of traditional and non-traditional education
- understand the techniques for distance education in Iowa
- explain the process of the systems approach as it relates to distance education
- explain the components of effective communication, as it relates to distance education
- identify important issues related to the use of distance education techniques in Zimbabwe
- write effective goals and objectives
- understand basic research and evaluation reported in the literature about distance education
- participate in a needs assessment concerning distance education in Zimbabwe
- work in a group to prepare a concept paper on an important issue related to distance education in Zimbabwe

- present, in groups, a concept paper on various aspects of distance education in Zimbabwe
- understand the process of curriculum development for distance education
- explain various techniques for sequencing instruction for distance teaching
- describe techniques for establishing set, handling questions, and give closure to a lesson in distance education
- understand research in the area of distance education, and explain how this research impacts on distance education now and in the future
- participate in the process of describing distance education in Zimbabwe, and help plan future distance education activities

HANDY-DANDY FORM FOR DO-IT-YOURSELF
BEHAVIORAL OBJECTIVES

Given (type of media/teaching), the student will
(type of performance), with (% of performance
level) accuracy.

Given _____

the student will _____

with _____
_____ accuracy.

DOMAINS OF LEARNING

<u>Cognitive</u>	<u>Affective</u>	<u>Psychomotor</u>
1.00 Knowledge	1.00 Receiving (attending)	1.00 Perception
2.00 Comprehension	2.00 Responding	2.00 Set
3.00 Application	3.00 Valuing	3.00 Guided response
4.00 Analysis	4.00 Organization	4.00 Mechanism
5.00 Synthesis	5.00 Characterization of a value or value complex	5.00 Complex overt response
6.00 Evaluation		

LEVELS OF COGNITIVE ABILITY

-5-

						6
						<u>Evaluation</u> (Ability to judge the value of ideas, procedures, methods, etc. using appropriate criteria)
						5
						<u>Synthesis</u> (Ability to put together parts into a new, unified whole)
				4		
				<u>Analysis</u> (Ability to break down material into its parts or to determine relations among the parts and the ways they are organized)	Requires analysis	Requires analysis
			3			
			<u>Application</u> (Ability to use generalizations in new and concrete situations)	Requires application	Requires application	Requires application
		2				
		<u>Comprehension</u> (Ability to apprehend what is being communicated and make use of the idea without relating it to other ideas or materials or seeing fullest meaning)	Requires comprehension	Requires comprehension	Requires Comprehension	Requires comprehension
	1					
<u>Knowledge</u> (Ability to recall, to bring to mind the appropriate material)	Requires knowledge	Requires knowledge	Requires knowledge	Requires knowledge	Requires knowledge	Requires knowledge

LEVELS OF PSYCHOMOTOR ABILITY

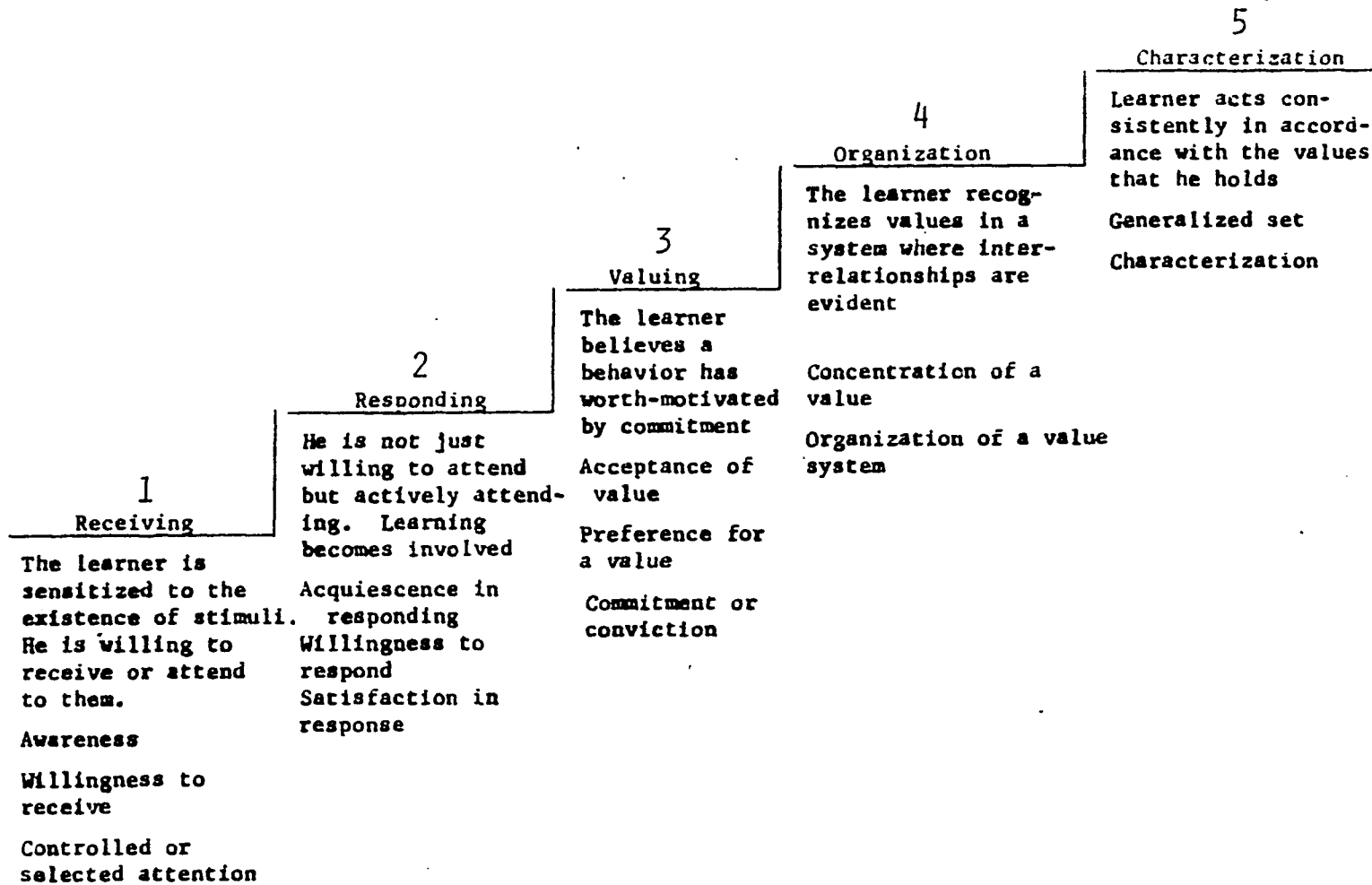
				5
				COMPLEX OVERT RESPONSE
			4	
			MECHANISM	(Action, performed without hesitation, leading to automatic performance.)
		3		
		GUIDED RESPONSE	(unhabitual response)	
	2			
	SET	(overt action by limitation and/or trial and error under supervision)		
1				
PERCEPTION	(Mental, physical or emotional readiness)			
(Become aware through sense organs. Recognize cues, make choices, and relate to actions)				Requires mechanism
			Requires guided response	Requires guided response
		Requires set	Requires set	Requires set
	Requires perception	Requires perception	Requires perception	Requires perception

-7-

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From Simpson, Elizabeth. The Classification of Objectives, Psychomotor Domain. Research Project No. OE-5-85-104, University of Illinois, Urbana, Illinois, 1966.

