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Abdul-Fattah R. Bokhorji-Ghawanni

has been accepted towards fulfillment
of the requirements for

Ph.D. degree in Education

James J. Gallagher
Major professor

Date June 10, 1985

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UTILIZATION OF FIELD TRIPS IN TEACHING SCIENCE IN THE BOYS' INTERMEDIATE SCHOOLS IN SAUDI ARABIA: A STUDY OF EDUCATIONAL POLICY IMPLEMENTATION

By

Abdul-Fattah R. Bokhorji-Ghawanni

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ABSTRACT

UTILIZATION OF FIELD TRIPS IN TEACHING SCIENCE IN THE BOYS' INTERMEDIATE SCHOOLS IN SAUDI ARABIA
A STUDY OF EDUCATIONAL POLICY IMPLEMENTATION

BY

Abdul-Fattah R. Bokhorji-Ghawanni

This study was designed to investigate the current status of field trips as an educational method in Saudi Arabian intermediate boys' schools from the perspective of science teachers, school principals, science and social studies, supervisors, and Ministry of Board of Education officials concerned with school activities. The effort was made to explore the background of current usage, resources, and factors or problems that limit the use of field trips as an effective method of teaching science. Accordingly, answers were sought to seven research questions.

The descriptive research method was used, employing both questionnaire surveys and interviews with selected supervisors and Ministry officials concerned, for collecting data on current perceptins and practice of field trips.

The study of 153 educational personnel consisted of 73 science teachers, 23 intermediate school principals, 40 science and social studies supervisors and 17 Ministry and

Board of Education officials; principally from the Medina school district. Statistical techniques used for data analysis were requently tables, cross-tabulation, and the chi-square test.

This research showed that field trips are recommended in Ministry of Education policies and that budgetary resources are allocated to them. Moreover, the data indicted that teacher, principals, supervisors, and Ministry officials all recognize the value of field trips in instructing students in science. However, in spite of clear policy, available budget, and clear recognition of their eductional importance, less than fifty percent of the intermediate school science teachers conduct even one or two field trips each year as part of their instructional program. The reasons for this discrepancy in order of decling importance include (a) lack of knowledge of educational policy about field trips by teachers and principals, (b) teacher's misconceptions of administrators' desire for field trips, (c) scheduling conflicts, (d) the added work and responsibility to plan, arrange, and conduct field trips, and (e) lack of appropriate sites of field trips. Based on this study, recommendations are made to help alleviate the misperceptions and lack of communication which inhibits adequate implementation of educational policy about field trips.



In the name of Allah, the most merciful and the most beneficient.

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CHAPTER ONE

THE PROBLEM

Since the end of World War II, there has been increasing concern, attention and resources devoted to the modernization and development of a group of nations that have been called "under-developed," "less-developed," "developing" and "third world" countries. The development of education in these countries has been considered of critical importance in this modernization, almost from the beginning, and the effective integration of educational planning with overall development has come to be identified as a major goal in national development programs.

Development education and human resources development have both attracted scholarly and operational interest in the Kingdom of Saudi Arabia, and both depend on science development, for science is one of the major factors in developing, maintaining, and improving the lifestyles of people everywhere.[1]

Science and the practical applications of scientific discoveries are shaping today's world. According to the National Society for the Study of Education: "That science has played a significant role in the development of our

THE PROBLEM

cultures is an obvious fact; it will play an increasingly important role in our future development."[2]

In Saudi Arabia more and more attention has been given to science in a time when science and technology have an apparent role in modern life and science education has become an important part of an individual's general education. There is also conclusive evidence that Science education must be improved and increased to a considerable extent in order to achieve better science learning and instruction to prepare an intelligent and creative generation who can face future challenges with competency and efficiency.[3]

Since Science education has become imperative, everyone should be helped to adjust to the changing demands of modern life represented by science and technology. This has become a major responsibility of the school. Schools in Saudi Arabia, represented by the Ministry of Education, feel this need and are trying to put greater emphasis on the teaching of science. But in doing this, the schools and the Ministry have tended to stress the importance of the quantitative aspects of science teaching (i.e., more science courses have been added) and ignored or given little attention to the qualitative aspects of Science teaching (i.e., less attention is being devoted to the effective utilization of a variety of teaching skills and styles of instruction). According to Al-Ismaeel:

> A major deficiency of the Saudi Arabian educational system is the lack of preparation on the part of the teachers for the effective utilization of a variety of teaching skills and styles of instruction. Emphasis is placed on the teaching methods of lecture and discussion with little attention being devoted to the development of such instructional strategies as question and answer techniques, role playing, field trips and guest speakers. 4

The march of science just preceding and following the mid-period of the industrial revolution in Saudi Arabia caused eduators to realize that science teaching must be reformed in emphasis, purpose and teaching methods. The problem of staffing is being alleviated by the increasing number of intermediate colleges and centers for educating teachers. There is still a need to assist these teachers in the development and improvement of their instructional methods.[5]

This study is an attempt to explore the use of field trips in Saudi Arabia as a school activity which could be an effective teaching strategy, especially in science and social studies courses.

Educational Policy in Saudi Arabia

The educational policy of the Kingdom of Saudi Arabia emanates from Islam which the nation embraces as a faith. Saudis abide by its teachings in worship, morals, sharia (law) and rules, and believe in it as an integral way of

life. Educational policy is a major part of the general policy of the state.[6]

By 1981-82, the Ministry of Education had achieved qualitative improvement as well as quantitative improvement, which led to some improvements in the quality of education in order to met the needs of Saudi Arabia's students. His Majesty, King Fahad, said in a speech on August 22, 1982, regarding Saudi Educational Policy, "It is our goal to have the education spread at a forward traveling speed, and to improve the quality of education. We are concerned about the quality as we are concerned about the quantity."[7]

Quantitative improvement is reflected first in new educational construction which has included establishment of new facilities within the Ministry of Education for educational development, including construction projects, curriculum and textbooks, and instructional plans that foster the promulgation of modern educational methods and strategies.[8]

This improvement also has become apparent in the various school services which include more concern about students' health care, student counseling and guidance, and school activities.[9]

Field Trips in Saudi Arabia

The educational system of Saudi Arabia represented by the Ministry of Education and its educational districts

throughout the country, controls all boys' school curriculum, textooks, and school activities. There is a department in the central Ministry of Education and in every district office which has school activities as its main concern. These activities include social activities, athletics, theater, fine arts and cultural activitites. Field trips are considered one of the social activities. Although most of the policy objectives for field trips assigned by the Ministry of Education are socially related, instructional and/or educational objectives are also included. The following are the policy objectives of field trips as stated in a general report from the School Activity department within the Ministry of Education to all educational districts. "The objectives of field trips are:

(1) to introduce students to their environment.

(2) to increase awareness of all important Islamic and civil works as well as their surrounding environments.

(3) to develop acquaintance and social relations between students.

(4) to develop consciousness, attainment, cooperation, familiarity, and affection between students.

(5) to destroy negativism and isolationism among students and accustom them to self-dependency.

(6) to improve self-information gathering that leads to retaining what has been learned. 10

All school activities, including social activities, are regulated by the Ministry of Education which expects every

school to conduct at least two field trips during the school year. While such field trips, however, are "expected," they are one of the many school activities that are not mandated, in which principals and teachers have some options and are allowed to make some decisions. In an interview, the director of the Department of Educational Guidance and Training within the Ministry of Education said,

> Field trips are considered one of the optional school activities. Only well-informed principals and teachers who know and care for their students' welfare usually take advantage of this option and conduct as many field trips as possible.11

Despite their optional nature and relatively infrequent use, there is some public awareness in Saudi Arabia teachers and school principals occasionally arrange formal field trips to public parks, farms, work places, other schools, etc. Newspaper accounts are sometimes written of formal and informal school visitations to government agencies, publishing establishments, training schools, and centers, etc. The following quotation from the Al-Jazeerah daily newspaper reports on a field trip taken to its own plant. "At the end of last week, a group of students from Tuoyaique Intermediate School visited Al-Jazeerah newspaper establishment guided by two of the school staff and looked over all the departments, joined by one director from the establishment who answered all their questions."12

The department of school activities in the Ministry of Education keeps an annual record of all school activities. Table 1 shows the number of field trips that were conducted during the 1981/82 school year, number of all Saudi Arabian public schools taking trips, and the number of students participating, by level.[13]

TABLE 1: Field Trips Conducted in Saudi Arabia in Public Schools During the School Year 1981/82

	School Level			
	Elem.	Intermed.	Above Inter.	Total
Number of Schools	1,978	713	189	2,880
Number of Field Trips	3,956	1,426	378	5,710
Number of Students Participating	237,360	57,040	13,230	307,630

The Purpose of the Study

As stated earlier, field trips in Saudi Arabia are considered one of the expected but not mandatory school social activities on which decisions and the option are left to principals and teachers. From the researcher's experience of teaching science in the intermediate schools

in Saudi Arabia, and as a result of research in the United States, which has included attending, visiting, and participating in several school programs that utilize field trips as an effective method of teaching science, it seems apparent that field trips have not been used as effectively as they might be in teaching science in Saudi intermediate schools.

At the present time, there is a need for an investigation of the status and practice of field trip activity associated with teaching science in the intermediate schools in Saudi Arabia. Such a study will bridge the gap between the field trips now provided as a social recreational school activity recommended by the regulations of the Ministry of Education in Saudi Arabia and the progressive use of field trips as an effective method of teaching science.

The purpose of this study is to explore the existing status of field trips as an instructional method in Saudi Arabia to understand the background of current usage, resources, and factors or problems that limit their use as an effective method of teaching science in the boys' intermediate schools in Saudi Arabia. Findings from other research will also be examined and evaluated to provide some helpful recommendations for better use of this teaching strategy in Saudi Arabia.

Specifically the major purposes of this study are to provide answers to the following questions:

1. What are the major official policy objectives regarding field trips as a means of teaching science in the intermediate boys' schools in Saudi Arabia?
2. What is the concept of a field trip as perceived by science teachers, principals, supervisors, and Ministry officials?
3. What is the extent of agreement or disagreement between teachers, principals, supervisors and Ministry officials regarding the objectives and importance of the field trip activity in the intermediate schools in Saudi Arabia?
4. What are the major problems facing the success of the field trip activity as viewed by the four participant groups?
5. What are the principles and characteristics of an effective field trip as stated by the four participant groups?
6. What relationships exist between field trips and the science curriculum of the intermediate schools at present? What functions do such trips, if any, fulfill in the science program?
7. Do non-Saudi science teachers differ from Saudi science teachers in their attitudes toward or their use of field trips as science teaching methods at the intermediate boys' level in Saudi Arabia? If so, how do their attitudes toward and/or use of this method differ?

Procedures

This study begins with a combined historical and normative survey concentrated on the current practices related to field trips in intermediate science programs. The following provides an outline of the procedures that

have been used, which will be discussed in more detail in Chapter Three.

1. Overview of the situation

1.1 A brief historical review of the situation of science education in Saudi Arabia and the unique cultural factors of the country that affect the subject matter of this study.

1.2 A description of the contemporary conditions of field trip activity in Saudi Arabian intermediate schools.

2. Review of the literature dealing with field trips as an educational method, with special emphasis on the use of field trips in teaching science and problems related to the use of field trips.

3. Survey questionnaire and interviews with people who are responsible for school activities, to investigate the current status of field trips as an activity in the intermediate boys' schools in Saudi Arabia.

3.1 Survey/interviews with selected principals of intermediate boys' schools in Medina, Saudi Arabia.

3.2 A survey questionnaire has been administered to all science teachers in the intermediate boys' schools in Medina, S.A.

3.3 Survey/interviews with Ministry officials concerned with school activities in the Saudi Arabian Ministry of Education and the Board of Education in Medina, Saudi Arabia. All the interviews were conducted at the principals and Ministry officials' offices and were tape recorded.

4. Personal visitation to see selected schools in Medina, Saudi Arabia for the purposes of data collection.

5. Presentation and analysis of the data collected in procedures 1 through 4.

6. Conclusions have been drawn from the data to respond to the research questions posed in the previous section of this chapter.

7. A list of recommendations for a better understanding and improved future utilization of field trip activities has been prepared. Recommendations are based on the above steps and suggestions for their dispersal and implementation through the Ministry of Education are included.

Importance of the Study

Saudi Arabia is one of the developing nations in need of a well designed educational program for its progress and development. In his work, Al-Saif has reported that the Ministry of Education in Saudi Arabia is anxious to obtain a well designed program for its educational system. He found that science is considered especially important, "for one of the major problems facing the country is the need for men and women educated in the various sciences."[14]

In a Ministry of Education document about Educational Policy in the Saudi Arabian Kingdom, Category 35 specifies "strengthening the student's feeling about the cultural, economic, and social problems of his society and preparing him to participate in their solution," and Category 49 says,

"understanding the environment in all forms, broadening the horizons of students by introducing them to the different parts of the world and natural resources and products that characterize each country with emphasis on the wealth and raw resources of our country."[15]

Using the field trip method of teaching has the potential to bridge the gap between the student and his environment. It can provide him with genuine information about his nation's cultural, economic, and social problems, and can introduce him, first hand, to the natural resources and products that characterize his country. Duvall and Krepel mentioned that the field trip activity has been utilized for many years by educators to supplement their instructional programs. It has been a common way to strengthen students' knowledge about the cultural, economic, and social problems of their society. It provides students with an understanding of the environment in which they live.[16]

In Saudi Arabia, more attention has been given to rote learning and memorization of facts than to practical instruction such as field trips. In his work on teaching strategies, Al-Ismaeel wrote:

> Despite marked progress in the development of the educational system in Saudi Arabia, Saudi education, in general, has suffered due to the lack of teacher preparation, and development of various styles of instruction. The methods of instruction at all levels tend to lean heavily toward classroom lectures, emphasizing rote

> learning and memorization of facts, and assigned readings. Other teaching stategies, such as question and answer techniques, role playing, field trips, guest speakers, and interviews, do not enjoy wide or frequent useage in Saudi Arabia.17

The importance of this study is to understand current uses of field trips in Saudi Arabia and provide the educational system of Saudi Arabia with an effective teaching strategy that is adaptable and has been proven successful elsewhere, so that teachers, teacher educators, educational planners and curriculum designers can utilize the information to enrich programs for teachers and students. The researcher hopes that this study can make a modest contribution to improving science education programs in the Kingdom of Saudi Arabia.

Delimitations of the Study

1. This study is limited to the Saudi Arabian intermediate boys' schools. There is no intention to investigate any other stage of education.

2. This study is limited to field trip activity as a means of teaching science. It does not include other methods or strategies of teaching science.

Limitations of the Study

The study was limited by the following:

1. In the interview method of data collection, the interviewees may relay intentions which are not necessarily reflective of actual practice.

2. Because of the limited time the researcher has been able to spend in the study setting, at the beginning of the school year, he was not able to observe actual field trips.

3. The study made use of the survey technique to describe and discuss the current utilization of field trips.

4. The research sample was designed by the researcher to include all intermediate science teachers in Medina and 50 randomly selected intermediate science teachers in Riyadh.

Generalizability of the Study

The study was conducted in the Kingdom of Saudi Arabia. The teacher sample was composed of teachers and principals in the intermediate schools in Medina, Saudi Arabia and some selected science teachers in the intermediate schools in Riyadh, the capital city of Saudi Arabia, for comparison. The supervisor sample was composed of science supervisors in the cities of Medina and Riyahd. The Ministry official sample consisted of all the personnel responsible for school activities in the Ministry of Education and the Boards of Education in Medina and Riyadh. Thus, the study findings

may be generalized to the country of Saudi Arabia. Generalizations of these findings and conclusions to other countries should be done cautiously.

Definition of Terms

The following key terms are defined in the context in which they are used in this dissertation.

Intermediate School Level: A middle level between elementary and secondary levels (7th, 8th and 9th grades).

Field Trip: A field trip is a trip arranged by the school or the teacher in which students go out of the classroom to observe and study related materials of instruction in their functional settings.

Ministry Officials (Policy Makers): Ministry officials are employees of the Ministry of Education in Riyadh (or in its branches which are called Boards of Education or Educational Districts in other major cities) who are concerned with school activities.

Supervisors: Science and social studies specialized personnel employed by the Ministry of Education to supervise science and social studies teachers in schools.

Overview

This study presents a combined historical and normative survey concentrated on an examination of the current

practice of field trips in Saudi intermediate schools as viewed by official documents, teachers, principals, supervisors and Ministry of Education officials. It was undertaken to provide some helpful recommendations for better use of this activity in the future.

The first chapter has provided an introduction to the problem including a discussion of background data on Saudi Arabia, the official policy objectives regarding field trips and perceptions of the practice of field trips. The importance of the study, its purpose, procedures and limitations are included and some important terms are defined.

Chapter Two presents a review of related literature based on field trip practice in the United States and other nations. The researcher's intent was to acquire, analyze and interpret data related to the following questions: What are the purposes which field trips may serve in educational programs as described in previous studies. What is the importance and benefits of field trips in teaching science at the intermediate school level? What is the role of the teacher, principal, and supervisor in conducting a field trip? What are the problems which limit the use of field trips as one of the school activities and how do staff deal with problems related to field trips? What are the recommendations that will most likely lead to an effective and successful field trip?

In Chapter Three, the researcher has considered, in detail, the methodology of the study. This chapter includes the means of data collection (i.e., questionnaires, interviews, document review and library research) and the data analysis.

In Chapter Four, the results of the data analysis are presented along with the researcher's interpretations of the findings.

Chapter Five contains a summary of the findings and conclusions drawn from the study. Recommendations for a better understanding and use of the field trip activity in teaching science in the intermediate schools in Saudi Arabia are based on all of the above information. Suggestions for replicating the study at other school levels and for disseminating the information and putting it to use through the central Ministry of Education in Saudi Arabia are included.

Chapter One Notes

[1] Saleh A. Al-Saif. "Recommended Guidelines for the Science Education Program in the Public Secondary Schools of Saudi Arabia." Ph.D. Dissertation, the University of Wyoming, December 1981, p. 1.

[2] National Society for the Study of Education. Rethinking Science Education, Fifty-Ninth Yearbook, (Chicago: The University of Chicago Press, 1960).

[3] Abdul-Rauoff Al-Anny. "New Directions in Teaching Science". Third Edition. Dar-Aluloom for Publishing and Distribution, Riyadh, Saudi Arabia, 1982, p.7. (In Arabic).

[4] Abdul Wahab U. Al-Ismaeel. "Selected Social Studies Teaching Strategies in Saudi Arabian Secondary Schools." Ph.D. Dissertation, University of Kansas, 1981, p. 5.

[5] Ibid., p. 5.

[6] Ministry of Education, Educational Statistics in Saudi Arabia, 14th Issue, 1980/1981, p. 29.

[7] Ministry of Education, Educational Documentation, No. 24, 1983, p.71.

[8] Ibid., p. 71.

[9] Ibid.

[10] Ministry of Education "Field Trip Objectives: A General Report from the School Activity Department in the Ministry of Education to all Educational Districts," Unpublished Report, Kingdom of Saudi Arabia, 1984-85, p. 3.

[11] Interview with the Director of Education Guidance and Training. Ministry of Education, Riyadh, Saudi Arabia, July 1983.

[12] Al-Jazeerah daily Newspaper, No. 4451, 5/12/84, p. 8.

[13] Ministry of Education, Educational Documentation, p. 94.

[14] Saleh A. Al-Saif, "Recommended Guidelines," p. 4.

[15] Ministry of Education, Educational Policy in Saudi Arabia, Riyadh, S.A., 1970, p. 25.

[16] Charles R. Duvall and Wayne J. Krepel, "School Board Policies Related to Field Trips." Education vol. 95, no. 4 (Summer 1975):281.

[17] Abdul Wahab U. Al-Ismaeel, "Selected Teaching Strategies," p. 4.

CHAPTER TWO

REVIEW OF LITERATURE

The major purpose of this study was to examine prior thought and study related to the research questions listed in Chapter One. The literature search began with a review of CIJE and ERIC computer search, an investigation of the Education Index, and review of Dissertation Abstracts International. This initial analysis showed that research studies concerning the use of field trips as a means of teaching science in schools were abundant in the United States. However, an information computer search conducted in Saudi Arabia failed to turn up any similar studies concerning the use of field trips in teaching science at the intermediate school level in that country (See Appendix A). In reviewing the literature, therefore, it was necessary for the investigator to rely on research generated in the U.S. and other Western nations and to carefully evaluate research findings and conclusions for appropriate application in Saudi Arabia.

The literature for this study was divided into seven major topic areas. These provide a format for its presentation in this chapter as follows:

1. major policy objectives regarding the use of field trips in Saudi Arabia;
2. concept, definition, and topology of field trips;
3. objectives and importance of field trips;
4. problems of field trips and suggested solutions;
5. principles of effective field trips;
6. relationship between the science curriculum and field trips;
7. teachers' attitudes toward and use of field trips.

Each of these will be addressed in turn in the pages which follows.

Official Policy Objectives for Field Trips in Saudi Arabia

All school activities including field trips are regulated by a central Ministry of Education which is responsible for and controls all educational programs in the Saudi Arabian educational system. There are written policy objectives for all educational programs and activities. The major official policy objectives concerning the use of field trips are stated in a 1984 report from the Ministry of Education disseminated to all educational districts.

1. To introduce students to their environment.
2. To increase students' awareness of all important Islamic and civil works in their surrounding environment.

3. To develop acquaintance and social relations between students.

4. To develop consciousness, attainment, cooperation, familiarity, and affection between students.

5. To discourage negativism and isolation among students and accustom them to self-dependency.

6. To propel self-information gathering which leads to retaining what has been learned. [1]

Concerning official policy, Duvall and Krepel mention that teachers can recognize the value of field trips in their own teaching, but the existence of official policies (written or unwritten) for regulating field trips provides evidence to the teacher that educational authorities recognize the educational value of field trips. Consequently, the teacher may utilize this instructional tool more frequently.[2]

Concepts, Definitions and Types of Field Trips

Conceptual Development

The idea of first-hand contacts with the real things of life is not new to education. Since the time of Comenius there has been a continuous stream of major and minor prophets of the need for reality and genuine experiences in school life. Rousseau, Pestalozzi and Froebel made their respective contributions; Mann, Barnard, Sheldon, Parker and

Dewey have helped to break down artificiality, isolation, and pretense in education.[3]

The field trip is only one of many ways of introducing reality and objectivity into instruction. Progressive schools in Russia, Germany, the United States, and other developed countries have turned to field trip practice as a vital aid to enriched learning.[4]

In the United States educators are experiencing heightened concern for outdoor education. It would appear that the widespread attention directed toward the school camping movement of the nineteen-forties and fifties, found a broader base in the resurgent interest in outdoor education programs in the sixties and seventies. The insistent demand for attention to the physical sciences and mathematics, without lessening their importance, was beginning to move toward something of a balance by the mid-sixties. The crash programs of post-Sputnik era of panic came to an end. By 1967, innovations in Science and mathematics curricula, supported by the National Science Foundation, were being replaced by programs addressing environmental concerns. These curricular innovations permitted educators to look again to problems of learning to live in the outdoors and to educate both in and for the outdoors.[5]

Smith pointed out that one of the great achievements of the 1955-1965 decade was the broadening of the concepts of

outdoor education to include the laboratory method: use of the outdoors for learning, as well as for the techniques and knowledges of outdoor activities.[6] The field trip is one of these outdoor activities that makes use of the surrounding resources. Heffernan wrote "education is not something which takes place exclusively within the four walls of a classroom. The neighborhood, the wide community, and the natural environments reasonably accessible to the school should be the learning laboratory for children and youth."[7]

School excursions were used extensively in European countries during the second half of the 19th century. By the end of the century, Charles and Frank McMurray had begun advocating the use of excursions in the teaching of science and geography. Since then the excursion, now more commonly referred to as the field trip, has become an accepted part of the educational program of schools throughout the United States.[8]

Definitions of Field Trips

A field trip is an educational activity that takes place out of the classroom. It gives meaning to topics students study in the classroom. In his Dictionary of Education, Good defined the field trip as a trip arranged by a teacher or other school official and undertaken for educational purposes; that takes pupils to places where the

materials of instruction may be observed and studied directly in their functional settings.[9]

Edgar stated that "a field trip is an extramural observational experience having definite educational objectives. It is sometimes called an excursion, a visit, a school journey, a pilgrimage or an educational travel course"[10]

Biswas and Aggarwal defined the school excursion as a journey or a trip organized by a school for educational purposes. It is the most concrete audio-visual aid, as the students are brought out of the classroom for exposure to sensory experiences with people, places, things and processes which cannot be made available in the classroom.[11]

Field trips do not constitute a special curricular area. Rather, they are designed to emphasize the philosophy of teaching in their appropriate settings those things best taught outside of the classroom. Heavy emphasis has been placed on interpretive programs, as opposed to the acquisition of factual knowledge only.[12]

Field trips are not a course by themselves, but an active part of educational programs. Brehm stated,

> Field trips are an integral part of the educational planning a teacher must make for the growth and development of the children in his classroom. The trips are but one device, or teaching technique, employed to meet the particular objectives of a planned program of learning.[13]

A teacher choosing a field trip activity as a learning experience uses the same criteria employed in choosing any other teaching strategy or device that will be the most effective instrument for attaining the goals set forth for these particular learners at this particular time. In this sense the field trip, study trip, outdoor activity, school excursion, wilderness classroom or field experience is an on-going part of the program as planned by the teacher.[14]

In a study by Duvall and Krepel who investigated school board policies concerning field trips in all cities of the United States, it was found that in every instance field trips were permitted. They concluded, therefore, that the field trip was an integral part of the instructional program in most, if not all, school districts.[15]

Types of Field Trips

There are all sorts of field trips, from a school yard activity to a summer's trip far from home. The major concern in this study is the teacher-planned field trip. These trips vary considerably in pattern due to personal styles and choices of teachers, yet there are some general categories into which most field trip activities can be placed. Depending on the purpose of the field trip and the subject matter undertaken, Brehm discussed three classifications of teacher-planned activities: visiting trips, collecting trips, and field investigations. A

visiting trip is an excursion to a site with the specific goal of seeking information on a first-hand basis, through observing and through asking questions and interpretation of what is seen. A collection trip is a visit to sites away from the classroom for the express purpose of bringing back specimens for further classroom study. The field investigation or field study involves repeated visits to limited sites in order to observe changes occurring as a result of natural events.[16] Brehm reported that the field investigation,

> In many respects is the most sophisticated of the three categories, since it involves indoor and outdoor educational activities on a continuous basis. Inherent in the field investigation technique are many learning skills: recording observations, collecting and interpreting data; making inferences from observations and collected data; reporting, measuring, running new trials; and experimenting.[17]

A classification of the types of field trips made by Elliot, was based on the time element and the resources available. He mentions two kinds of field trips: group trips and individual trips. The group trip is a teacher-conducted trip taken during regular school hours to a nearby place such as a local museum. Individual trips are also teacher-conducted trips but are taken outside of school hours and on Saturday for as many pupils as are interested or have a common background.[18]

In an investigation by Price, of the values of field trips he based his findings on the types of places to which such trips were taken, the time of the trips, and the value of such activities in the opinions of the school principals. Price classified field trips, therefore, by their destinations. He mentioned trips to a civic building, to rural industries, to urban industries, to parks, to museums, to libraries, to newspapers, banks, commercial offices, and higher schools. Price concluded that a considerable number of schools used field trips as a means of enriching the experiences of children and that a large majority of the principals considered them of high value. A few considered field trips of medium value, but none rated them of low or no value. Places where field trips were most likely to occur included parks followed by libraries and then museums. Examining the times at which trips are taken revealed that 53.1 percent of the trips were taken during school hours, 4.8 percent were taken after school hours, and 42.1 percent of the trips included time both during and after school hours.[19]

Borgenson, in the Eleventh Yearbook Of The Department Of Elementary School Principals suggests that field trips might be classified according to the following categories: (1) as they relate to curricular subjects; (2) by grade levels; (3) according to distance; (4) as to amount of time consumed; (5) according to the nature of the object, place,

or event to be observed, (6) in terms of major objective; or (7) according to intended treatment of materials.[20]

In summary, field trips can be represented by numerous concepts and definitions which vary among individuals; teacher-planned field trips vary widely depending on choices and decisions more by teachers. It seems to be the consensus of the authors who have written on the subject that at its best, a field trip is part of the educational program and structured to help students attain particular objectives; a field trip that is just a day off from class is not educationally justifiable. We can also conclude from the literature that it is a teaching method and a method of scientific inquiry that pays off in long-range benefits.

The Objectives and the Importance of Field Trips

Over the last few decades, researchers and science educators have spent an enormous amount of time and energy in efforts to improve the methods used for teaching science to obtain effective learning. The present emphasis in education is based on children's interest and aims at an identification of the growing child with the world in which he lives. The idea has influenced the thinking of many educators, but has in practice made little progress. There are a number of so-called experimental, progressive, activity, and project schools, but these schools are

generally outside of the organization of public education. No provision is made for a transformation of the content and methods necessary for activity programs based on the child's interests, and directed toward an identification of the child with the community in which he lives.[21] It is the problem of teachers in the public school systems to find an activity which can serve as a means of transforming the school curriculum from the subject matter level to the plane of children's felt interests. The field trip activity undoubtedly is such a means.[22] Field trips have proved of value to the school system in the United States. They have stimulated interest, made possible wider range of learnings from actual life situations and have integrated classroom learnings with the world of affairs instead of remaining cloistered within classroom walls.[23] Motivation and interest are among the most important conditions for effective learning. Unless a student sees significance and develops interest in the subject he is going to learn, it is unlikely that his learning will have any desirable value. Bryan wrote, "pupils learn more effectively when they react favorably to the elements of the teaching situation than when they are dissatisfied and uninterested."[24]

In addition to the motivation and interest field trips provide, it is a source of information for children, information directly obtained. Seeing things first-hand, hearing the noises of the machinery, feeling the heat of the

furnaces, and smelling the odors of the plants is quite a different proposition from reading about them. Appreciation and attitudes are built up thru direct contacts that cannot be attained in any other way. Moreover, through field trips children can be guided into sensing the value of obtaining information directly through first-hand contact with situations. There is no substitute for such methods.[25]

The educational benefits accruing from field trips are recognized by educators who use them as an effective teaching method. Because the student has direct contact with the subject of the study, he observes the real thing. His impressions are first hand; he hears, smells, and sees real materials at work. His senses of touch and taste may be involved as well, because numerous learning experiences can be obtained from field trips.[26]

Brehm made a clear distinction between teaching and learning in study outside the classroom.

> Teaching is teacher-planned and instigated, with anticipated learning on the part of the student. Learning activities may encompass that definition, but can go a step further, for the student may undertake invstigations or study without direction from the teacher. In this instance, the student is both teacher and learner.[27]

Three educational experiences are prevalent outcomes of field experience: learning rather than being taught, understanding rather than amassing information, and finding

out rather than being told.[28] Wood mentioned that students who have participated in his field studies have had the opportunity to experience the primary objectives of any biology course: observing, measuring, recording living things in action; and interpreting the findings in relation to their importance to the environment.[29]

The primary objectives of biology courses are more or less the objectives of any science course and field trip activities attain most of these objectives. Brehm enumerated the following learning skills that can be inherent in the field investigation: recording observations, collecting and interpreting data, making inferences from observations and collected data, reporting, measuring, and experimenting.[30]

Field trips present many opportunities for good teaching and foster learning. They provide students with first-hand experiences and help them to develop direct observation techniques.