LEVELS OF AFFECTIVE ABILITY



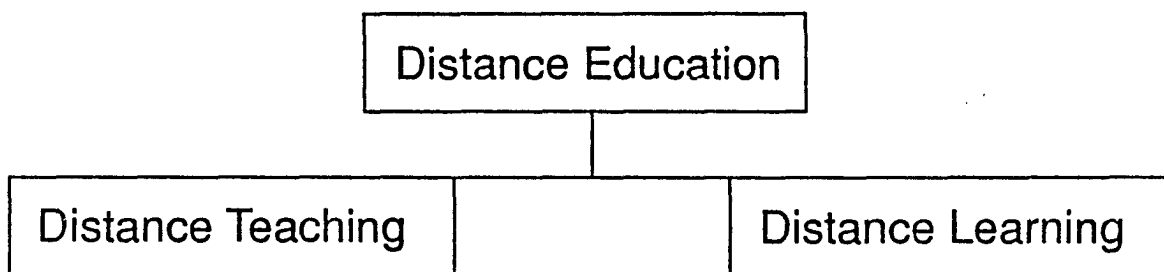
DISTANCE EDUCATION (DE)

DE is a generic term that includes a range of teaching/learning strategies characterized by:

- a quasi-permanent separation of teacher and learner
- the influence of an educational organization in the planning and preparation of learning materials and in the provision of student support services
- use of media (print-electronic) to unite teacher and learner and to deliver course content
- two-way communication
- the quasi-permanent absence of the learning group

DE also may be characterized by:

- the presence of industrialized features
 - the privatization of institutional learning
-



Dimensions of D.E.

423

- a learner
- society (legislation, administration, family)
- a helping organization
- learning objectives
- content to be learned
- results of learning
- distance
- information delivery system

Premises Describing D.E.

1. D.E. is a coherent and distinct field of education endeavor.
2. D.E. is more than a teaching mode or method. It is a complete system of education.
3. D.E. is fraught with problems.
4. D.E. is needed.

The Industrialization of Education and D.E.

- Rationalization - teacher's knowledge and Skills are delivered to unlimited numbers of students at a distance and with uniform quality.
- Division of Labor - a fundamental prerequisite for D.E. to be effective. (Course developers are not course evaluators).
- Mechanization - conventional education operates at a pre-industrial level. D.E. applies technologies.
- Assembly Line - D.E. staff remain at their posts but materials are passed on.
- Mass Production - Many learners at many locations learning concurrently.
- Planning and Preparation - D.E. is characterized by extensive planning by senior staff.
- Standardization - D.E. teaching is constant for all learners.
- Functional Change and Objectification - The functional role of the teacher is split into:
 1. provider of knowledge (unit author)
 2. evaluator (tutor)
 3. counselor (advisor)
- Monopolization - Concentration and centralization within state or nation are common.

Characteristics of D.E. Course Materials

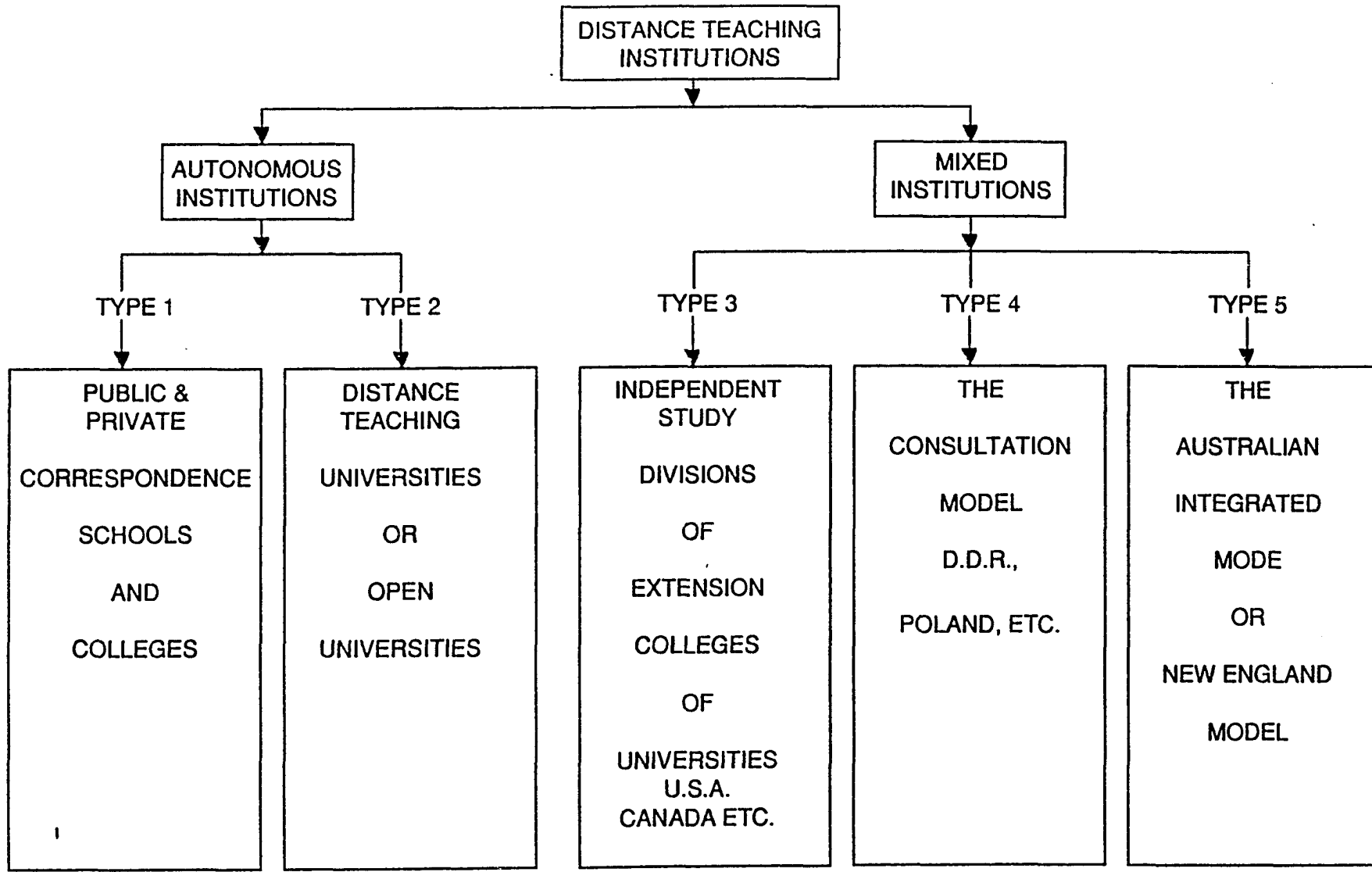
- Easily Understood Writing and Speaking
- Anticipation of Student Problems
- Systematic Structuring of Content
- Self-Testing Procedures
- Clearly Stated Performance Objectives
- Inserted Questions and Model Answers