Jarolimek stated, "Field trips are useful in providing learning experiences it is not possible to achieve in the classroom. They provide pupils an opportunity to see social phenomena on a first-hand basis."[31]

Field trip activity provides the opportunity for close, detailed examination and a thoroughness not possible elsewhere. There can be as much direct "hands on" experience as the student desires. It provides a lasting

impression of nature's complexity and excellence. The students' vision is broadened. Besides seeing things in nature, students begin seeing patterns and systems. They can see connections and interdependencies.[32]

A wealth of potential learning is made available to children through planned first hand experience. In a research study on school field trips, Falk and Balling reported that significant cognitive learning can occur on field trips. The information acquired on a field trip may be remembered for an especially long time. They also found that field trips are thoroughly enjoyed by students and teachers, and that these trips produce long-lasting positive memories of such nonformal learning institutions as museums, zoos, and nature centers.[33]

Learning is an active process that takes place during some kind of activity in which the individual is actively engaged.[34] This necessitates a careful search for attractive activities that get students' interest. Lewin has shown that children learn more effectively if the activity undertaken gets their voluntary attention, which can be attained if the children are interested in the learning situation.[35]

In a study by El-Dib, to determine effective instructional activities used by biology teachers in ten selected Michigan high schools, twenty-four learning activities were offered. It was found that participating

in outdoor activities was the activity most preferred by the students and was ranked first among other activities.[36]

In the traditional educational system, children study second-hand knowledge or knowledge which is chiefly verbal transmitted by words which are often awkward and ambiguous symbols for the realities which they represent. In this regard, Johnson states,"the emotions of our students are most easily reached, not by words but by sights and sounds."[37] Field experience permits students to play various roles, as spectators, observers, interviewers and statisticians and data gathers. All of these lead to the method of inquiry learning which gives, not certainty, but maximum assurance. The inquiry method works through four disciplines: imagination, precision, appreciation, and synthesis. Field experience stimulates imagination by suggesting relationships of cause and effect. The discipline of precision comes by honest observation, the toughness of facts, and operational definitions. Appreciation comes through being face-to-face with the realities of life and thus feeling and sensing them. The discipline of synthesis enters into a comprehension of things which are more readily grasped in field than in classroom experience.[38]

The essential objectives of field trips are to provide understanding through experience, to explore or stimulate interest in a new area, and to develop social

consciousness.[39] Students work directly with social agencies and community organizations, they meet face-to-face with nature, they use the environment as their major resource.[40] Omearah and El-Dib stated:

> Field trips are one of the most important activities in science teaching, in which a student meets face-to-face with the nature. He feels its content and considers it within his direct expertise. Reading about the natural environment for some plants, for instance, is one thing and seeing those plants in their natural environment with their natural colors and sizes is something else.[41]

The field trip activity has been utilized for many years by educators in the West to supplement their instructional programs. It has been a common way to strengthen students' knowledge about the cultural, economic, and social problems of their society. It provides students with an understanding of the environment in which they live.[42] Mewha mentions that the field trip is usually regarded as a new and wonderful teaching instrument which can provide students with answers to practical questions.[43]

Field trips also develop an understanding of the material level of the community. It is here that the relationships of man to his natural environment are most apparent; it is here that the adjustments man has made to the different natural conditions of his environment are most easily demonstrated; it is here that it can be most easily seen that man's institutions stand, not by themselves alone,

but by intricate and hidden interrelations among themselves and with the natural setting.[44]

The benefits students can gain from a field trip are more than what a teacher or an instrucor can expect. Allen wrote,

> Students on a field trip can transcend the concrete, the immediate, and the particular. They can pause to reflect upon their lives in terms of ultimate meaning. They can develop their sense of meaning and value commitments through these encounters with natural processes and through dialogue with their fellows. They can build their orientation toward life. [45]

In addition to the learning experience, field trips provide students with aesthetic experiences as well as career preparation for the future. Lee and Myers stated, "The aesthetic route to learning can be applied in lots of different settings, but nowhere more naturally than on an outdoor field trip."[46]

Differences in setting novelty can have dramatic effects on students' behavior and learning. By manipulating setting novelty, students' needs can be met and most educational objectives can be accomplished.[47]

In summary, the field trip activity attains most of the eduational objectives. The value of the field trip cannot be over emphasized for it has stimulated interest, provided learning experience (process and products), a wider range of the social and physical environment, personal growth, the promotion of better citizenship; a better understanding of

career preparation, and the formation of a connecting link between man and his environment.

Problems Related To Field Trips and Their Suggested Solutions

If field trips provide such a fruitful approach to learning, especially in areas such as science and social studies, why, then, are they not used more frequently? This question may be answered in terms of availability, possibility, and educational purposes. Possible reasons that teachers do not use the field trip may include negligence, financial problems and time and scheduling problems.

Mewha found that the major reason for failing to use the field trip strategy is a general lack of recognition on the part of teachers of the use of community resources in teaching.[48] Other reasons for the lack of use of field trips on the part of teachers and administrators include inconvenience, responsibility, and potential dangers. Fairbanks mentioned that the outdoor instruction is avoided by many academics for a simple reason: teachers and professors normally inhabit classrooms, libraries, and laboratories to the point that many fail to see the value of any instruction beyond books and lectures.[49] Mewha found "the reason most commonly advanced by teachers and administrators is that it is inconvenient."[50]

High also pointed out that field trips may be inconvenient and time-consuming for a teacher to arrange, but suggests that on certain occasions the inconvenience is far outweighed by the benefits of furthering the learning process.[51]

Teachers hesitate to conduct field trips because they may assume that they cannot handle a bus full of students. Others feel that such an experience is too full of responsibilities on the part of the teacher. Williams reported that teachers might find that off-campus education can be confining. Teachers must supervise students from the early morning hours until these same energetic youngsters are safely returned to the homes.[52] It is the teacher's responsibility to see that children behave themselves in the field and do not endanger themselves or others.[53] Fear of this responsibility may arise from knowing the limits of liability arising from an accident at the site of the trip. In most cases, the property owners is not held legally liable for mishaps.[54]

In conducting the trip, a teacher must take every precaution to insure the safety of his charges, particularly in getting on and off buses, at street crossings, and at points of special hazard. He needs to be sensitive to their comfort, especially as to times for meals and comfort stops and as excessive standing or walking. Teachers should devise a good system of taking roll before leaving each

point of study and rotating seats in the bus on long trips. While the teacher should stay in the background during some of the trip, it is also important that he be alert to give necessary instruction at the most effective times and keep the whole trip moving easily and efficiently. Finally, the teacher should know to the last detail what he is going to do on the trip. Signs of indecision or confusion on his part detract from the value of the trip and are fatal to his prestige as a leader.[55]

Ritsema notes that school principles are in a position to make important contributions to the field trip programs of their schools. As an administrator for field trips, the principal should be familiar with the policies of the school system and local school board and the legal aspects of permissions and approval necessary from parents and the community. He must be conscious of any special safety or physical requirements of the school or the place of visition.[56] Elliott pointed out that group trips with large numbers of students are not considered feasible and the teacher's responsibility for the physical safety and conveyance of large groups is an inherent consideration.[57]

The teacher's role in a field trip is critical, his beliefs, his knowledge, and his actions in the field are crucial. In most cases he is the guide for the group and his behavior influences the whole enterprise. Hoover stated,

> Field trips may not be as successful as they might be because teachers develop inflexible habits of thinking about the teaching process involved in excursions. Many teachers may look at the field trip as thirty children clustered together receiving a lecture. [58]

Sometimes field trips are visualized by students as a holiday from school. Appropriate preplanning activities with the students involved in these events should eliminate this feeling.[59] However, students often behave like they are on holiday and this can be frustrating to teachers.

To surmount the problem of educators' lack of knowledge of the values of field trips or their unwillingness to conduct them, teachers and principals should first be aware of, and have wholehearted belief in the soundness of the enterprise of field trips. In developing a program of extending education outside the classroom, Bryan suggests that the following points be considered:

> Can the average public school and the average public school teacher have a share in the program? Can contacts be broadened, impressions made more vivid, and learning made more vital and permanent? I feel sure that they can if teachers and principals believe enough in the modern philosophy. [60]

Second, modern school programs concerned with out of school experience should be undertaken. Educators should work together to design new progressive programs that make possible more desirable opportunities for children. Such school programs create work for teachers, supervisors, and

superintendents and demand adaptation of and detachment from comfortable mental patterns. According to Bryan, those tips undertaken will yield results that justify the effort involved.[61]

Third, the community around the school should be aware of the importance of extending eduation outside the classroom. Parents and other open-minded individuals should participate in planning such activities. Bryan mentions that one of the problems facing his out-of-school education program is the development of a fair point of view in the community toward such a program, which requires tact, knowledge, and a wholehearted belief in the program's importance. It may be a slow process, but can be accomplished if it is believed that children need enriched opportunities.[62]

The other types of problems that present themsleves in connection with field studies are financing and time or scheduling. The problem of financing field trips is a difficult one, partly because their occurrence is irregular and a means of subsidizing them has not been established.[63] Williams pointed out the two potential sources of funding by asking if public schools, supported by local taxpayers would be willing to finance these trips or whether students would be expected through fund raising and their own resources to pay for them.[64]

Pendered also examined financing and scheduling,

> It is extremely difficult for the typical teacher to take his classes on field trips. Among the number of reasons for this, two principal ones emerge; (1) cost and (2) scheduling problems. Bus transportation is usually expensive and often difficult to arrange exactly when needed. The cost of meals on the trip must be considered. The possibility of accidents either enroute or during the visit itself is present. In addition, the charges for transportation, lunches, and trip insurance may be beyond the means of many students. [65]

When considering the trouble of getting the right transportation at the right time and the right costs, a teacher will think seriously of the benefits of the trip and whether it will be worth all the efforts needed to arrange it. Stronck mentions that teachers generally believe that science field trips should be taken every year, but current transportation costs and availability are causing school authorities to question the benefits of such trips.[66]

One suggestion for solving the transportation costs problem is the use of private cars (teachers, principals, or older student's cars). More and more schools, however, discourage or prohibit the use of private automobiles on school trips to avoid the trouble of legal liability in case of an accident. Careful planning can make a trip by private car successful and teachers will have approximately the same responsibility for instructing the drivers of private cars as is needed for a bus driver.[67]

On field trips to sites away from the school, school buses or commercial buses are ideal, assuming their availability. Liability for injury in case of accident is another major problem. Brehm notes that, "more and more schools require that school buses or commercial buses be used to transport children on school-related trips rather than private cars. A major factor involved in liability for injury in event of an accident."[68]

Cost sometimes constrains the effective use of field trips and calls for substitutes. According to Butzow, field trips to the shore are impossible for many schools due to distance and financial constraint. The need exists, however, for teachers to draw upon local resources to substitute for first-hand experiences.[69]

Financial problems mainly consist of transportation costs. This factor should not be allowed to interfere with valuable learning activities but in a real world it often does. Providing sufficient budget for drivers and other costs of using school buses would resolve this problem but may also limit the types and extent of trips to those that will not affect regular runs which buses must make in bringing students to school in the morning and home again in the afternoon. Also, there are potential learning experiences in the school yard which are often overlooked as having learning potential on a continuing basis and at less cost.[70]

Another valuable resource which does not require transportation is studying the community around the school, a nearby public park, or a supermarket a few blocks away, which can be a walking trip. The community around the school provides many unexpected learning experiences that are interdisciplinary. It consists of not only a collection of people but a physio-social environment with which students frequently interact. Theoretically, the case for using the community environment as the basis of teaching, especially at the secondary level, is a good one. In practice, however, little has been achieved in putting the theory into general operation.[71]

Supermarkets offer resource materials for both the natural and social sciences but they may be too much a part of children's normal experience to provide much education incentive. On the other hand, children's natural curiosity about their environment and the products found in a neighborhood grocery provide the ingredients for a unique field trip that, properly used, can enrich and expand the science program.[72]

Other barriers to field trips are time and scheduling problems. Many teachers complain that they cannot provide the time needed for conducting field trips because they have a full schedule. Time and scheduling problems are so related to each other that we can refer to them all as scheduling problems. They are local problems and depend on

the cooperation of school authorities and the teachers in the school. Edgar states,

> The problem of scheduling is a thorny one because it often disturbs the school routine, painstakingly worked out in the school office, because interruptions for field trips have not come to be accepted as a matter of course, and because some teachers either do not want to ake field trips or do not want their classes depopulated or shifted. Thus the problem often stems from inertia and will be acute as long as the educational values of field trips are not considered sufficient to warrant interference with routine, either administrative or classroom. 73

The field trip activity involves the necessity of making special arrangements because it frequently cannot be completed in the time period allotted for a regular meeting of the class and special provisions have to be made for students to be absent from other classes that may also involve essential activities.[74] The scheduling problem often disturbs school administrators because of conflicts that arise with bus, extracurricular or other class activities. Pendered stated,

> While many administrators encourage the idea of field trips, they often take a dim view of the students missing other classes--as do the other teachers. Many students are bussed to school, and there is the problem of returning from a trip in time for them to board their homeward bound buses. 75

In considering a field trip, the teacher and the school principal need to discuss and review the school board

policies and/or administrative procedures which cover field trips with particular attention to scheduling limitations presented by school class schedule requirements and changes in schedules of other teachers affected. Others who may be affected are school bus drivers and athletic coaches who jealously guard the after-school practice time of their star players.[76] In the last analysis, the problem of scheduling, as mentioned earlier, is a local one and each school must resolve it in its own way.

In progressive and experimental schools, the program may be flexible enough that little difficulty is encountered even in arranging long trips lasting a week or more. Some institutions set one day aside each month for field trips and all teachers plan their field trips for that day, with each field trip day falling on a different day of the week. In other schools, to avoid scheduling problems, Saturdays and after school hours, and vacations periods are used.[77]

In summary, preparations for learning experiences outside the classroom involve the consideration of all the physical conditions which teachers take for granted when classes are held indoors.[78] Field trips present challenging problems for the school system which will need to be worked out well in advance to make the field trip experience as beneficial as possible for the students with the least possible disruption for the school. Transportation,

shelter, parental approval, food, resources, and resource personnel must be arranged for.[79]

Saturdays, evenings, and vacation periods may be used to avoid some time and scheduling problems, but Saturday trips are difficult because transportation is a problem, children have out-of-school plans, and many locations, such as industries are closed. However, with pre-planning and some pre-arrangements the problems can be solved.

Edgar made the following suggestions for school-day trips:

(a) Lists of approved trips should be posted in advance so faculty members can adjust their class work accordingly.

(b) Lists of students going on a trip should be circulated among other members of the faculty by the teacher conducting the trip or by an administrator. Only those students should be permitted to go who are voluntarily excused by instructors from conflicting classes.

(c) Double periods in science and social studies may follow each other so that without interference with other classes four continuous hours are available for use at the discretion of the teachers of those subjects. Other subject combinations would be possible.

(d) Teachers and their classes can be grouped in blocks and the members of each block can arrange a schedule of half-day trips among themselves.[80]

Although the problem of scheduling is a thorny one because it disturbs the school routine, it can be solved where there is a conviction that the outcome of field studies justifies occasional reorganization of the school program.

Principles and Characteristics of an Effective Field Trip

As mentioned earlier, field trips are but one device or teaching technique employed to meet the particular objectives of a planned program of learning. A teacher selecting a field trip as a learning experience uses the same criteria as for selecting any other teaching technique: that this will be the most effective instrument for attaining the goals set forth for these particular learners at this particular time. In this sense, a field trip is an on-going part of the program planned by the teacher and develops as other activities do. It has pre-trip, during trip activities and post-trip activities all woven together as part of the total program assisting children toward individual growth at each stage of the preparation and follow-through.[81]

In his essay, Edgar listed the criteria for a successful field trip which include: (A) preparing for the trip, (B) conducting the trip, and (C) checking up. The problem of preparing has two phases: (1) general preparation for a field studies program and (2) specific preparation for a particular trip. The first of these phases involves determining (a) the pupils' need for direct experience, (b) the available resources of the community, (c) the types of trips to be taken and (d) securing the cooperation of school authorities. The second phase involves (a) setting-up

specific objectives for the trip, (b) the teacher's study of the literature of the subject to be observed, (c) class work relating to the trip, and (d) making definite arrangements for the trip.[82]

Dibella and Steele emphasized the significance of planning and preparation by the teacher if the field trip is to be successful. Unit goals, methods, timing, coordination, activities, and resources must be considered before the field trip is undertaken.[83]

In the stage of planning and preparation, it is advisable to involve students. Brehm stated "the greater the involvement of the learners in planning, the more fruitful the total experience will be for them."[84] Planning and preparation by the teacher and the students are as important for a successful trip as are the techniques and demostrations utilized in the field and in the classroom. Before any field trip can be undertaken, there are certain details which must be attended to by the teacher.

> Do you have permission and cooperation of your school administration?... Are you prepared to explain why this trip is necessary and not just a vacation from the ordinary routine? Where are you going? Do you have the landowner's permission? Have you located an area nearby which will suit the needs of your class? The destination need not be a thousand-acre tract of virgin forest in order to be an effective site... Have you informed the parents of your plans?...How are you going to get from the school to the site and back again? Will the school pay the bill of transporting your class on a field trip? If not, are there parents or "friends of the school" who can help out?...Have you

> contacted capable persons to assist you?...Should the whole class be kept in one group? Three to five leaders can effectively handle a class of thirty youngsters. It may be wise to separate some children, and your assistants should be alerted to any health or behavior problems. 85

Upon arriving at the destination, and before the small groups disperse, it is helpful to re-emphasize the following rules or suggestions:

1. Each student must stay with his group and is responsible to his group leader. Have the younsters walk with a partner.

2. Remember to alert students and leaders to all hazards in the area to be studied and how to avoid them, e.g., deserted quarry holes, caves, or poisonous snakes and plants. Everyone should know who is carrying the first-aid kit in his group.

3. Remind leaders to be calm but firm and to generate interest in the purposes of the trip by enjoying it themselves. Nothing dampens a child's enthusiasm faster than obvious boredom from their leader.[86]

The idea of going on a field trip should ideally come from the pupils but motivation from the teacher for a trip should not be difficult. Through class or committee planning, older pupils can establish their purposes for the trip. These purposes may take the form of a checklist of things to see and do. If collecting is to be done, careful supervision is necessary as so not to carry to the entire

site back to the classroom. Also, in some areas, like the MSU campus, local and state laws prohibit such activity. Be sure to check the regulation in your area. Proper clothing for the weather and locale should be discussed by the class.

In addition, a planning committee can develop a list of necessary equipment and supplies which should be kept to a minimum because it can be distracting and difficult to carry. Some items to consider are: compass, plastic bags, insect collecting equipment, field glasses and cameras, first-aid kits, and reference materials.

In the field, activities can be arranged by the teacher to help the students grasp an understanding of the interrelationships of plants, animals and their environment.

1. Observation. Observation is a process of learning to see likenesses and differences. It involves learning to distinguish between the real and the fanciful, between objective observation and value judgement. Don't tell the students everything they should be seeing. They will probably see things that you do not notice. Allow them some thrill of discovery.

2. Collection. Collection can be useful or wasteful. A collection of mounted, labeled leaves, insects, or rocks becomes a teaching aid. A boxfull of unlabeled specimens may be a testing device, but is more often a dust catcher and wasteful. In collecting plants, do no take a specimen unless there are ten or more plants of the same species in the immediate area.

3. Reinforcement. Back in the classroom what happens to this field trip experience? Even though the field trip may have been the culmination of a unit of work, reinforcement of the concepts learned will help insure the success of the total experience. How the field trip is followed up depends largely on the purposes of the trip. The

> students have shared an experience with each other, with their teacher, and with the other adults who assisted with the trip. This can be one of the most important and lasting effects of the field trip experience. Have each child write a paragraph or more, about what he liked best or what he learned to be dittoed into a report to parents and other interested adults who helped with the trip. Many children may report the bus ride or the picnic lunch as the best part of the trip. Don't be dismayed. There would be many problems if children reported the bus ride and the lunch as the worst parts of the trip. Social experiences are learning experiences, too. [87]

Lobeck, in the Thirteenth Yearbook of the Department of Elementary School Principals, presents a very helpful set of practical directions for successful field trips. Among his suggestions for a short afternoon's trip: (a) do not spend too much time getting to the scene of action; (b) do not crowd too much into a single afternoon. One good, well-rounded idea or combination of related ideas is best; (c) members of the group must participate actively, and not be passive listeners. They must have something to do, each one of them; (d) keep the whole proposition simple, or at least make it seem so. Before leaving one place of observation go over systematically all that has been observed, sum it up in topical form, and leave the job finished in ship-shape fashion.[88] Lobeck stated:

> The excursion from beginning to end must be planned in every detail. The leader of the excursion writes down a schedule which accounts for every hour of the time from beginning to end. He plans for every meal, for every stop, for every move of every member. [89]

Some characteristics of a successful field trip are reported by Nash in the Spring 1980 issue of the Journal of Environmental Education. Some of these characteristics are: (1) Academic substance. The field trip must intellectualize the learning experience, knowing and understanding rather than feeling and doing, are the emphasized goals. (2) Pre-trip preparatory study. The adage that you get out of something what you put into it has special applicability to field trips. Reading, writing and attendance at lectures and discussions seem to enrich the field experience. Something is also learned from planning the physical details of a trip. (3) Systematic daily reflection on the experience. The best program makes time in the schedule for instruction, discussion, individual reflection, and journal-keeping. Purpose and planning are the keys. (4) Post-trip exercise. Much seems to be gained from requiring students to reflect upon the field work after its completion. A research paper combines field and library or laboratory data is an ideal bridge. (5) Social relations. The most successful programs pay careful attention to the social dynamics of trips. More than in a classroom, students are obliged to relate to each other. Poor group relations can severely limit the trip's educational value. Good relations facilitate instruction and lead to understanding the fundamentals of effective social behavior. (6) Safety and Comfort. Teachers involved in field trips have far greater

responsibilities for their students' well-being than classroom teachers. In any case, institutions and individuals sponsoring field trips must carefully consider risks and legal liabilities.[90]

Krepel mentioned that field trips are no different than a normal classroom experience. The responsibilities differ in kind, not in degree. As with many other educational experiences, the success of the field trip requires prior planning related to the attainment of the educational objectives of the venture. It should be based upon stated educational objectives that are planned by the teacher and worked on by students and the principal, who will be more apt to give approval if involved in the planning stage. Students are likely to exhibit more interest if they have been involved from the beginning.

The planning session with the principal which may involve a representative group of students is an opportunity to review school board policies and administrative procedures which cover the field trip. This discussion may also include such items as site acceptability and scheduling limitations. Other items which need to be covered are insurance, bus arrangements and financing.

The teacher must know exactly what the site to be visited has to offer the students so as to be sure that the trip will be a wise expenditure of valuable class time. Many details can be clarified by an on-site pre-visit. The

educational objectives should be discusssed and time limitations must be considered. Potential dangers must be identified, particuarly with regard to clothing and student behavior. Regulations regarding food and drink should be pre-arranged and the host should be made aware of any special needs regarding physically handicapped students.

No student should be permitted to participate in a field trip without a signed permission slip in the possession of the teacher before leaving the school. The permission slip in no way relieves the teacher from any responsibility for the student while on the trip, but it is one way of insuring that the parent is aware that the student will be away from the building at the time designated and will be at the places indicated.

The permission slip should be accompanied by a cover letter explaining the nature of the field trip, the educational purpose, the complete itinerary (including approximate times for arrival and departure from each site), any costs involved, and special clothing required. The cover letter should also contain the name and telephone number of the person to be contacted in the event of an emergency. A medical release enabling the teacher to obtain emergency treatment for students should be a part of this permission slip and the slips should be carried on the trip. While the need for this type of information seldom develops, it gives a sense of security to have it available. Under

no circumstances should verbal permission be accepted by the teacher.

The teacher should provide adequate supervisory assistance. The number and type of additional helpers depends upon the nature of the field trip. One adult supervisor is usually adequate for each sub-group of five or six students. The teacher also needs to be sure the additional supervisors are adequately trained to be familiar with the educational objectives of the trip and its implementation.

The final step is an appraisal of what was accomplished by the field trip in relationship to the educational objectives formulated when it was planned. Evaluation should include a list of strengths, weaknesses and suggestions for improvement and should be shared with the principal. Discussion with the principal and other teachers can contribute to continued improvement of the learning environment.[91]

In the article entitled "Planning a Field Trip" the author listed the following tips for a successful field trip.

1. Make a list of resources to visit in your area that will fit in with your teaching material. Enlist students to help research. Choose destination that lie in consumerism, ethnic culture, concern for community problems and so forth.

2. Contact resources by letter, telephone, or personal visit well in advance of when you wish to go.

3. Set an arrival time, determine length of visit, and number of students who can be accommodated.

4. Obtain written permission from parents and administration.

5. Be sure there are enough group leades along. Ten (10) children for each adult is advisable.

6. Formulate precise objectives for the trip and define these to students, group leaders, and the resources you'll be visiting.

7. Arrange for transportation and other expenses. To provide maximum benefits, attempt to involve students as much as possible in the planning and preparation of the trip.

8. Inform class about what is going to take place and what they may gain from the experience.

9. Have students explore the history, geography, habits, living patterns, and other pertinent material relating to the destination of the trip.

10. Challenge students to formulate questions that will yield specific information. Then compile these questions into one package and send them ahead to your destination.

11. Follow up the field trip experience with individual reports or projects and appropriate activities, including a class thank-you note.

12. Discuss whether objectives of the trip were achieved with your school principal and students. 92

In her book, A Teacher's Handbook For Study Outside The Classroom, Brehm reported many principles for an effective field trip. Under preplanning of the field trip, she wrote, "The planning stage of any learning experience is extremely important and cannot be done hurriedly." Furthermore, "any field trip should emerge from on-going activities within the classroom. It should utilize the best

resources available for teaching the concept at hand."[93] She also recommended a pre-visit to the site by the teacher conducting the trip even if the site is well known. Changes may have occurred since the last visit which might significantly alter the opportunities for learning.

Also recommended is discussion of the field trip with students. As the teacher describes the field trip site to the children, he or she can point out its unique or predominant features. It is essential to raise questions with the children, such as "what things can the field trip best help us find out?" The children can then be encouraged to list questions or comments about the things they can look for on the trip. The teacher should then classify or group the ideas and develop a meaningful set of questions to guide the experience.

On teacher-assigned trips, depending on the subject matter and the task at hand, the teacher may select and assign the site that fit the students' needs. On student selected trips, students can list their major choices in first, second, and third order. Selection based on teacher observed sociograms, academic achievement levels, or what not is appropriate when self-selection becomes impractical.

The students should meet together in groups to plan in detail how they will best answer their questions. Concommitant classroom or library research may be useful at this stage. While some teachers may feel that research

would be more appropriate after the trip, observations are more precise if one has knowledge of the things to be observed. Thus, it is advisable that reading or a search for information be significant both before and after the trip.

Students in small groups should arrange for the equipment or supplies required for their immediate area of investigation. Teachers must not expect that inexperienced children can be very productive in group work without a great deal of guidance, but children should be involved in providing materials, carrying pieces of equipment and getting collections back, even if these duties are teacher-assigned. The more cooperative the undertaking the more successful it will be.

Every venture outside the classroom involves transportation of the learners. Teachers should develop expedients for transporting classrooms of children on foot inside the building and outside or between buildings. Most children have taken bus rides and are aware of the rules which apply to them. However, it is well to anticipate any special preparation for transportation so that the trip is accomplished pleasantly.

In developing a well-planned field trip other physical arrangements and facilities need to be considered. These arrangements include: administration permission, parental permission, and site authority permission, which includes

permission to collect study specimens. A conscientious teacher is continually concerned about conducting learning experiences safely. All normal safety precautions apply, but should be reviewed with the students beforehand and supplemented according to the unique requirements of the trip.

The learning experiences of the trip do not end when the trip is over. A well-planned trip involves follow through so that the pre-trip activities, the trip, and the post-trip activities are related as continuous experiences building toward attainment of objectives of interest. Upon returning to the classroom, the teacher may select from several activities appropriate to the age of the children to evaluate the learning experiences. Verbal post-trip evaluation is one method of structuring the experience. "Others may include art work, dramatizations, games, bulletin board displays, collections, photograph displays and so on." Post trip discussion is also important according to many authors. Brehm stated, "the post-trip activities cut across subject matter in such a way that the experiences become unified, and the focus of the trip develops, reinforces, and implements the many skills which are important end-products of elementary and junir high school education. These experiences can be constructed to involve all means of communication available to the students, developing meaningful expression through various

media, and integrating the experiences so that generalizations can be made."[94]

The post-trip helps in checking on the value of the total experience of the field trip including the earliest planning and the trip itself. Even though the field trip may have been successful in learning new concepts, reinforcement of the concepts learned will insure the success of the total experience.[95]

In summary, the literature above has dealt with the principles and characteristics of safe and successful field trips. It was evident that the three essential stages of any successful field trip are the planning stage, the trip itself, and the follow-up stage. Those stages include such principles as: consistency of subject matter with students' needs, preplanning realistic goals and objectives, careful site selection, pre-visit to the site by the teacher, dealing carefully with safety and permission procedures and planning and carrying out evaluative follow-up activities to structure the overall experience and improve future trips.

Relationship between Science Curriculum and Field Trips

No informed person will deny the importance of field trips in teaching in general and science and social studies in particular. Price stated that field trips provide experiences out of which school activities become more

meaningful. They are one means of bringing the outside world into the school and taking the school into the world. As a result of this contact with the activities of the world, reading, writing, arithmetic, science, history, geography and all other subjects of school curriculum take on life and become more meaningful to children.[96]

In the United States, Charles and Frank McMurry, early in this century, promoted the use of field trips in the teaching of science and geography and since then field trips have been an accepted part of the educational program of schools throughout the United States.[97]

In 1970, Williams stated, "at the present time, students attend schools made up mostly of classrooms, where they listen to lectures, read textbooks, take notes, and cram for examinations. In the process, they often become passive."[98] Then he forecast that in the last quarter of the century more and more children will be educated off school grounds, outside classrooms. It seems certain that children in elementary, junior and senior high school will be spending extensive periods of time involved in actual life experiences. City youngsters will be working with ghetto problems, future scientists will go to centers along the Altantic and Pacific Oceans to investigate marine biology; other students will learn about rural economics by living and working on farms."[99]

Falk and Balling (1980) stated, "the elementary school science field trip is an American institution. For nearly a century, no school year has been complete without at least one field trip to a museum, zoo, nature center, or other learning center."[100] Such trips are an integral part of the scientific curriculum and the field trip is a well established part of most natural science curricula.[101] The trip may occupy a class period or part of a class period or may last a day, a week or longer. Students may go across the street from the school, to a neighboring meadow, across the continent or around the world. The trip may be supplemental to a lesson or a unit of work or it may be a course in itself for which credit is given. In all cases, the trip should be an integral part of the course and be planned to accomplish certain ends which can not be accomplished as well by other procedures. In planning a science field trip, it should be related to the ongoing classroom activities. Hoover and Hollingsworth (1982) stated

> Field trips are important and valuable to the children. The excursion should be planned in relation to ongoing unit activities. Field trips can be a means of enriching the children's study by taking them to a learning situation that is not easily visualized through reading or discussion.[102]

Some field trips may be taken near the beginning of a unit for gathering information on specific topics or problems.