Differences Between Conventional and Distant Education

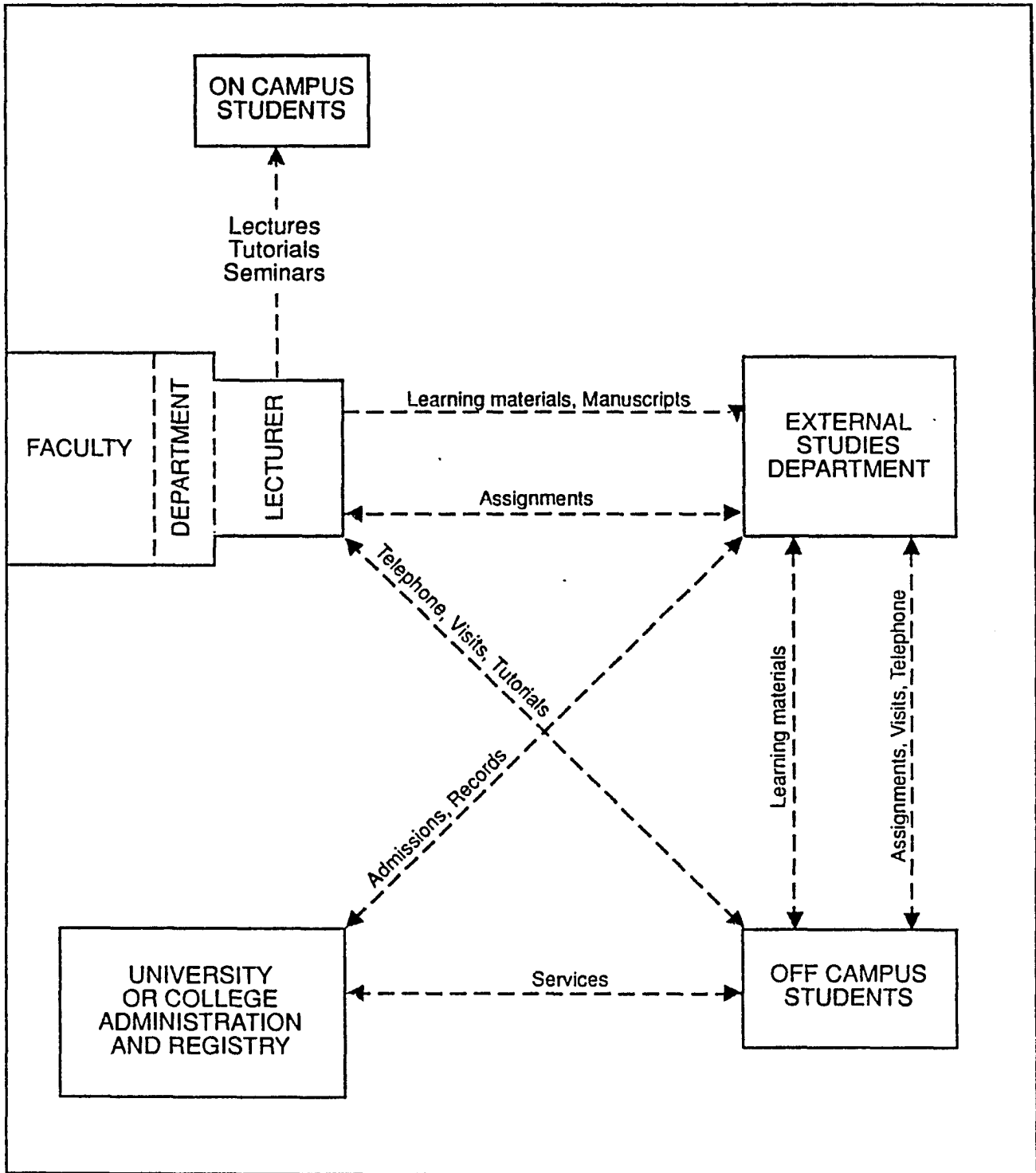
FACE-TO-FACE TEACHING	DISTANCE TEACHING
Institution where communicative action takes place	System of educational action determined by rational means-ends thinking
Students' and teachers' actions are predominantly determined by social norms	Teachers' and students' actions are predominantly determined by technical rules
The medium of interaction between students and teachers is "the inter-subjectively shared everyday language"	The medium of interaction between students and teachers is "context free language"
Teaching is determined by "reciprocal behavior expectations"	Teaching follows "conditional prognoses" and "conditional imperitives"
The focus is on the "internalisation of roles"	The focus is on the learning of "skills and qualifications"
Teaching aims at preserving the institution	Teaching aims at "problem solving, attainment of objectives by applying means-to-and-end principles"
Students are punished on the basis of conventional sanctions. They fail because of decisions made by the authority of teacher, headmaster, director of education	Students fail because of their inability to cope with the reality of learning at a distance. They drop out of their courses, for instance
Dimensions of "rationality" emancipation, individuation, extension of dominance-free communication	Increase of the effectiveness of the teaching system. Extension of the teaching system.

Differences Between Conventional and Distant Education

FACE-TO-FACE EDUCATION	DISTANCE EDUCATION
Immediate, personal contact between learner and teacher	Contact through communications media
Teacher can readily adapt to learner's immediate behavior	Adaptation delayed
Learner's environment is primarily designed to support learning activities	Learner's environment is designed to serve other purposes (distractors)
Metacommunication between teacher and learner is possible	Metacommunication is difficult
Personal relationships can moderate learning	Personal relationship is of little importance
Direct control of learner by teacher is possible	Teacher's influence is indirect
Learning materials can be of low didactic standard	Learning materials must be of high didactic standard (well organized, clear, etc.)
Learners experience limited degree of freedom	Learners experience a high degree of freedom
Wide opportunities exist for imitation/identification learning	Few opportunities exist for imitation/identification learning
Communication need not be planned to last detail	Communication is usually highly planned
Information is provided by a mixture of cues (Personal, content-related, organization-related)	Information is mainly provided by content and organization
A high degree of evaluation and feed-back from the teacher is possible	A comparatively low degree of evaluation and feed-back from the teacher is possible
Internal motivation, self-direction, self-evaluation, planning, etc. can be low	Internal motivation, self-direction, self-evaluation, planning ability, etc. must be high
Willingness and ability of learner to work without direct supervision	Willingness and ability of learner to work without direct supervision must be high