Other field trips may be taken during the middle so that students may get new directions for their studies. A field trip may also be taken at the end of a unit as a final activity to which other content leads. Whenever a field trip is taken, it should be related to the classroom activities and unit requirements.[103]

In describing his field trip to Big Bend National Park, Biggs reported four major advantages of the trip.

> Since it was interdisciplinary, students found that all areas of serious study are integrated and none can stand alone. The intensive nature of the experience provided some students with a more challenging experience than they had had before. They learned several ecological techniques normally used only by professional ecologists in the field. Finally, the National Parks provide an excellent outdoor classroom environment far superior to that provided in any building.[104]

On a field trip, comprehensive information can be gained which cuts across disciplines. Students can acquire knowledge that is not specific for one subject. Thus field trips provide integration of the curriculum. On a science field trip to a food conservation and preservation facility, such as a cannery, students will not only learn about ways of conserving the food and the chemicals involved, they will also learn about effects of the industry on their lives and the economy.[105]

A concept of science curriculum that finds general acceptance among educators is that school curriculum

happens, that is, it is manifested in the experiences of the child. The curriculum thus experienced in a given classroom will vary for each child because of the units of his life both prior to and after instruction, both within and outside of school. This concept of curriculum does not justify particular programs, for a child's experiences can be good or bad. Rather, the view is that curriculum is not a textbook, a course of study, or a unit plan. These things do not become alive and viable for the student as curriculum until he interacts with them. Curriculum thus becomes an active concept. Field trips, therefore, do not add to the curriculum, but are a means of implementing certain objectives "whereby curriculum becomes the experiences of a child, and adds to the full measure of his life."[106]

Science field trips are thus an integral part of science curriculum, one device or teaching technique employed to meet the particular objectives of the science program. The immensity of resources available in any community can be nearly overwhelming when one considers the places to study science. Selection of a place to visit must be made to maximize the learning experiences of the students.[107]

Science museums are but one type of sites in which students may attain many of the objectives of the science program. A view which finds general agreement among museum coordinators is that the idea of establishing science

museums was derived from the strong relationship between school science programs and field trips. Many teachers were reporting a scarcity of places to visit and study science. Therefore, science museums were founded as a result of the natural relations between science motivation in schools and field trips.[108] Coleman stated,

> Between schools and museums there is a natural affinity springing from the fact that objects--the materials with which museums deal--are useful in teaching. As a consequence, cooperative relationships between schools and museums have grown and are now well established in all larger cities and in most of the smaller places where museums are to be found.[109]

In an article by the NSB Commission (1983) urges federal support for science museums. The article indicated that science museums should receive federal money to support "the vital role science museums play in informal education and encouraging students to pursue careers in science and mathematics."[110] However, field trips to museums are not only important in motivating future scientists, but they are important in educating <u>all</u> youth about the role of science and technology in the society.

Chittenden mentioned that most science museums pursue a full spectrum of informal learning programs including science enrichment classes for many ages and abilities, interdisciplinary activities combining science and other topics and science-field trips and study tours.[111]

In the NSTA 1984 Yearbook VanDeman stated,

> Science learning takes place both in and outside the classroom, formally and informally. Yet little attention has been given to the role of informal learning experiences as they influence a child's interest in and understanding of science. Television, reading, family outings, and visits to zoos and science musuems affect the quality of a child's science education. Schools must recognize and promote informal education if they are to improve the quality of formal education.[112]

Field trips to science museums are but one means of studying outside the classroom. Field trips to parks, zoos, factories, forests, and natural centers will be as important and will achieve different objectives for different subjects. Price wrote "a trip to a park, to the beach, to the woods, to the city hall, or to a factory, with a skillful teacher will help children to see and to understand their environment."[113]

Field trips provide a means of enriching the learning experiences of the pupils. By trips to civil buildings, rural industries, urban industries, newspaper publishing, banks and commercial offices, students have the opportunity to become acquainted with and contact the real world around them.[114]

In summary, the relationship between science programs and field trips is nothing new but an ancient tradition and has a rich history in America. Students have been outdoors with their journals since the days of Emerson and

Thoreau.[115] A field trip is one of the popular activities of many schools and universities. Many geologists, botanists, and paleontologists regularly take their classes on field trips.[116]

Teachers' Attitude Toward and Usage of Field Trips

Field trips are considered something different from the routine of everyday classes and teachers may hold either positive or negative attitudes toward them. In most of the literature reviewed here, teachers seem to hold positive attitudes towards the field trips and call for more of this activity. Alan Mewha, the Director of the Conservation Workshop for Teachers at the State Teachers College in Westchester, Pennsylvania mentioned that, the field trip is one of the most beneficial teaching devices for both teachers and students. To the teacher who knows how to use it properly, the field trip is usually regarded as a new and wonderful teaching instrument and it is applicable to an exceedingly wide range of topics and subject areas. To the student, the field trip is not only an interesting approach to learning but is one that he usually regards as providing answers to practical questions.[117]

Sybil L. Daniels, a teacher at Paul Revere School in Revere, Massachusetts, discussed her attitude toward field trips.

> A trip to the beach always appeals to the children and provides a teacher with new and interesting subjects around which valuable lessons may be arranged. The specimens found are concrete material which serve as a medium for securing a high degree of interest that will carry over into many later experiences.[118]

She then described the fun she had experienced with her students on a previous collecting trip to the beach which included a hike, discussion, research, cooking and a party.[119]

In a research study by Falk and Balling (1980) concerning the value of science field trips to the Smithsonian Institution's Chesapeak Bay Center, they developed a general approach to determine the characteristics of the field trip experience that applied to all field trips so as to understand what factors affected student learning and behavior on field trips-- more specifically, to determine whether children actually learned the facts and concepts associated with the lesson on the trip or just had a good time and familiarized themselves with the place. Among their results, they found that significant cognitive learning can occur on field trips which can be coupled with hard data and substantiated by anecdotal evidence that field trips are thoroughly enjoyed by students and teachers and that these trips produce long-lasting, positive memories of such nonformal learning institutions as museums, zoos and nature centers.[120]

Basically, the challenge facing elementary and junior high school teachers is to make the field trip experience as meaningful and as close to first-hand experience as possible. Teachers who desire to engender good habits of civic pride and social responsibility need to develop a moderate approach, avoiding the one extreme of forcing the children to behave like automatons, and the other extreme of chaos or allowing students to run wild or to behave in a rude or thoughtless manner.[121]

Although teachers usually do not express their attitudes or feelings about field trips, those attitudes appear in their actions. It is thus evident that a field trip gets it value and success from the teacher's views and actions with respect to the field trip. As a planner, a conductor, a leader and an evaluator of the teaching experience, the teacher should present a good example or model for the students in any situation. On a field trip, the teacher should show respect for the learning process, should be active and should consider the students' welfare. The following is a hypothetical scenario by Dibella and Steels illustrating several points concerning the teacher's views and actions on a school-based field trip to the County Historical Museum.

> In the classroom the teacher said, 'Alright now, class, today we are going to visit the County Historical Museum. I want you to pay attention to the guide and learn as much as you can. Be sure to look at all of the exhibits. Now get your things together and let's go wait for the bus to arrive.'

Later, at the museum, this scene can frequently be observed:

> The teacher is seated in the museum auditorium after a brief introduction to the museum by a volunteer guide, talking to one of the field trip monitors who also made the trip. Throughout the duration of the visit, there seems to be relatively little concern shown for how the students should be exploring the museum. At the same time, the students are aimlessly wandering about the display area after the short formal tour has ended, somewhat confused as to what they should be doing, sometimes stopping to casually look at an exhibit of interest, and then moving on to another section of the museum.
>
> The next day, back in the classroom, the teacher says: 'I hope that everyone enjoyed the field trip yesterday and learned a lot. Now we are going to continue with our study of the Cold War Era.'[122]

While the overstated scene above does not represent the majority of teachers who take their students on field trips, Dibella and Steele considered the teacher above both negligent and irresponsible. The teacher gives a bad impression about the quality of field trips for all students and school personnel. The lessons to be learned as largely ignored because students receive no leadership from the teacher who regards the trip as a teacher-holiday. Objectives are not discussed in advance and no post-trip evaluation is undertaken.

The quality of any learning experience, of course, depends upon the abilities of the instructor. Rumrill pointed out that instructor attitudes and expectations are major factors influencing the quality of students' work.

Teachers have to know how to prepare and structure learning experiences for students. Field observations, experiments, and study projects need to be planned. Courses need sequence and focus, even more than in-school activities. In the field trip there is the opportunity for leadership. Because of the closeness of the student-teacher relationship, teacher attitudes influence the students' learning and behavior. The role of the teacher as a model for students differs within and outside the classroom. In the field, the teacher takes on added qualities and becomes more human in the eyes of the students and a model of observation, questionning, and action.[123]

Field trips are increasing in numbers in elementary and secondary schools and in colleges and universities, particularly in teachers' colleges. Teachers who have used the field work technique successfully and pupils who have experienced learning this way tend to be more enthusiastic about future learning.[124]

In recent years, educational research indicates a trend toward giving attention to the importance of students' interests in determining the value of teaching methods which emphasize student participation, such as collection of information by students, exhibits prepared by students, field trips, problem-solving, student projects, and student demonstrations.[125]

On the elementary level, Bolen conducted a study of the science teaching facilities and practices in Oregon public schools to determine and evaluate methods used by teachers in their science teaching. Study findings showed that an average of 70 percent of all teachers used methods that involved direct pupil participation such as collection of materials by pupils, exhibits prepared by pupils, field trips, problem solving, pupil projects, and pupil demonstrations.[126]

In another study conducted by Conrad (1955) one of the purposes of the study was to determine what practices helped children to understand and be interested in studying science. Conrad showed that the most successful teaching techniques used by the thirty-five interviewed, observed, and selected elementary science teachers were: experiments, children's reports on objects, field trips, etc. However, it was found that most of the teachers used experiments as the most successful technique in teaching science.[127]

On the secondary level, Smith undertook a study to determine the frequency of use of certain science teaching methods in the high schools of Delaware County, Indiana. Using a questionnaire, he asked biology teachers to indicate whether they used certain methods and teaching aids frequently, occasionally, or not at all. Among his findings, the field work method was used frequently by only one teacher. However, field trips were used "occasionally"

during the school year by 87.5 percent of the teachers surveyed.[128]

Another study on the secondary level was conducted by El-Dib in 1961. The major purposes of his study were to determine the instructional activities used by biology tachers in ten selected Michigan high schools, time alloted to these activities; the frequency of the teachers' use of these activities, and the values attached to these activities as indicated by student preference. El-Dib observed twenty-three specified instructional activities in actual classroom teaaching, but the field trip activity was one added on the recommendations of the teachers. There was justification in including this activity as one of the instructional activities biology teachers used in their teaching. The findings concerning the field trip activity showed only one respondent reported using it once every two weeks. Five respondents reported once a month use and sixteen teachers used it once a semester. Seventeen of the 39 respondents did not use it at all. Throughout the study the kinds of instructional activities teachers liked in teaching biology were those that were also preferred by the students, namely: (1) laboratory work, (2) field trips, (3) showing films, (4) teacher demonstration and (5) individual projects. The same activities were recommended by the teachers as the most helpful and valuable ones in the teaching of biology.[129]

In Saudi Arabia, a study was conducted by Al-Ismaeel to develop criteria for selected teaching strategies that would serve as guides for teachers in their choice of teaching methods. The selected teaching strategies were: lecture, discussion, question and answer, role-playing, assignments, field trips and guest speakers. Al-Ismaeel found out that field trips were utilized with much less frequency than the other strategies in the social studies classes of Saudi Arabi's secondary schools. The data obtained from 152 social studies teachers in response to questions concerning the utilization of field trips as a teacher strategy showed that field trips were a teaching strategy that enjoyed infrequent, if not rare, usage in the social studies curriculum of Saudi Arabian secondary schools. Approximately one-third of the teachers surveyed utilized this teaching strategy occasionally with the remaining majority utilizing the strategy rarely at best. 130

In summary, teachers' attitudes toward field trips, like those of their students, tend to be favorable. On the other hand, it also seems to be a teaching strategy which is underused. While it is not suggested that field trips be taken daily or weekly, some use of such trips does not seem to be recommended. Thus, when almost one-half of U.S. teachers and two-thirds of Saudi teachers report no use of field trips, it underscores the importance of investigating

policy and use factors associated with this teaching technique.

The review of guidelines and suggestions made by writers and researchers do reveal the field trip to require much more effort by the teacher than other instructional approaches--but the rewards discussed here also seem to be much greater and to warrant the greater effort.

Chapter Two Notes

1 Ministry of Education, The Department of School Activities, General Announcements to all Boards of Education, Riyadh, Saudi Arabia, 1984-85.

2 Charles R. Duvall and Wayne J. Krepel, "School Board Policies Related to Field Trips," Education 95, 4 (Summer 1975) p.331.

3 Edgar C. Bye, "How to Conduct a Field Trip," How to Do It Series, No. 12 (Washington, D.C.: National Council for the Social Studies, 1952), p. 1.

4 D. Thomas and others, "Excursions and Field Trips" in Aids to Teaching in the Elementary School. (Washington, D.C.: National Education Association, 1934) p. 273.

5 Julian W. Smith, R.E. Carlson, G.W. Donaldson, and H.B. Masters, Outdoor Education (Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1963) p. 19.

6 Julian W. Smith, "A Decade of Progress in Outdoor Education, Journal of Outdoor Education 1, (Fall 1966) pp. 3-5.

7 Helen Heffernan, "They Grow Nine Feet Tall," Journal of Outdoor Education 1, 2 (Winter 1967) p. 3.

8 Wayne J. Krepel, "Planning Makes the Difference," Clearing House 53 (February 1980) p. 281.

9 Carter Good, The Dictionary of Education (N.Y.: McGraw-Hill Book Company, 1959) p. 291.

10 Edgar C. Bye, "How to Conduct a Field Trip," p.1.

11 A. Biswas and J.C. Aggarwal, Encyclopedia Dictionary and Directory of Education (The Academic Publishers (India), Karol Bagh, New Delhi-5, July 1971) p. 146.

12 J.W. Smith and Others, Outdoor, p. 176.

13 Shirley A. Brehm, The Teacher's Handbook for Study Outside the Classroom (Columbus: Charles E. Merrill, 1969) p. 4.

14 Ibid., p. 5.

15 Duvall and Krepel, "School Board," p. 331.

16 Shirley A. Brehm, "Investigation Afield," Science and Children, iv (September 1966) pp. 9-10.

17 Brehm, Teacher's Handbook, p. 16.

18 Blanche Elliot, "Excursions in Appreciation in the Small Town School," in Aids to Teaching in the Elementary School (Washington, D.C.: NEA, 1934), p. 285.

19 R.H. Price, "A Study of the Values of Field Trips," in Aids to Teaching in the Elementary School, Washington, D.C.:NEA, 1934) pp. 302-303.

20 F.C. Borgeson, "Excursions in School Life," in The Principal and His Community. (Washington, D.C.: Department of Elementary School Principals, National Education Association, 1932) pp. 461-466.

21 David A. Weaver, "Excursions in a Metropolitan Center," in Aids to Teaching in the Elementary School (Washington, D.C.: NEA, 1934) p. 289.

22 Ibid., p. 289.

23 H.Eloise Bryan. "Out of the Classroom into Life," in Aids to Teaching in the Elementary School (Washington, D.C.: NEA, 1934) p. 282.

24 C. Bryan, "Pupil Rating of Secondary School Teachers," in Teacher's College Contributions to Education, No. 708 (New York: Teacher's College, Columbia University, 1937), p. 1.

25 R.H. Price, "A Study of the Values of Field Trips," in Aids to Teaching in the Elementary School (Washington, D.C.: NEA, 1934) p. 304.