A DE EXAMPLE: The Australian System

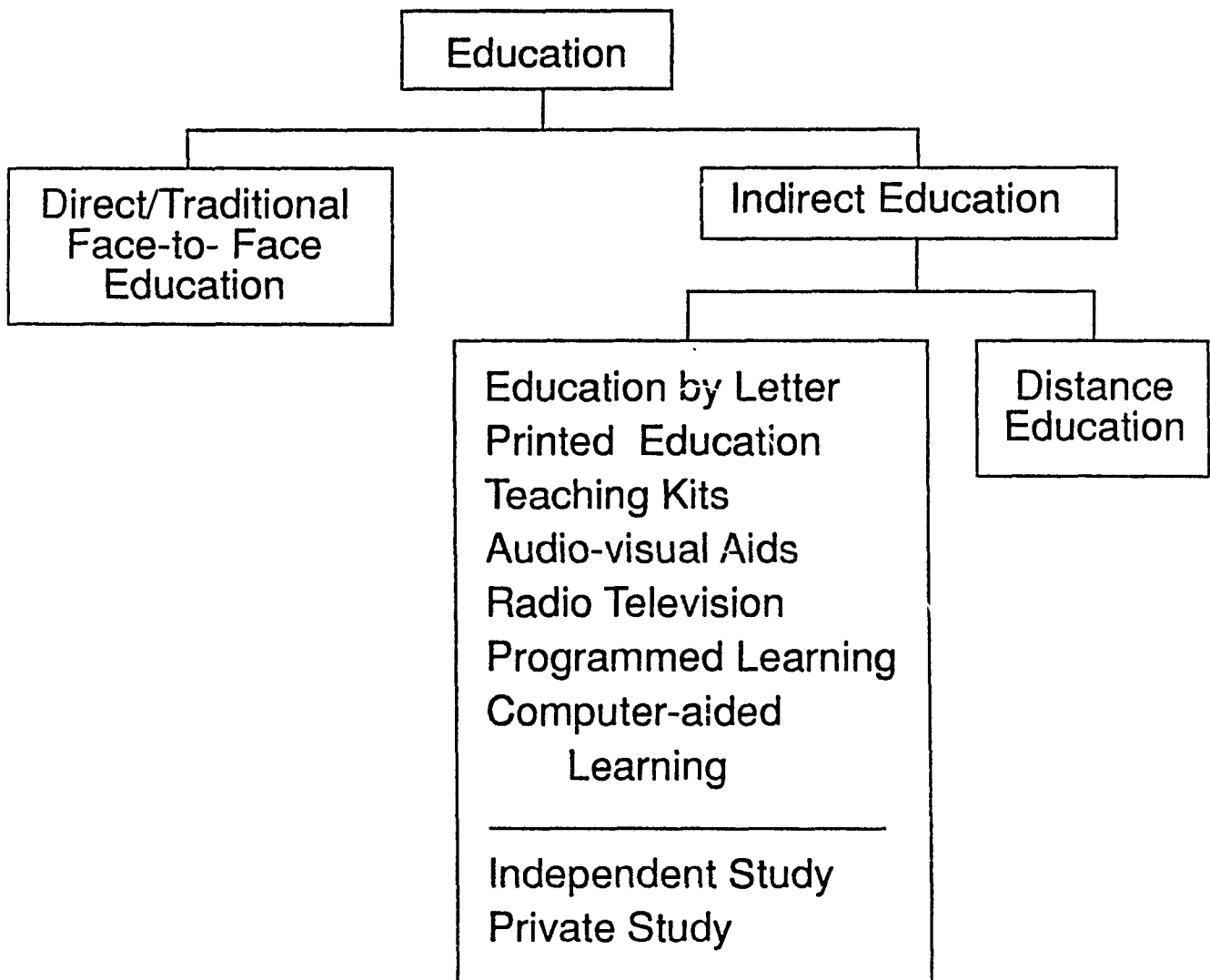


Summary Statements about DE

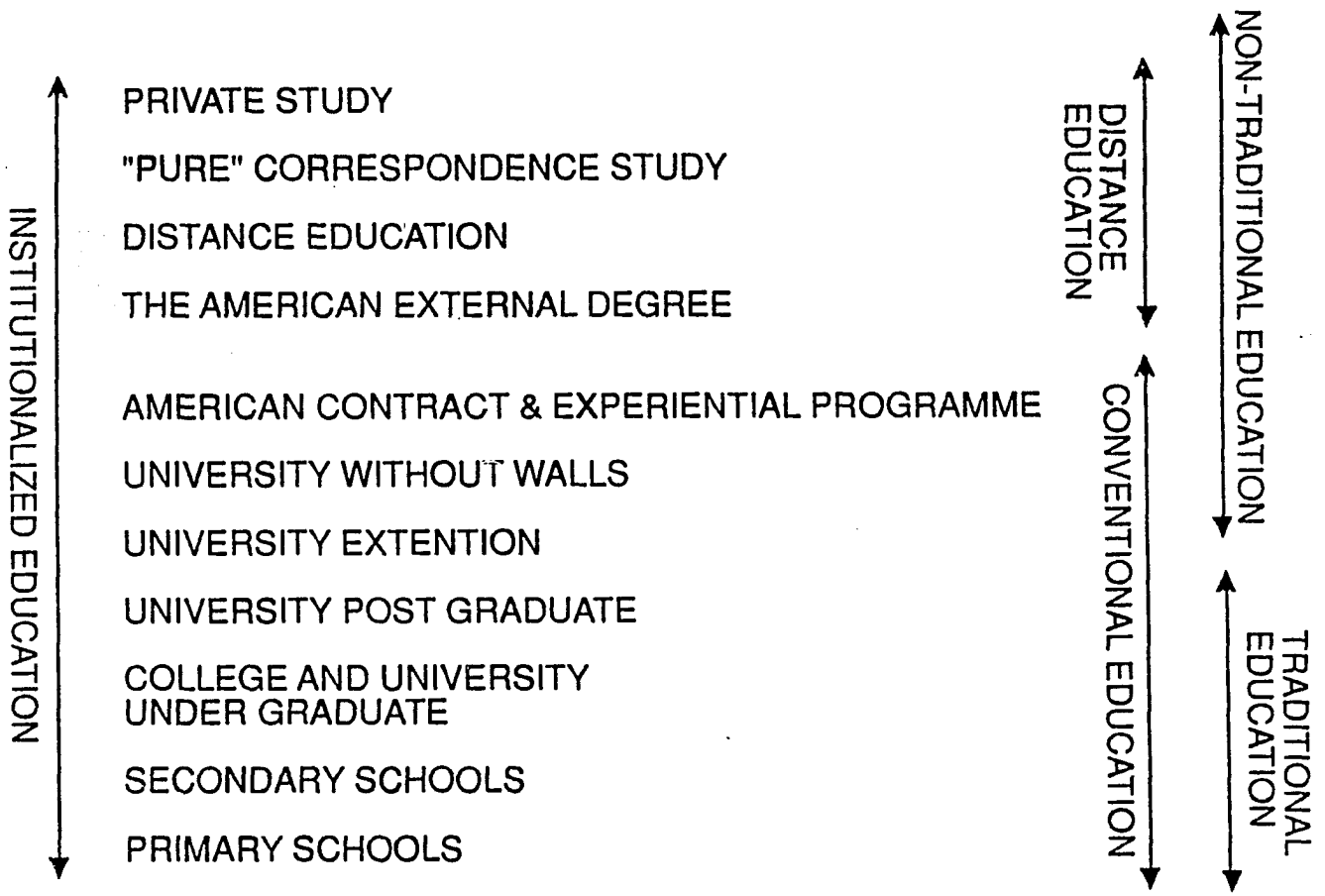
- DE is a distinct and coherent field
- DE is a complement to conventional education
- DE is clearly defined as separate from other kinds of educational activities
- DE institutions can be classified
- DE can be less expensive than conventional education
- DE systems have inherent problems
- DE is a legitimate field of academic inquiry

TECHNIQUES FOR INDIRECT EDUCATION

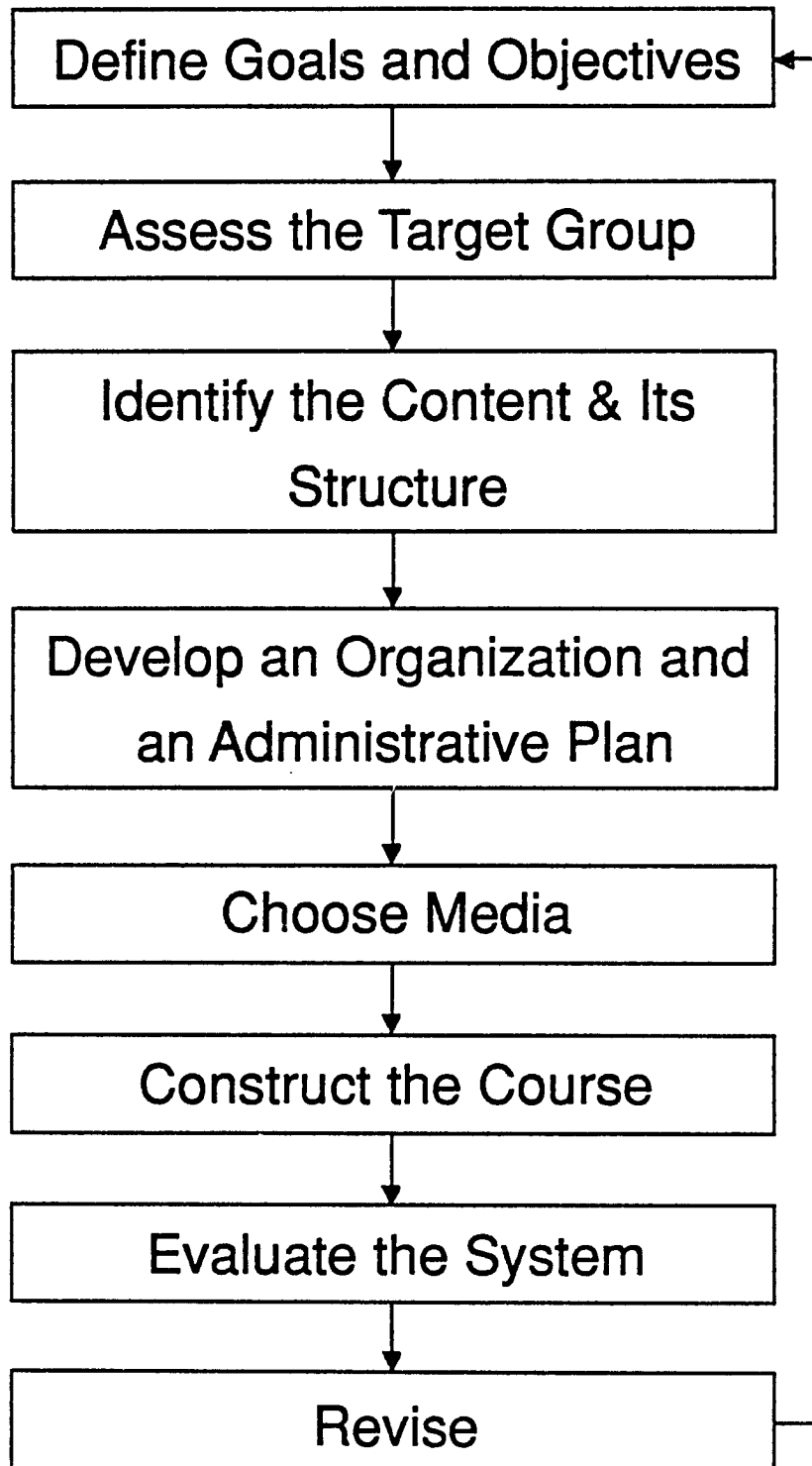
1. Education by Letter
2. Printed Education
3. Teaching Kits
4. Audiovisual Education
5. Radio and Television
6. Programmed Learning
7. Computer Based Learning

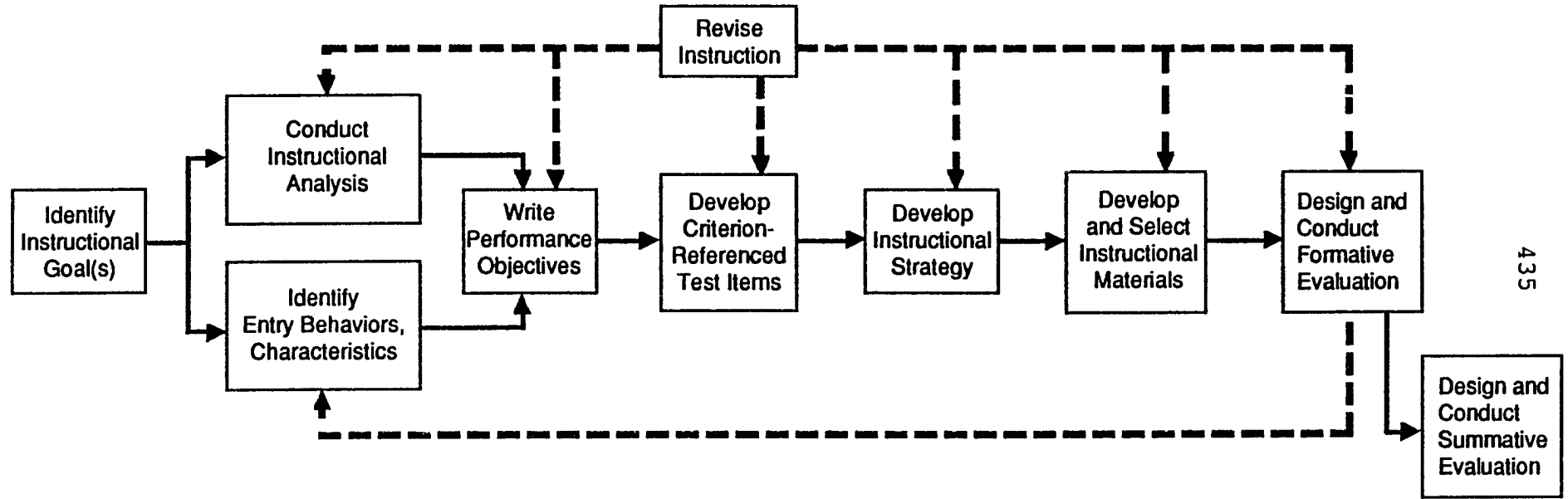


Relationship of distance education to other forms of indirect education -



A Systems Approach to D.E.





The Dick and Carey Systems Approach Model for Designing Instruction

DISTANCE EDUCATION IN IOWA

- Iowa Telecommunications Network

- interactive - 2 way video & audio

- fiber optic - microwave - IFTS

- I.S.U. Telecommunications System

- interactive - 1 way video
2 way audio

- satellite uplink - downlink

COMPARISONS

IOWA

AREA : 145,752 sq. miles

POPULATION : 2,900,000

42% urban
58% rural

STUDENTS : 700,000

ZIMBABWE

151,001 sq. miles

8,325,000

20% urban
80% rural

1,924,600 students

-48-

437

IOWA STATE UNIVERSITY

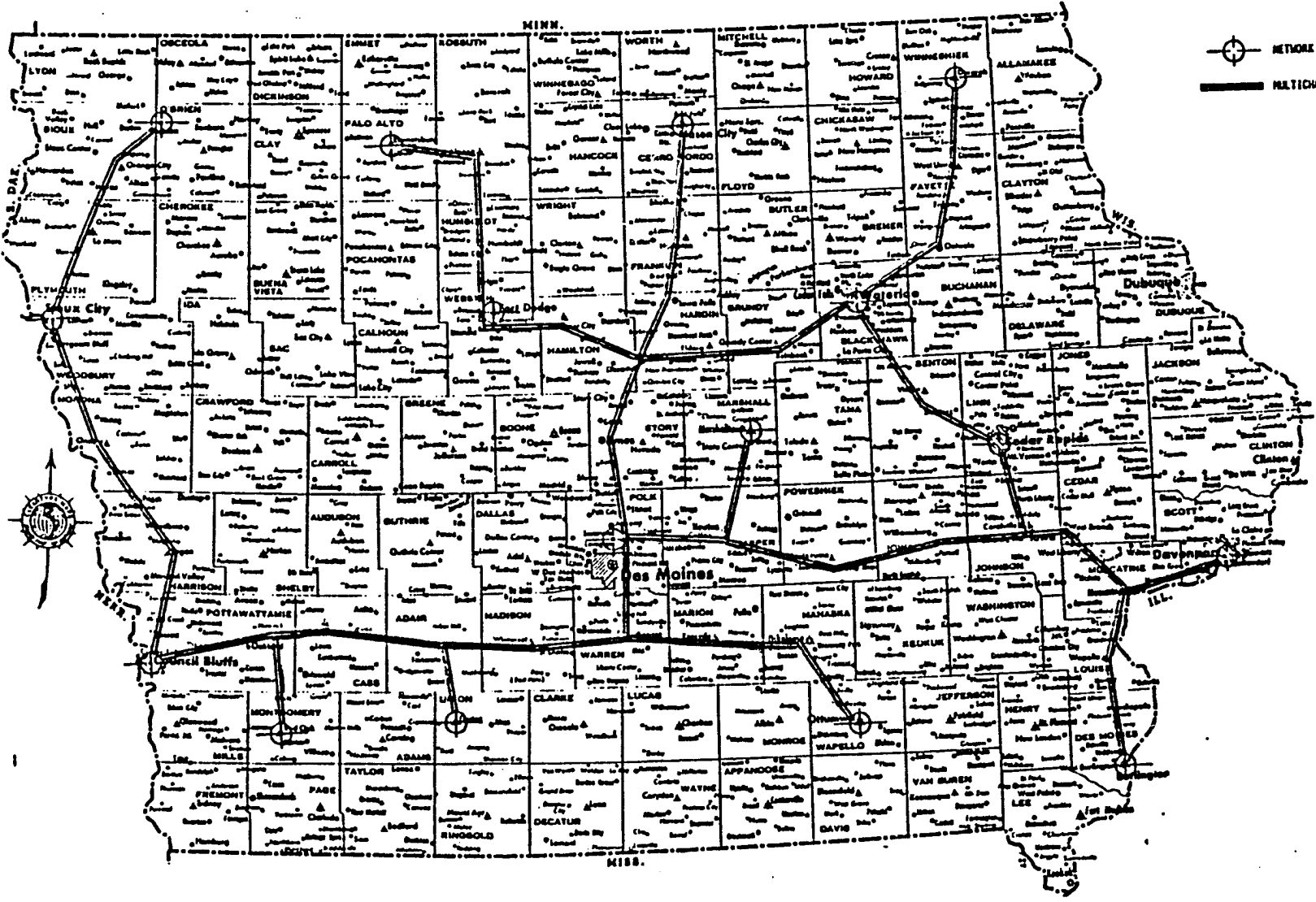
ENROLLMENT : 26,000



LOCATION : Ames - Population : 45,000

UNIVERSITY OF ZIMBABWE

6,000 ?