26 Norman C. Penderedd "Field Trips--Vicariously?" Man/Society/Technology (Sept/Oct 1975) p. 14.

27 Brehm, Teacher's Handbook, p. 9.

28 John H. Wood, "Nuffield Biology at Withypool, England," The American Biology Teacher 41, 2 (Feb. 1979) p. 112.

29 Ibid., p. 112.

30 Brehm, Teacher's Handbook, p. 16.

31 John Jarolimek, Social Studies Competency and Skills: Learning to Teach as an Intern (N.Y.: Macmillan, 1977) p. 86.

[32] Gene Rumrill, "Academic Horizons in Wilderness," Journal of Environmental Education 11, 3 (Spring 1980) p. 5.

[33] John H. Falk and John D. Balling, "The School Field Trip: Where You Go Makes the Difference," Science and Children (March 1980) p. 8.

[34] Howard L. Kingsley The Nature and Conditions of Learning (Englewood Cliffs, N.J.: Prentice-Hall, 1957) p. 9.

[35] National Society for the Study of Education, Science Education in American High Schools, Forty-Sixth Yearbook (Chicago: The University of Chicago Press, 1947), p. 69.

[36] Fathy El-Dib, "The Instructional Activities Used by Biology Teachers in Ten Selected Michigan High Schools and the Value Attached to Them by Students," (Ph.D. Dissertation, University of Michigan, 1961) p. 5.

[37] Earl S. Johnson, "Field Trips and the Development of Intellectual Skills," Social Education xx (March 1956), p. 120.

[38] Ibid., p. 122.

[39] Bye, "How to Conduct a Field Trip," p. 1.

[40] George Williams "Beyond the Classroom: Life Experiences in the Field," Clearing House 45, 2 (October 1970) p. 84.

[41] E.Omearah and F. El-Dib, Teaching Science and Educational Practices (Dar, Al-Maareff, Egypt, 1977), p. 14. (In Arabic).

[42] Duvall and Krepel, "School Board," p. 332.

[43] Alan P. Mewha, "Making Use of the Community," Social Education xvi, 1 (Feb. 1952), p. 28.

[44] Ibid., p. 29.

[45] Rodney F. Allen, "Environmental Field Trips: The Broader Context," The American Biology Teacher 37, 2 (Feb. 1975), p. 98.

[46] Ernest W. Lee and Christine F. Myers, "The Field Trip as Aesthetic Experience," Science Teacher 47, 4 (April 1980), p. 24.

[47] John H. Falk and John D. Balling, "Science Field Trip," p. 8.

[48] Alan P. Mewha, "Making Use," p. 29.

[49] Jonathan Fairbanks, "The Elastic Classroom," Journal of Environmental Education 11, 3 (Spring 1980), p. 22.

[50] Mewha, "Making Use," p. 29.

[51] James High, Teaching Secondary School Social Studies, New York: John Wiley and Sons, Inc., 1962), p. 133.

[52] Williams, "Beyond," p. 85.

[53] S. Brehm, Teacher's Handbook, p. 44.

[54] Ibid.

[55] Bye, "How to Conduct," pp. 6-7.

[56] Louise Ritsema, "The Principal's Role in Supervising Field Trips," Science and Children (Sept. 1966) p. 15.

[57] Elliott, "Excursions in Appreciation," p. 285.

[58] Kenneth H. Hoover and Paul M. Hollingsworth, "Teaching Outside the Classroom on Field Trips," A Handbook for Elementary School Teachers, (Boston: Allyn and Bacon, 1982), p. 249.

[59] Ibid., p. 249.

[60] Bryan, "Pupil Rating," p. 282.

[61] Ibid., p. 279.

[62] Ibid., p. 282.

[63] Bye, "How to Conduct," p. 2.

[64] Williams, "Beyond the Classroom," p. 84.

[65] Pendered, "Field Trips--Vicariously?" p. 14.

[66] David R. Stronck, "The Comparative Effects of Different Museum Tours on Children's Attitudes and Learning," Journal of Research in Science Teaching v.20, no.4, (____1983) p. 283.

67 Brehm, Teacher's Handbook, p. 34.

68 Ibid., p. 31.

69 John W. Butzow and Others, "Have You Been to the Shore Before?" A Marine Education Infusion Unit on Seashore and Aquarium Life, (1981), p. 12.

70 Leonard E. Swenson, "The Schoolyard as a Center for Learning," Childhood Education 43 (Feb. 1967), p. 328.

71 Mewha, "Making Use," p. 28.

72 Bessie Walldroff, "Supermarket Science," Science and Children (Sept. 1966), p. 23.

73 Bye, "How to Conduct," p. .

74 Abd-Wahab U Al-Ismaeel, "Selected Social Studies Teaching Strategies in Saudi Arabian Secondary Schools, (Ph.D. Dissertation, University of Kansas, 1981), p. 33.

75 Pendered, "Field Trips--Vicariously?" p. 14.

76 Krepel, "Planning," p. 281.

77 Bye, "How to Conduct," p. 2.

78 Brehm, Teacher's Handbook, p. 27.

79 Williams, "Beyond the Classroom," p. 84.

80 Bye, "How to Conduct," p. 3.

81 Brehm, Teacher's Handbook, pp. 4-5.

82 Bye, "How to Conduct," p. 3.

83 Robert L. Dibella and George E. Steele, "The Inquiry Process and Museum Field Trips," from an NCSS National Conference report (Washington, D.C.: National Institute of Education, November 1981), p. 3.

84 Brehms, Teacher's Handbook, p. 11.

85 Mary H. Cordier, "Let's Take a Field Trip to the Woods," Science and Children (Sept. 1966), pp. 11-14.

86 Ibid., p. 12.

87 Ibid., p. 14.

[88] Armin K. Lobeck, "The Organization of Field Excursions," Aids to Teaching in the Elementary Schools (Washington, D.C.: NEA, 1934), p. 274.

[89] Ibid., p. 275.

[90] Roderick Nash, "Wilderness Education Principles and Practices," Journal of Environmental Education 11, 3 (Spring 1980), p. 3.

[91] Krepel, "Planning," pp. 281-283.

[92] "Planning a Field Trip," Forecast for Home Economics (September 1975), p. 122-124.

[93] Brehm, Teacher's Handbook, pp. 19-20.

[94] Brehm, Teacher's Handbook, pp. 20.

[95] Ibid., p. 77.

[96] Cordier, "Let's Take a Field Trip," p. 14.

[97] Price, "A Study of Values," p. 304.

[98] Williams, "Beyond the Classroom," p. 81.

[99] Ibid., p. 81.

[100] Falk and Balling, "Where You Go," p. 6.

[101] Gene Rumrill, "Academic Horizons in Wilderness," Journal of Environmental Education 11,3 (Spring 1980), p. 5.

[102] Hoover and Hollingsworth, "Teaching Outside," p. 243.

[103] Ibid.

[104] Alton L. Biggs, "An Interdisciplinary Course in Big Bend National Park, Texas, The American Biology Teacher 44, 4 (April 1982), p. 223.

[105] Omearah and el-Dib, Teaching Science, p. 279.

[106] Donald F. Cay, Curriculum: Design for Learning (Indianapolis: The Bobbs-Merrill Co., Inc., 1966), pp. 1-7.

[107] Ibid., p. 5.

108 Grace F. Pamsey, "Preparation of Habitat Groups for Science and the Social Studies," in Aids to Teaching in the Elementary School (Washington, D.C.: NEA, 1934), p. 244.

109 Laurence V. Coleman, "Aid From Museums in Elementary Teaching" Aids to Teaching in the Elementary School, (Washington, D.C.: NEA, 1934), p. 240.

110 David Chittenden, "Improving Informal Science Education in Museums," Redesigning Science and Technology Education, (NSTA Yearbook, 1984), p. 183.

111 Ibid.

112 Barry A. VanDeman, "Developing Informal Learning in Science: Curriculum, Collaboration, and Curiosity," in Redesigning Science and Technology Education (NSTA Yearbook, 1984), p. 187.

113 Price, "A Study of the Values," p. 304.

114 Ibid.

115 Rumrill, "Academic Horizons," p. 4.

116 Nash, "Wilderness Education," p. 2.

117 Mewha, "Making Use," p. 28.

118 Sybil L. Daniels, "A School Journey to the Beach," in Aids to Teaching in the Elementary School (Washington, D.C.: NEA, 1934), p. 295.

119 Ibid, p. 297.

120 Falk and Balling, "Where You Go," p. 8.

121 Elliott, "Excursions in Appreciation," p. 284.

122 Dibella and Steele, "The Inquiry Process," p. 4.

123 Rumrill, "Aacdemic Horizons," p. 5.

124 Bye, "How to Conduct," p. 1.

125 Virgil A. Bolen, "Science Teaching Facilities and Practices in Oregon Public Elementary Schools," (Ed.D. Dissertation, University of Oregon, 1952), p. 115.

126 Ibid., p. 116.

[127] Hallis M. Conrad, "Some Practices Used by Selected Elementary Teachers," (M.A. Thesis, Ball State Teacher's College, 1953), p. 30.

[128] James R. Smith, "A Study of the Methods of Teaching Laboratory Biology in the High Schools of Delaware County," (M.A. Thesis, Ball State Teachers College, 1952), pp. 7-11.

[129] El-Dib, "Instructional Activities Used by Biology Teachers," p. 114.

[130] Al Ismaeel, "Social Studies Teaching Strategies in S.A.," pp. 66-69.

CHAPTER THREE

METHODOLOGY

This chapter describes the research methodologies which were used in the collection and analysis of data for this investigation. The methods utilized are classified as descriptive methodologies. In this chapter, the writer describes methods used to acquire data on current utilization of the field trip activity as a means of teaching science at the intermediate school level. Presented in this chapter are: a description of the questionnaire, and the methods used to formulate it, the interview questions used with principals and Ministry of Education personnel, and the process by which interview plans were formulated, a description of the research sample, data collection, and the statistical techniques used for data analysis.

Data Collection Instruments

Data for the research was gathered from the following sources:

(1) books and other publications dealing with the field trip activity;

(2) books and other publications, written in Arabic and English, dealing with the Saudi Arabian educational system; and

(3) two survey instruments developed for the purpose of collecting data required in this study: a survey questionnaire and interview questions for principals and Ministry of Education personnel.

The Questionnaire

Purpose Of The Questionnaire

This study was conducted to determine the extent to which the field trip activity was utilized by science teachers in Saudi Arabia and to gain an understanding of the factors which influence the use of field trips as a method of instruction. Therefore, the questionnaire was developed to elicit the opinions held by science teachers, supervisors, school principals, and Ministry officials regarding the contemporary conditions of field trip activity in Saudi Arabian intermediate schools and their perceptions of problems related to the use of field trips as an instructional method.

Preparation Of The Questionnaire

The development of the questionnaire involved a comprehensive review of the literature dealing with the use of field trips as an instructional method to acquire the

sound background required for the construction of a questionnaire relevant to the study. A review of Dissertation Abstracts International was used to determine what questions should be asked to obtain specific answers. Furthermore, the review of dissertations provided some examples of effective questions and others that did not give the desired information. The general rule is that questionnaire items should be consistent with the research questions upon which the study is based.

After the approval of the dissertation proposal, which included a statement of the research questions, by the doctoral committee in May 1984, the researcher investigated relevant questionnaires to obtain a satisfactory range of data which was consistent with research questions.

In June 1984, a tentaive draft of the questionnaire was formulated and submitted to the doctoral committee and other experts in the field of educational research and measurement at Michigan State University (See Appendix B). In discussing the questionnaire with this panel, it was found that the questionnaire was very long and included so many items that it would not serve the purpose of the study. In light of the panel's comments and suggestions the questionnaire was revised. In July 1984 the final draft of the questionnaire was ready for translation into the subjects' language of Arabic.

Translation of the Questionnaire

The revised version of the questionnaire was translated first into Arabic by the researcher and then given to two Arabic speaking doctoral students at Michigan State University to compare the translation. To check the accuracy of the translation in July 1984 a copy of the questionnaire and the translation was reviewed and certified by the Islamic Center of Michigan State University (See Appendix C). In August 1984, copies of both the Arabic and the English forms of the questionnaire were given to eleven staff members of King Abdul-Aziz University, Saudi Arabia, in the field of English, Educational Technology, Counseling and Measurements, and Curriculum. The researcher took their suggestions for revising the Arabic form and this form of the questionnaire was translated back into English by the Chairman of the English Department in the College of Education at King Abdul-Aziz University, and compared with the English version written by the researcher. This two-way translation of English to Arabic to English assured that the Arabic form was equivalent to the English form. The final Arabic form was given to two members of the Arabic Language Department in the College of Education in Medina to check its grammar and readability. Finally, in September 1984, the revised Arabic vision was typed in Arabic and made ready for administration to the research sample in Saudi Arabia after testing for validity and reliability (Appendix D). A

copy of the final version of the questionnaire is presented in Appendix D.

Validity Of The Questionnaire

The validity of the questionnaire was enhanced by the researcher's review of recent publications regarding the validity of survey instruments and his consultation with members of the doctoral committee to receive their comments and suggestions. Members of the Educational Research Counseling Services at Michigan State University were also consulted. A tentative draft of the questionnaire was also submitted to six graduate students in the field of education at Michigan State University for their comments and to determine whether some of the questionnaire items needed revising. It was observed that the respondents experienced no difficulty with the language of the questionnaire or the clarity of individual statements.

To test potential subject's understanding of the questionnaire items, the researcher presented the Arabic version of the questionnaire to six elementary school science teachers, explained the purpose of the study and asked them to note any questions or statements that were not appropriate or easily understood. They mentioned one item that was not clear and the researcher revised that item. The Arabic version of the questionnaire was also submitted to nine staff members in the fields of science education,

educational psychology, and curriculum and instruction in the College of Education at King Abdul-Aziz University for their comments and suggestions.

Hambleton and his associates (1977) mentioned that content validity could be acquired by the following procedures:

1. Select two content specialists.

2. Give each specialist the domain definition (which is a very specific description of the content domain to be tested) and the test items.

3. Have each expert independently rate the relevance of each item to the domain definition using a 4-point scale ranging from "not relevant" to "very relevant".

4. Compute a measure of interrater agreement and an index of content validity.[1]

To enhance the content validity of the questionnaire, the researcher submitted copies of the questionnaire and the research questions to six staff members who specialize in Science Education in the College of Education at King Saud University, Riyadh, Saudi Arabia. These experts were asked to individually rate the relevance of each item to the research questions. By computing their interrater agreement, an index of 95 percent content validity was found.

Using the above extensive review and revision procedures, the questionnaiare was improved and content validity assumed to exist.

Reliability of the Questionnaire

Reliability in educational measurements is defined as the level of internal consistency or stability of the measuring technique overtime.[2] There are several methods of establishing reliability, such as coefficient of Internal Consistency, Method of Rational Equivalence, Coefficient of Equivalence, and Coefficient of Stability. Most of these methods call for computing a correlation coefficient between two sets of similar measurements.

To establish the reliability of the questionnaire, the researcher applied a pre-test/post-test technique as follows:

1. A group of ten intermediate school science teachers were administered the instrument and gave their responses to the questionnaire.

2. Their responses were coded and tabulated.

3. One month later, the same group was asked to respond to the questionnaire for the post-test.

4. Their responses were also coded and tabulated.

To determine the reliability of the questionnaire, the researcher consulted the statistician specialists at the Computer Center and the Counseling and Measurement Department at Michigan State University about computing the correlation coefficient between the scores obtained from the two tests. The consultation revealed that the correlation coefficient could not be determined to be valid and reliable

for two reasons. First, the sample size of the pre-test/post-test group was too small for such techniques. Second, the data collected for the study was qualitative data which can be analyzed only by non-parametric statistical techniques.[3] The correlation coefficient is one of the parametric statistical techniques and can not be accurately used with qualitative data.[4]

An additional reason for not estimating the reliability is that the measuring technique (questionnaire) used in this study was a researcher designed test to obtain specific information needed for this study. On the other hand, the high degree of agreement on most of the questionnaire items among the research respondents gave evidence of the reliability of the questionnaire.