Harare - Population : 656,000



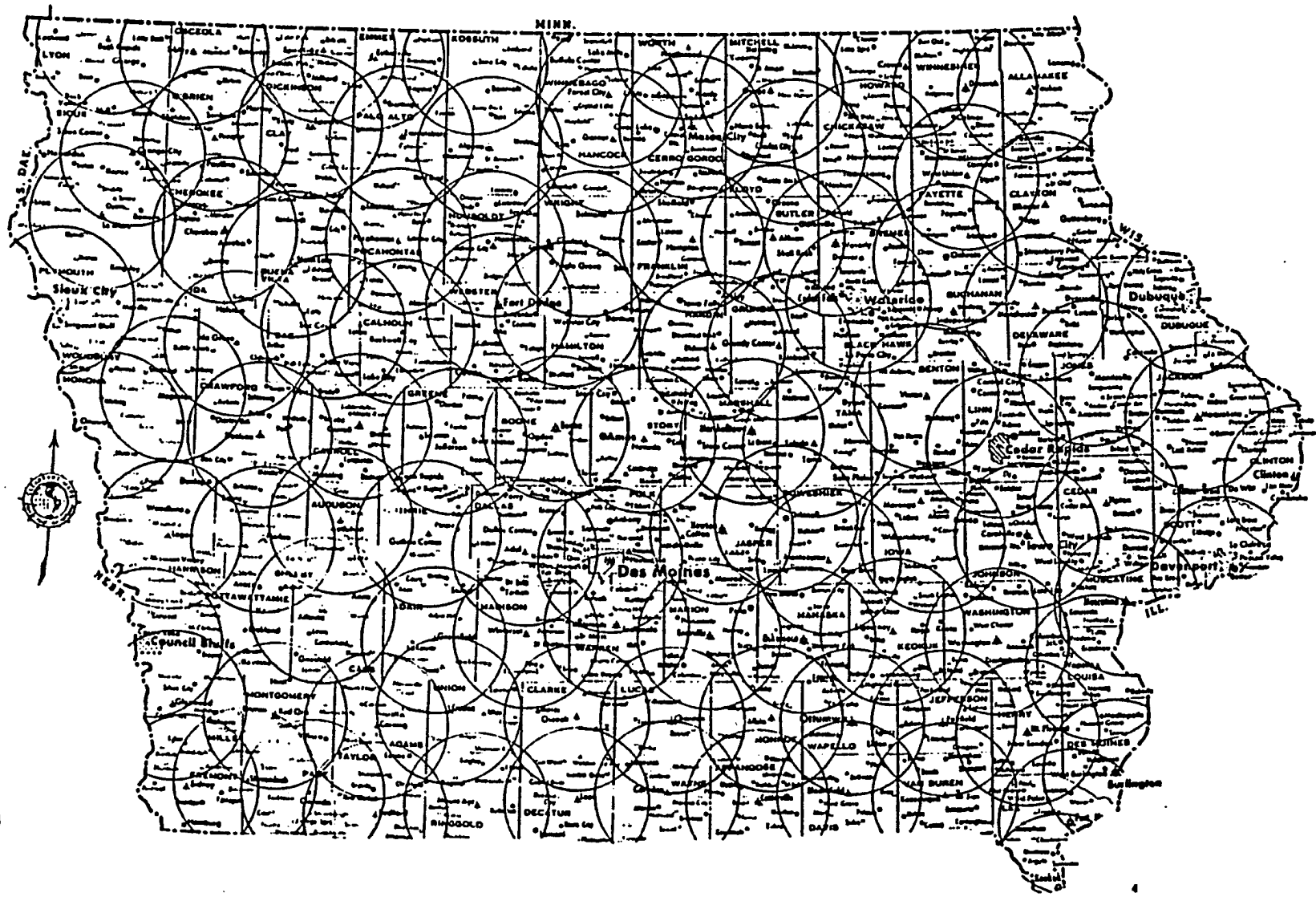
 NETWORK SWITCHING LOCATION
 MULTICHANNEL BACKBONE LINES

1 Exhibit.7 - Backbone Map

2

3 The attached map is a proposed routing of the
4 backbone network.

5



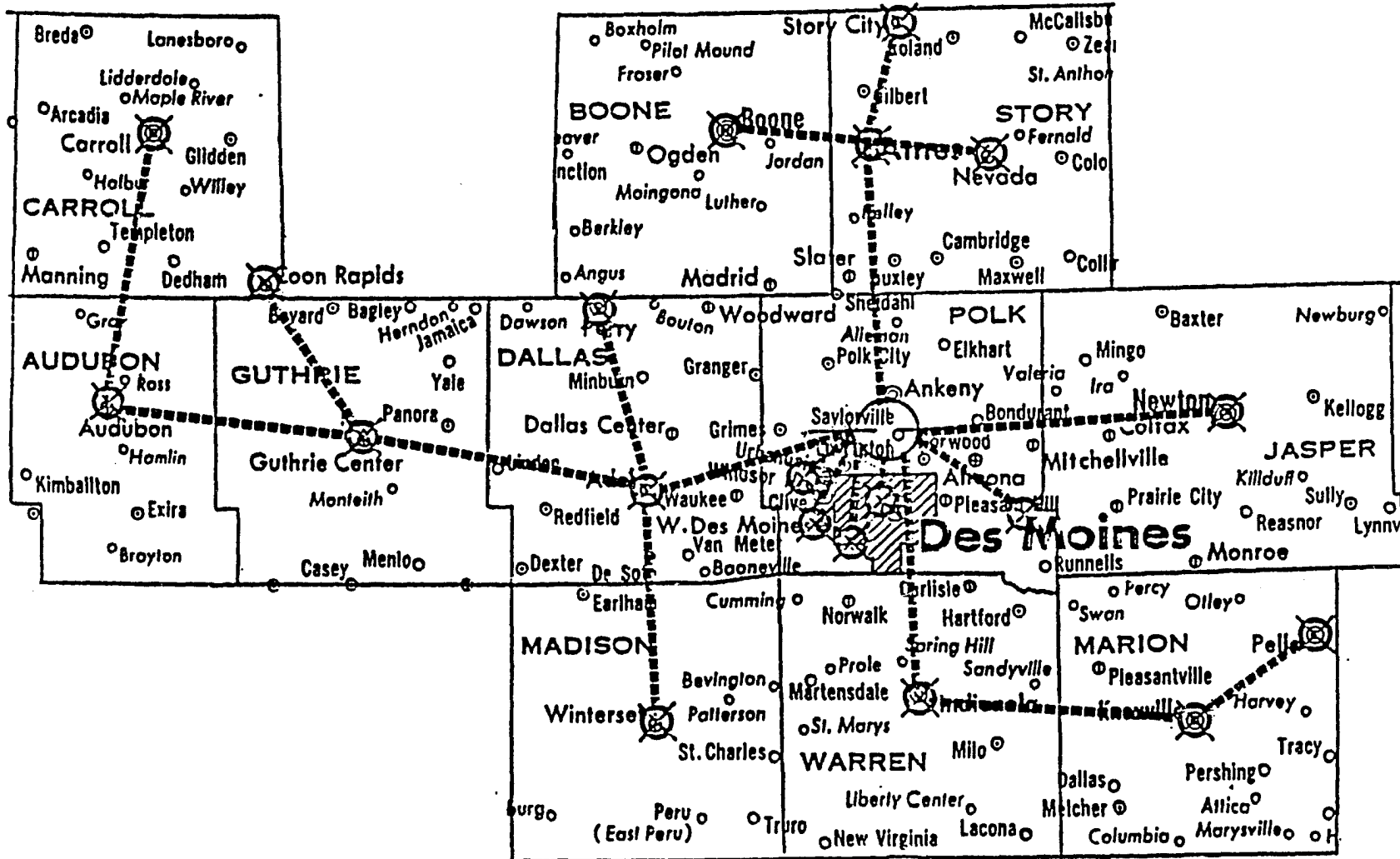
1 Exhibit 9 - ITFS Map

2

3 The following map represent the ITFS system

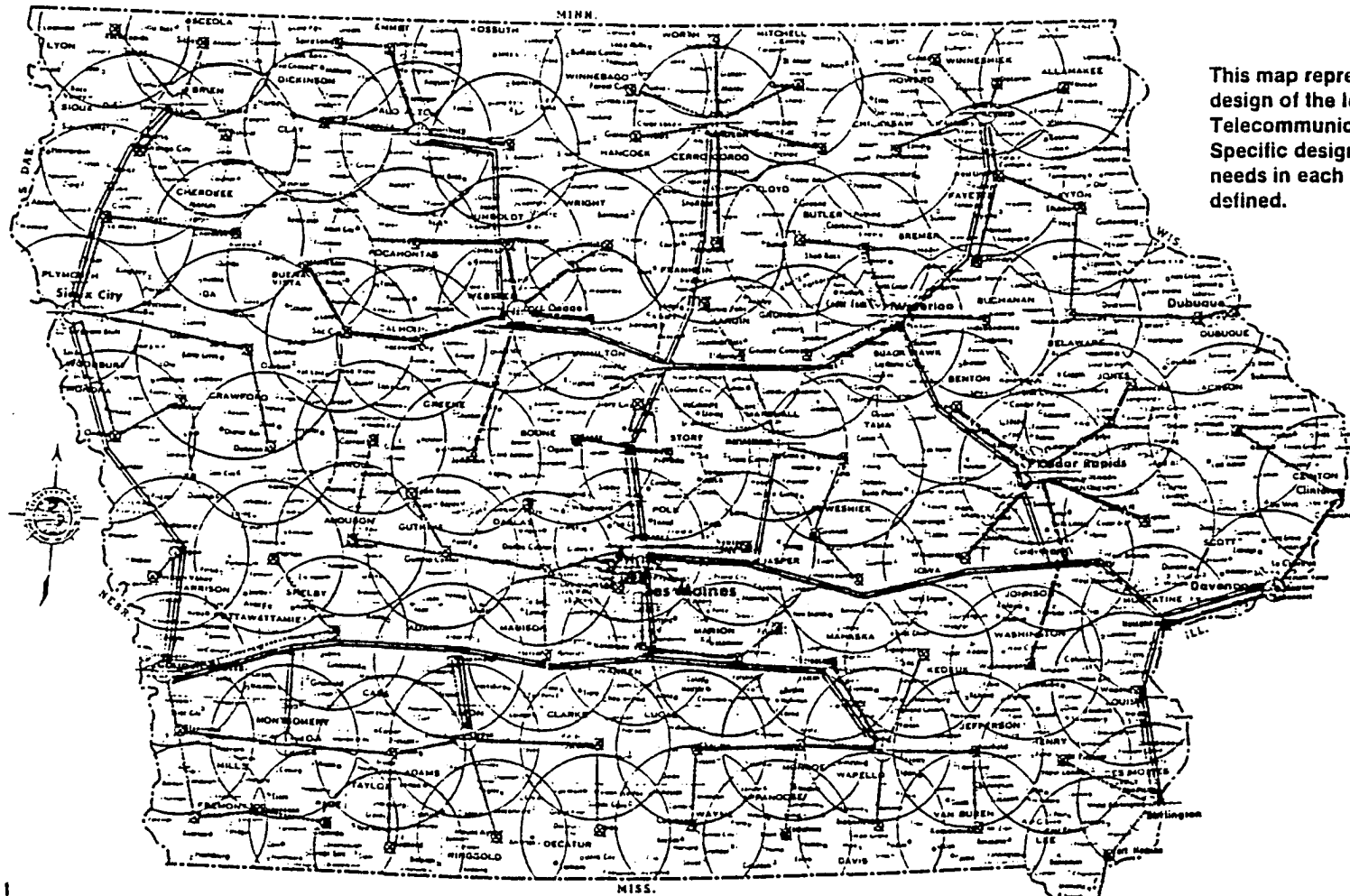
4 for the state.

5



IOWA EDUCATIONAL TELECOMMUNICATIONS NETWORK






Completed System



This map represents a preliminary design of the Iowa Educational Telecommunications Network. Specific designs will evolve as the needs in each area are further defined.

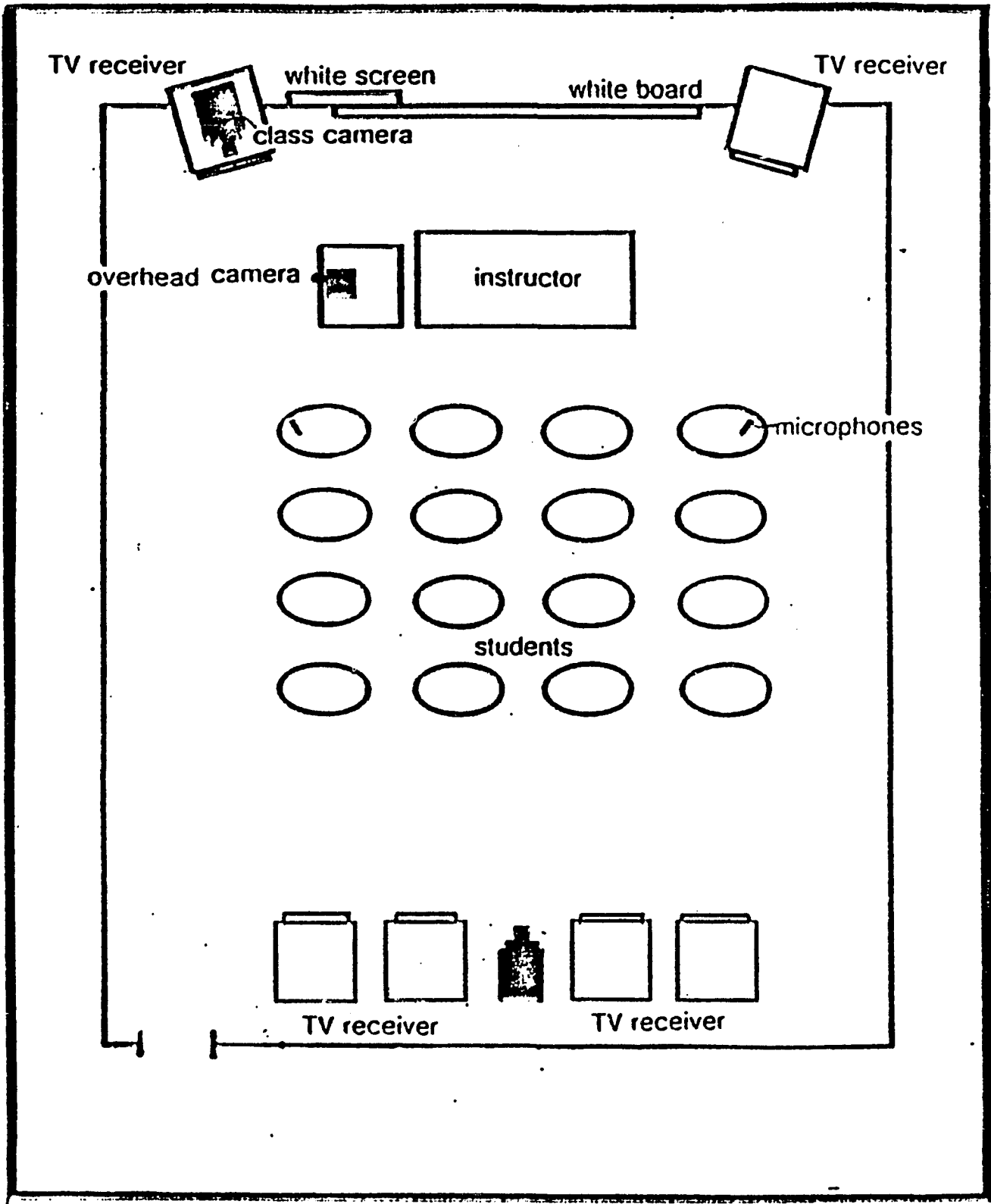
-52-

444

-  NETWORK SWITCHING LOCATIONS
-  TRANSMIT/RECEIVE LOCATIONS
-  DUPLEX/INTERACTIVE LINKS
-  MULTICHANNEL BACKBONE LINKS
-  EXISTING DUPLEX/INTERACTIVE LINKS