Procedures of Data Collection

The researcher received authorization from Saudi government officials to administer the questionnaire and the interview questions to all the groups involved. After approval of the research proposal, a copy of the approved proposal was sent to the Saudi Arabian Educational Mission in the United States and forwarded to the Deputy Director of King Abdul-Aziz University for his approval. Upon arrival in Saudi Arabia, the researcher met with his sponsoring agency, the King Abdul-Aziz University College of Education in Medina, and obtained a letter of permission and

information from the Dean of the College of Education to the Deputy Ministry of Education in Riyadh and another letter to the Educational Directorate of the Board of Education in Medina, who forwarded a letter to the intermediate school principals requesting their assistance in administration of the questionnaire (copies of these letters included in Appendix F).

Description of the Questionnaire

The questionnaire consisted of six parts (See Appendix E). The first part, designed to elicit demographic information, contained items designed to collect personal information relevant to the purpose of this study, such as the respondent's current position and years of experience, nationality and qualifications.

The second part of the questionnaire included 14 open-ended questions, the first two of which dealt with the concept and perceptions of field trips (#9, 10). Two items (#11, and 15) dealt with the goals and objectives of field trips perceived by the respondent. Item #12 was designed to elicit staff members' comprehension of the official policy objectives of field trips. The four items from #16 - #19 solicited perceptions of principles of an effective field trip. Item #20 was designed to evoke respondent's attitude toward and useage of field trips and four items (#21-24) dealt with perceptions of problems encountered in conducting

field trips. The purpose of placing these open-ended questions at the beginning of the questionnaire was to avoid the influence of the researcher's later statements on the respondent's answers.

In Parts Three and Four, the respondents were asked to indicate their agreement or disagreement with individual questionnaire statements on a five-part Likert scale. Part Three included 44 items (#23-66) divided into seven sections which explored staff members' understanding and beliefs regarding (1) concepts of field trips (#23-29), (2) goals of using field trip as an instructional method (#30-34), (3) general objectives of using field trips (#35-45), (4) objectives of using field trips in teaching science (#46-51), (5) the teacher's role in an effective field trip (#52-61), (6) the principal's role in an effective field trip (#62-64), and (7) the supervisor's role in an effective field trip (#65-66). At the end of each section, an open-ended statement was included to obtain information that was not specified.

The fourth part of the questionnaire included 12 items (#67-78). Two items (#67-68) dealt with the relationships between the science curriculum and field trips. Ten items (#69-78) inquired about the respondent's attitudes toward and use of field trips.

The fifth part of the questionnaire included 26 items or statements (#79-104) in which the respondents were asked

to indicate how often they actually used thirteen selected teaching strategies and how often they felt these teaching strategies should be used (i.e., everyday, 2-3 times a week, once a week, once a month, once a semester or not at all). At the end of this part, an open-ended statement was also included to obtain information about other teaching strategies that were not stated.

The sixth part of the questionnaire contained 10 items (#105-114). Four items (#105-108) dealt with the respondent's awareness of the regulations of the Ministry of Education regarding the use of field trips. Six items #109-114) covered the respondent's awareness of the official policy objectives of field trips.

In-Depth Interviews

In-depth interviews were held with selected intermediate school principals, supervisors, and Ministry and Board of Education officials. The researcher combined the use of interview and questionnaire techniques to discuss the responses in detail. Gordon, mentioned that in some research studies an interview may be needed to complete or clarify the subjects' answers, even though the individuals have responded to a questionnaire.[5] Additionally, the interview provided an opportunity to observe the respondent's behavior and interest in the

subject.[6] In the interview, the researcher used the open-ended questions in Part II of the questionnaire as an interview guide. The information collected in the interviews yielded the type of data the questions were designed to elicit, but their order was revised to better structure the interview process. As previously noted, all the interviews were tape-recorded and converted to typed transcripts for coding, classifying and statistical treatment.

The relationship between the research questions and the research methods are shown in Table 2.

TABLE 2. Methods of Data Collection Used in Obtaining Answers to the Research Questions.

Research Questions	Methods			
	Document Review	Literature Review	Question-naire	Interview
1 Policy Objective	x			
2 Concepts of Field Trips		x	x	x
3 Staff Perceptions of Policy	x		x	x
4 Problems conducting Field Trips		x	x	x
5 Principles of Effective Field Trips		x	x	x
6 Relation of Field Trips to Science		x	x	x
7 Attitude and Use of Field Trip			x	

Pilot Study

During the summer of 1983 the researcher conducted a study concerning the concepts, the importance, the goals, and the problems of field trips in the educational setting in Saudi Arabia. This pilot study employed the interview technique as a survey instrument. The researcher interviewed 20 intermediate school science teachers, 15 intermediate school principals, 10 supervisors and eight Ministry and Board of Education officials.

The pilot study proved to be very beneficial and provided unique ideas not previously apparent. It provided the researcher with information about the extent of field trip activity in Saudi Arabian schools, the existence of written policy objectives for all educational activities, the ignorance of some teachers of the policy objectives, the problems encountered in using the field trip activity effectively, and the conflict between teachers, principals and Ministry officials regarding the use of field trips. This information was important in planning the study and in designing the questionnaire. By using the interview technique in the pilot study, the researcher noticed that some of the interviewees prefer a written questionnaire to respond to, for reasons of time saving and confidentiality. Others, prefer multiple choice questions or short answer questions. Others like to write their own opinions to open-ended questions. Furthermore, the pilot study helped the

researcher to learn a great deal about the people he would be dealing with, the strong points as well as the weak points of the subjects of the study, what kind of questions could be asked and how to check the accuracy of the responses. Another benefit of the pilot study was to introduce the researcher to various people who were important to the subject of the study and whose participation yielded significant results to the study.

Administration of the Instruments

After obtaining official permission to collect the data needed for the research, arrangements were made with selected personnel from the Ministry of Education and the Board of Education for administering the questionnaire and conducting interviews. The researcher then visited each of the selected schools to personally distribute the questionnaire. Although a cover letter accompanied the questionnaire, the researcher discussed the purpose of the questionnaire with the principals and science teachers in every school. Each principal and science teacher was given a copy of the questionnaire and was asked to read the instructions carefully and answer the questions completely. Each participant kept the questionnaire for a minimum of one day and the researcher returned to the schools the following day to collect the completed questionnaires. Some respondents took more than one day to return the questionnaire.

For the other groups of participants (Supervisors, Ministry and Board of Education officials) the resarcher visited the Board of Education in Medina and the Ministry of Education in Riyadh where interviews were held and questionnaires distributed. After presenting the letter of permission, the researcher distributed the questionnaire to all science and social studies supervisors and officials responsible for school activities. Respondents were asked to complete and return questionnaires the following day. One week later, interviews were held with selected science supervisors and Ministry officials.

There were very limited numbers of science supervisors employed at the Board of Education in Medina or the Ministry of Education. To increase the number of supervisor participants, the chairman of the Department of Educational Training and the director of the Department of School activities assisted the researcher in contacting science and social studies supervisors throughout the rest of Saudi Arabia by mail. A special letter accompanied each mailed questionnaire which was sent to the relevant Board of Education for forwarding to appropriate supervisors, who returned completed questionnaires to the researcher (See Appendix F).

After the researcher eliminated incomplete questionnaires, there were 153 usable responses representing 65.1 percent of the 235 questionnaires distributed. A

breakdown of usable responses for the four categories of subjects in this study is provided in Table 3. The table shows that the highest percentages of usable questionnaires

TABLE 3: Completed and Usable Questionnaires Received From Potential Subjects Divided by Position

Subjects	Questionnaires Distributed	Usable Questionnaires Returned	Percent
Science Teachers	100	73	73.0
Intermediate School Principals	25	23	92.0
Supervisors	80	40	50.0
Ministry or Board of Education Officials	30	17	56.6
Total	235	153	65.1

were returned by the school principals (92 percent) and science teachers (73 percent); both groups that the researcher contacted in person. Supervisors, who received and returned their questionnaires by mail, provided the lowest percentage of usable returns.

Handling The Data

The data collected by questionnaire and interview techniques were coded for computer handling then card punched and verified. Analysis of the data was done by the Michigan State University Control Data Corporation Cyber 170 Model 750 Computer through the use of the Statistical

Package for the Social Science (SPSS) V.8.3 Computer Program. In analyzing the data, several procedures were used consistent with the form of the data and statistical procedures to be employed. First, the information collected from the open-ended items in the questionnaire (Part II) and interviews with principals and Ministry of Education and Board of Education officials was categorized, using content analysis to classify the data for statistical interpretation. A code book was developed as a means for quantifying the large volume of qualitative data and can be found in Appendix G. Content reliability for the code book was determined by having two Arabic-speaking graduate students in Education to categorize 10 randomly selected open-ended questionnaire items using the same coding guide. By comparing their categorizations with those of the researcher, which resulted in eight out of ten accurate matches, it was found that the code book was reliable for classifying the qualitative data.

Likert-scaled responses to questionnaire items were converted to numerical data by assigning the following scores to responses checked in Parts III and IV of the questionnaire: Strongly Agree=5, Agree=4, Undecided=3, Disagree=2, Strongly Disagree=1. In Part V of the questionnaire weighted scores were assigned to the subjects' responses consistent with the frequency reported for the teaching strategies in question.

The Research Site

The centralized educational system of Saudi Arabia is headed by the Ministry of Education which is located in Riyadh, the Capital City. According to official documents, the Ministry of Education has offices in thirty-nine cities and towns across the country. These are called Boards of Education or educational districts and they operate as branches of the Ministry of Education to administer and supervise education in each district, according to the standardized policy, rules and procedures of the Ministry of Education which retains ultimate responsibility for all educational programs and activities.[7] Each branch thus has specifically limited responsibility for one major city and the surrounding towns and villages.[8]

The educational district of the City of Medina, where most of this study was conducted, contains fifty-five intermediate boys' schools which are scattered throughout the city and surrounding area,[9] with twenty-five intermediate boys schools in the city of Medina alone.[10] It is considered one of the largest school districts in the country.

Sampling Procedure

For the purpose of this study, four groups were selected (1) a group of intermediate school science

teachers, (2) a group of intermediate school principals, (3) a group of science and social studies supervisors, and (4) a group of Ministry and Board of Education officials who are responsible for all school activities.

Borg and Gall mentioned that the use of sampling techniques can be quite complicated when these techniques are used to draw a random sample from a national population. However, samples for survey research, such as public opinion polls or correlational research, are generally drawn from a much more limited accessible population such as all the science teachers in a particular school district.[11] Scientific procedures were carefully followed to avoid bias in selecting subjects in each of the four groups.

First, two groups of science teachers were selected. Science teachers from all the intermediate schools in the city of Medina made up one group. There was an average of two science teachers in each school or a total of fifty science teachers in the whole city. A random sample of 50 intermediate school science teachers was also selected from the city of Riyadh and the surrounding areas.

Second, the group of school principals consisted of all the intermediate school principals in the city of Medina. This included 25 intermediate schools with 25 principals.

The third group of supervisors consisted of all the science and social studies supervisors in the country of Saudi Arabia who were employed by the Ministry of Education

in Riyadh or its Board of Education throughout the country. Among 39 educational districts comprising the Ministry of Education in Saudi Arabia, some districts had as many as eight supervisors and others had as few as one. An average of two supervisors in each school district yielded a total of 78 supervisors nationwide. The addition of two science general supervisors in the Ministry of Education in Riyadh brought the total population of supervisors to 80.

Finally, the fourth group of Ministry and Board of Education officials consisted of all personnel responsible for school activities in general, and social school activities in particular, in the Ministry of Education and the Board of Education in Medina. Ministry and Board of Education officials totaled 30 persons. Table 4 shows the distribution of the four professional groups who were selected as potential subjects according to educational districts.

Among the research sample, the greatest number of participants were science teachers (47.7 percent) followed by supervisors at 26.14 percent followed by school principals at 15.1 percent. The smallest group of participants in the study were the Ministry and Board of Education officials who represented 11.0 percent because personnel at this level are ultimately responsible for school activities and are fewer in number than others who do not rank as highly in the educational hierarchy (Table 5).

Examined from the point of view of experience, the subjects (153) who returned usable questionnaires tended to have had extensive years as professional educators. Over two-thirds of them (67.4 percent) had been in their jobs over four years. Only 15 percent were new employees (Table 6).

TABLE 4: The Sampling Distribution by Professional Group and Educational District

Professional Group	Medina Ed.Dist.	Riyadh Ed.Dist.	Other Ed. Dist.in SA	Total
Science Teachers	50	50	--	100
School Principals	25	--	--	25
Science Supervisors	2	8	70	80
Ministry & Board of Education Officials	5	25	--	30
Totals	82	83	70	235

TABLE 5: **Distribution of Completed Questionnaires in the Research Sample According to the Respondents' Professional Positions**

Position	N	Adjusted Percent
Science Teacher	73	47.7
School Principal	23	15.1
Supervisor	40	26.2
Ministry-Board Official	17	11.0
Total	153	100.00

TABLE 6: Distribution of the Research Sample According to The Respondents' Experience

Years of Experience	Absolute Frequency	Adjusted Freq . (%)
New (1st year)	23	15.0
2-3 years	27	17.6
4-7 years	33	21.6
More than 7 years	70	45.8
Total	153	100.0

Table 6 shows that the largest group in the research sample had had more than seven years of experience in their current positions (45.8 percent).

Table 7 shows the distribution of this small population by professional position and years of experience. These data show that 52.2 percent of the principals, 47.9 percent of teachers, and 45 percent of the supervisors had been in their positions 7 years or more. On the other hand, the greatest percentage (35.3 percent) of the Ministry officials had had one year or less in their positions, while only 29.4 percent of them had been in their positions more than 7 years.

When the four subject groups were divided into Saudis and non-Saudis, teachers and principals tended to be nationals while the supervisors and officials tended to be foreigners (Table 8). The science teacher group consisted of 52 Saudi teachers (71 percent) and 21 non-Saudi teachers (29 percent). The principals were 100 percent Saudian. Among the science supervisors and Ministry officials, however, 73 and 65 percent, respectively, were not Saudis. Due to the smaller numbers in these higher ranks, total Saudi subjects outnumbered non-Saudis, 92:61.

In regard to the qualifications of the four participant groups, Table 9 shows the highest degrees earned by subjects in all four professional groups. The highest degrees in Science and Education (35.9 percent). Most of this

TABLE 7: Distribution of the Research Sample in Four Professional Groups, by Years of Experience

Position/ Yrs.of Experience	Science Teachers No	%	School Principals No	%	Supervisors No	%	Ministry Officials No	%	Total No.	% of Total
New (1st year)	4	5.5	5	21.7	8	20.0	6	35.3	23	15.03
2-3 Years	13	17.8	4	17.4	6	15.0	4	23.5	27	17.80
4-7 Years	21	28.8	2	8.7	8	20.0	2	11.8	33	21.70
More than 7 years	35	47.9	12	52.2	18	45.0	5	29.4	70	45.40
Total	73	100.0	23	100.0	40	100.0	17	100.0	153	

TABLE 8: Proportion of Saudis and Non-Saudis in the Four Groups of the Research Sample

Group	Number	%	Saudi Number	Saudi %	Non Saudi Number	Non Saudi %
Science Teachers	73	47.7	52	71.2	21	28.8
School Principals	23	15.3	23	100.0	0	00.0
Supervisor	40	26.1	11	27.5	29	72.5
Ministry or Board of Ed. Officials	17	11.1	6	35.2	11	64.7
Total	153	100.0	92	60.1	61	39.9

percentage represented the science teachers, 52 percent of whom carried the Bachelor's of Science and Education. The table also shows that none of the principals had Bachelor's degrees in Science and Education, but that 91 percent had other degrees, such as School Administration Pedagogical Bachelor's degrees, etc. Most of the supervisors had the Bachelor's degree in Science and Education (37.5 percent) because most in this group were science supervisors. The rest of the supervisors had other Pedagogical degrees. The greatest percentage of Ministry officials had degrees other than those classified in the questionnaire such as Administration, Management, etc. (76.5 percent).