© American Map Corp. license number 19215

ELECTRONIC CLASSROOM



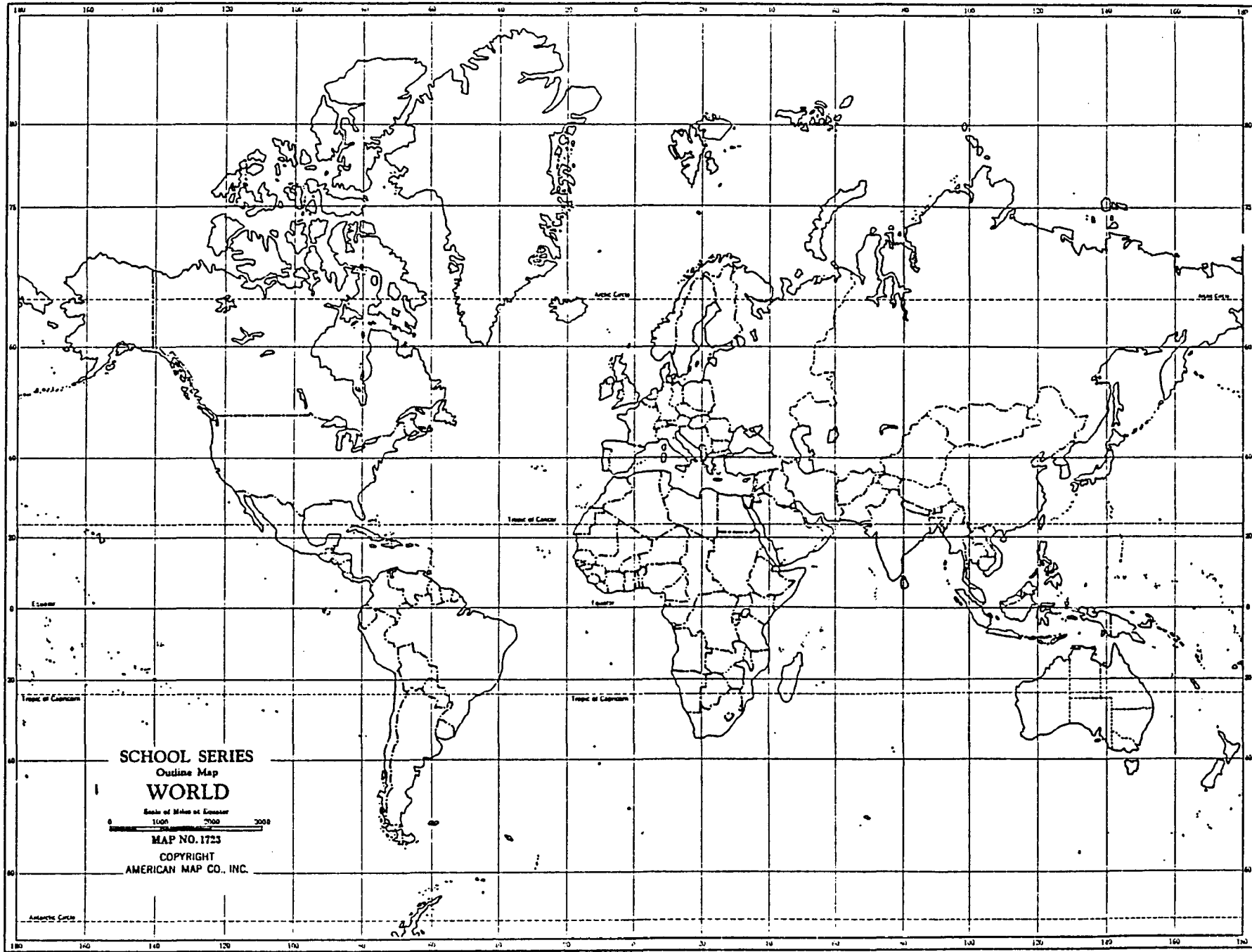
1 Exhibit 12 - Electronic Classroom Diagram

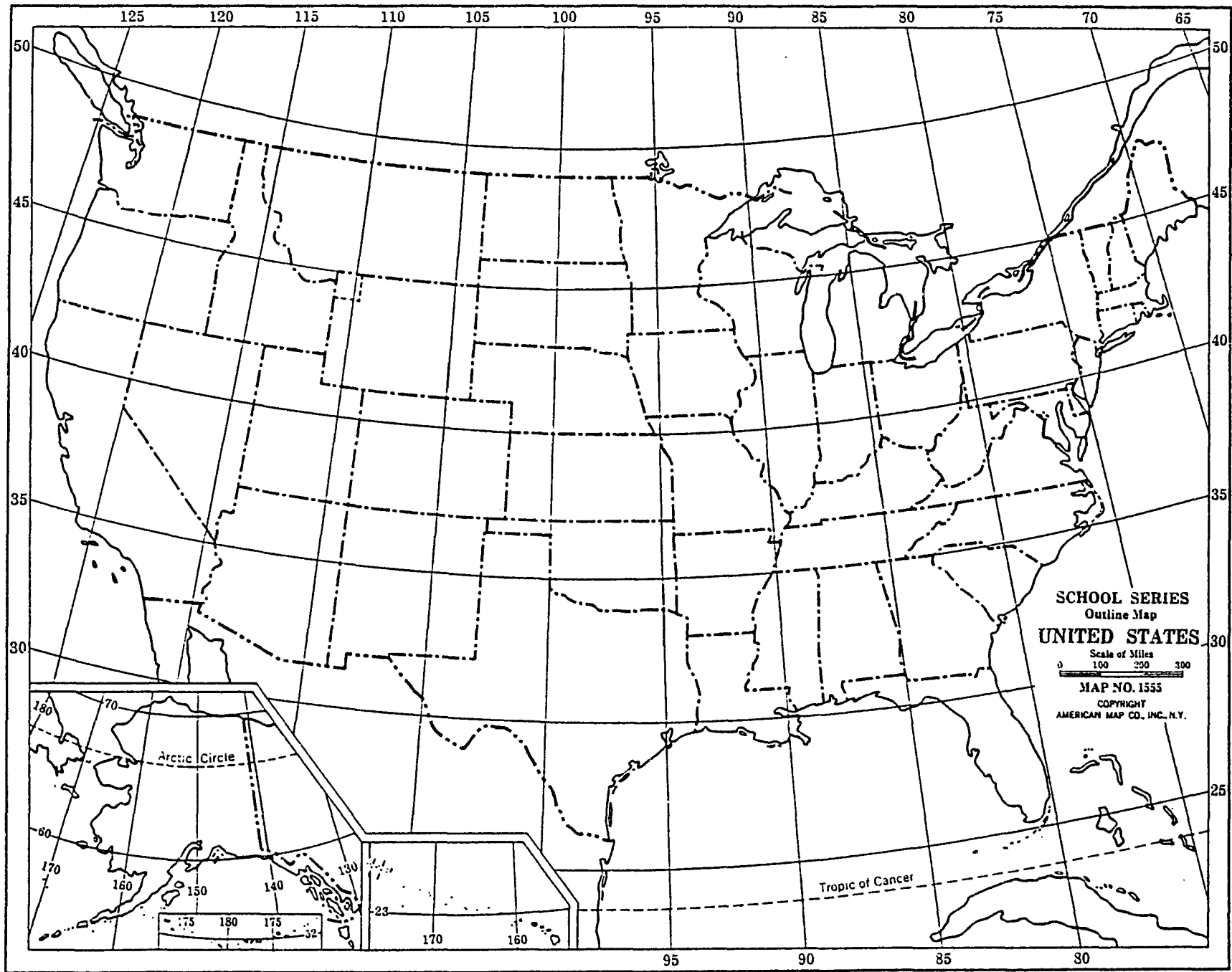
2

3 The attached diagram is an example of a
4 classroom that might be used for the system.

5

6





SCHOOL SERIES
Outline Map
UNITED STATES
Scale of Miles
0 100 200 300
MAP NO. 1555
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