Statistical Procedures Used In The Analysis Of Data

The data collected for this study represented qualitative data in the form of categories and ranks. As Borg and Gall (1979) stated, "when scores are dichotomous or in the form of categories or ranks, one of the non-parametric statistics should be used for data analysis."[12]

Non-parametric statistical techniques were chosen because some of the data gained their meaning as ranked items. The scales resulting from ranking are ordinal data which lack the independence needed for parametric

TABLE 9: Distribution of the Research Sample in the Four Groups According to Educational Qualifications

Degree/ Professional Group	Intermediate College Diploma		B.S.		B.S.+ E.D.		MS or MA		Others		Total
	No.	%	No.	%	No.	%	No.	%	No.	%	Total
Science Teachers	5	6.9	30	41.7	38	52.0	0	0.0	0	0.0	73
School Principals	1	4.3	1	4.3	0	0.0	0	0.0	21	91.3	23
Supervisors	0	0.0	8	20.0	15	37.5	5	12.5	12	30.0	40
Ministry Officials	0	0.0	1	5.9	2	11.8	1	5.9	13	76.5	17
Totals	6	3.9	40	26.1	55	35.9	6	3.9	46	30.1	153

statistical measurement. The use of non-parametric analysis provides a way to deal with ordinal data.[13]

Three statistical procedures consistent with the nature of the data tested, were used in this study to analyze the overall reactions of respondents to each category of the questionnaire. Cross-tabulation techniques and the chi-square test were utilized to determine the significance of differences in responses between the four participant groups on individual items. Frequency tables were also used to analyze responses to individual items included in the questionnaire.

Summary

The methodology and procedures used in planning and conducting the study have been described, with particular attention given to the preparation of the survey instrument and the selection and characteristics of research subjects. In Chapter Four, data generated from the research and an analysis of the results will be presented.

Chapter Three Notes

1 V.R. Martuza, Applying Norm-Referenced and Criterion-Referenced Measurement in Education. Boston: Allyn & Bacon, 1977, Chapters 16 and 17.

2 Walter R. Borg and Meredith D. Gall. "Determining Test Reliability". Educational Research, Longman, Inc., New York, 1979, p.217.

3 Ibid., p.464.

4 M.W. Richardson and G.F. Kuder. "The Calculation of Test Reliability Coefficients Based on the Method of Rational Equivalence." Journal of Educational Psychology, 30 (1939):681-685.

5 Raymond L. Gordon. "Styles and Objectives of Interviewing." Interviewing Strategy, Techniques and Tactics The Dorsey Press, 1980, pp. 63-65.

6 Earl R. Babbie, Survey Research Methods Belmont, Calif.: Wadsworth Printing Co., 1973, p. 172.

7 Kingdom of Saudi Arabia, Center for Statistical Data and Educational Documentation, Statistical Agenda for the Ministry of Education Schools, vol. 4, Riyadh, Saudi Arabia, 1984, p.66.

8 Kingdom of Saudi Arabia, Ministry of Education, Center for Statistical Data and Educational Documentation, Educational Statistics in the Kingdom of Saudi Arabia, 15th issue, Riyadh, S.A., 1981/82, p. 9.

9 Kingdom of Saudi Arabia, Ministry of Education, Center for Statistical Data and Educational Documentation, Summary Statistics on Education provided in Ministry of Education Schools (Preliminary figures). Riyadh, S.A., 1983/84.

10 Medina Board of Education, Educational Guidance, "Statistical Report of Medina Schools and Classrooms," Medina, S.A., 1983/84. pp. 1-7.

11 Walter Borg and Meredith Gall, "Sampling Techniques", Educational Research (Longman, Inc., New York, 1979):181-82.

[12] Ibid, p. 464.

[13] Signey Siegel, Nonparametric Statistics for the Behavioral Sciences (New York, Toronto, London: McGraw-Hill Book Company, 1956):111-112.

CHAPTER FOUR

PRESENTATION AND ANALYSIS OF THE RESULTS

The purpose of this chapter is two-fold: to present the findings of the study related to the research questions upon which the study was based, and to analyze the data gathered from the responses of the research sample to a questionnaire interview that dealt with the utilization of the field trip activity as a means of teaching science in the intermediate schools in Saudi Arabia. The research sample responding to the questionnaire was comprised of four groups: science teachers, intermediate school principals, supervisors and Ministry officials with responsibility for school activities. The interviews which were conducted with supervisors and Ministry officials included open-ended questions from the questionnaire.

This chapter is undertaken to provide answers to the research questions that guided the study. They are repeated for the readers's convenience.

1. How aware are educational personnel of official policy objectives concerning the use of field trips in the intermediate boys' schools in Saudi Arabia and how do they perceive these objectives?

2. What perceptions of field trips are held by science teachers, principals, supervisors, and Ministry officials?

3. What goals and objectives are suggested by teachers, principals, supervisors and Ministry officials regarding the field trip activity in the intermediate schools in Saudi Arabia?

4. What are the major problems facing the success of field trip activity as viewed by the four participant groups?

5. What are the principles and characteristics of an effective field trip as stated by the four participant groups?

6. What relationships exist between field trips and the current science curriculum of the intermediate schools. What functions do such trips fulfill in the science program?

7. Do non-Saudi science teachers differ from Saudi science teachers in their attitudes toward or their use of field trips as science teaching methods at the intermediate boys' level in Saudi Arabia? If so, how do their attitudes toward and/or use of this method differ?

Responses to these questions were obtained from 153 respondents from four groups: 73 science teachers, 23 principals, 40 supervisors, and 17 officials responsible for school activities in the Ministry of Education. In addition to providing answers to the above research questions, data obtained from administration of the questionnaire are presented in tabular form accompanied by discussion. Each research question and its pertinent associated discussion is treated separately in the chapter.

For the purposes of analysis and discussion, data obtained from the questionnaire were sorted into seven groups to correspond with the research questions. To ensure accuracy, the researcher first categorized the data and then

had three English-speaking graduate students at Michigan State University repeat the task. By comparing their work, an optimal categorization was achieved and then reviewed by members of the doctoral committee. The categorization was as follows:

Group 1 consisted of items #12, 30, 31, 35, 41, 42, 45, and 109-114 dealing with the official policy objectives for field trips and corresponds to question 1.

Group 2 consisted of items #9, 10, and 23-29 dealing with concepts and perceptions of field trips which corresponds to question 2.

Group 3 consisted of items #11, 15 and 30-51 dealing with suggested goals and objectives of field trips which corresponds to question 3.

Group 4 consisted of items #21-24, 37, 74, 75 and 105-108, dealing with the problems of field trips and their suggested solutions which corresponds to question 4.

Group 5 consisted of items #16-19 and 52-66 dealing with principles and characteristics of an effective field trip which correspond to question 5.

Group 6 consisted of items # 14, 26, 46,67, 68 and 77-78 dealing with relationships between the Science program and the use of field trips which correspond to question 6.

Group 7 consisted of items #20, 69-73, 87, and 100 dealing with attitudes toward and/or use of field trips which correspond to question 7.

1. Awareness and Perceptions of Official Policy Goals and Objectives Concerning Field Trips in Saudi Arabia

The official policy goals and objectives of field trips as they are stated in official documents from the Ministry of Education were presented in Chapter One of this

dissertation. They focused on educational goals, spiritual goals, intellectual goals, social and personal applications, and attitudes toward learning. For the purposes of the study, the researcher stated these and other goals and objectives as statements or questions to which subjects were asked to respond in the questionnaire. Some items were designed to assess the respondents' awareness of official policy goals and objectives. Other items were designed to measure respondents' perceptions of these goals and objectives. For ease of analysis, each item or statement dealing with policy goals and objectives is considered separately.

Awareness of Policy Goals

Item #12 of the questionnaire was an open-ended, direct question designed to determine the subjects' awareness of the policy goals and objectives of field trips. A list of five policy goals and objectives of field trips drawn from Ministry of Education documents (plus a non-applicable or no goals option) was used to categorize the responses on this question. Accuracy of categorization was achieved by using multiple raters and by cross-checking categorization decisions for inter-rater reliability as described in Chapter Three.

Table 10 shows that among the five reported goals and objectives of field trips, 40.8 percent of the subjects

reported instructional and attitudinal goals and objectives with statements such as, "for students to learn by relating what they study in the classroom to the real thing in life" or "for students to learn by doing." Instructional goals only were reported by 20.4 percent of the subjects. These included such responses as, "for students to learn about their environment" or "increase students' awareness of the process of science." Another 18.4 percent of the group combined instructional and social goals such as "increase students' awareness of their environment and develop acquaintance and social relations between students."

Table 10 also reveals that about two-thirds (67.3 percent) of the research sample reported what they knew or believed to be the government's official policy goals and objectives of field trips. The other third (32.7 percent) either gave responses that were not applicable or reported no goals at all. Some of the fifty subjects whose responses were placed in this category wrote "I don't know" or "I don't think that there are policy goals and objectives for field trips" or "I have not received an official report stating these goals and objectives." Others gave such inapplicable responses as "To go out and enjoy the weather" or "For teacher and students to have a holiday from school," or failed to respond to the item.

To determine the significance of differences of responses to item #12 of the questionnaire among the four

TABLE 10: Official Policy Objectives of Using Field Trips by Frequency

Goal Category	Absolute Freq.	Adjusted Freq (%)
Attitude Toward Learning	5	3.3
Instructional Goals	21	13.7
Instructional & Social Goals	19	12.4
Instructional & Attitude Toward Learning	42	27.4
Instructional, Social & Attitude Toward Learning	16	10.5
Not Applicable or no knowledge of goals	50	32.7
Total	153	100.0

TABLE 11: Differences Between Participant Groups on Item #12 on the Questionnaire Using Chi-Square Techniques

Policy Objectivees	Science Teachers Freq.	%	School Principals Freq.	%	Supervisors Freq.	%	Ministry Officials Freq.	%	Row Totals Freq.	%
Attitude Toward Learning	4	9.10	0	0.0	0	0.0	1	8.3	5	4.9
Instructional	9	20.50	4	30.7	6	17.6	2	16.7	21	20.4
Instructional & Social	7	15.90	3	23.1	7	20.6	2	16.7	19	18.4
Instructional & Attitude Toward Learning	21	47.70	5	38.5	15	44.2	1	8.3	42	40.8
Instructional & Social & Attitude Toward Learning	3	6.80	1	7.7	6	17.6	6	50.0	16	15.5
Total Subjects Responding	44	60.3	13	56.5	34	85.5	12	70.6	103	67.3
Total Missing or Inapplicable Responses	29	39.5	10	43.5	6	14.5	5	29.4	50	32.7

participant groups, a chi-square test was used (Table 11). This test shows that the probability of the variation among groups due to chance was 0.0478 which indicates that knowledge about official policy objectives varied significantly among the four professional groups.

Table 11 shows that among the 73 science teachers who participated in this study, only 44 of them or about 60 percent responded with policy goals and objectives consistent with the goals and objectives stated in the Ministry of Education documents. Among the 23 school principals, about 57 percent mentioned applicable or correct policy goals and objectives, while 85 percent of the supervisors did so. Of the 17 Ministry officials, about 71 percent reported accurate or applicable objectives that were relevant to the actual policy goals. Percentages of each group reporting inaccurate, inapplicable or missing responses, then, were about 40 percent for teachers, 43 percent for principals, 15 percent for supervisors, and 29 percent for Ministry officials.

Since proportionately more principals and teachers gave incorrect responses to this item, or left it blank, we find that principals and science teachers in local intermediate schools were more likely to be unaware of government's policy objectives for field trips than supervisory and administrative personnel at the central Ministry. Some teachers and principals indicated they had not received any official reports from the Ministry of

Education or their respective boards of education stating these policy goals and objectives for field trips.

As discussed in Chapter Two, there are policy objectives for every school program and/or activity in Saudi Arabia that are written and disseminated at the Ministry of Education level. The results of the chi square test support good policy dissemination at that level, showing a low level of non-responses, and inaccurate or missing responses among persons at the higher levels of the education hierarchy. The lowest percentages of missing or inaccurate/inapplicable responses occurred among the supervisors (15 percent) and Ministry Officials (25 percent). Among the 57 administrators and supervisors working directly for the Ministry of Education, only 11 failed to respond or gave inaccurate responses to Item #12. This is particularly interesting because personnel at these levels had been in their jobs for considerably fewer years than teachers and principals (See Table 7). Education personnel at the Ministry level, then, tended to be more cognizant of the policy goals for field trips than the principals and teachers who are lower in the educational hierarchy and generally located farther from the policy making and disseminating central Ministry offices in Riyadh.

Perceptions of Policy Goals

Individual perceptions of official policy goals and objectives for field trips were examined by using several statements scattered throughout the questionnaire. In items # 30, 31, 35, 41, 42, and 45, the respondents were asked to indicate their agreement or disagreement with policy objectives by checking one of five scaled options: Strongly Agree = 5, Agree = 4, Undecided = 3, Disagree = 2, or Strongly Disagree= 1. Items #109 114 also dealt directly with the official policy objectives and respondents were asked to check "yes", "no", or "don't know" for each statement. A weighted score of 3 was given for each correct response, 2 for each don't know response and 1 for a wrong answer. Tables 12 and 13 showed the frequency and percentages of responses to these items.

As shown in Table 12, there was general agreement among the research sample (96.1 percent) that "field trips helped retain what has been learned" (item # 30). Another 95.4 percent also agreed that, "field trips lead to more appreciation of nature" (Item # 31). Ninety-eight percent of the research sample agreed that "field trips provide students with an understanding of the environment in which they live" (Item # 35) and another 87.6 percent agreed that "field trips motivate students for self-directed learning" (item #41). Of all personnel, 98.0 percent also agreed that "field trips develop students' abilities to synthesize

TABLE 12: Responses to Questionnaire Items 30, 31, 35, 41, 42 and 45 Regarding Personnel Groups' Percpetions of Official Policy, By Frequency and Percent

Item No.	Group	Statement	(5) Strongly Agree Freq.	%	(4) Agree Freq.	%	(3) Undecided Freq.	%	(2) Disagree Freq.	%	(1) Strongly Disagree Freq.	%	Total Agreement Freq.	%	Total Disagreement Freq.	%
30	S.T.	Help retain learning	51	69.9	19	26.0	2	2.7	1	1.4	0	0.0	147	96.1	2	1.3
	S.P.		18	78.3	4	17.4	1	4.3	0	0.0	0	0.0				
	SU.		24	60.0	15	37.5	0	0.0	0	0.0	1	2.5				
	M.O.															
31	S.T.	Appreciation of Nature	39	53.4	29	39.7	3	4.1	2	2.7	0	0.0	146	95.4	4	2.6
	S.P.		10	43.5	13	56.5	0	0.0	0	0.0	0	0.0				
	Su.		17	4.25	22	56.4	0	0.0	0	0.0	1	2.6				
	M.O.		11	64.7	5	29.4	0	0.0	1	5.9	0	0.0				
35	S.T.	Understanding of Environment	52	72.7	19	26.4	1	1.4	0	0.0	1	1.4	150	98.0	2	1.3
	S.P.		18	78.3	5	21.7	0	0.0	0	0.0	0	0.0				
	Su.		26	65.0	13	32.5	0	0.0	1	2.5	0	0.0				
	M.O.		10	58.8	7	41.2	0	0.0	0	0.0	0	0.0				
41	S.T.	Self-directed Learning	19	26.0	40	54.8	10	14.0	3	4.1	1	1.7	134	87.6	4	2.6
	S.P.		9	39.1	12	52.1	1	4.3	1	1.7	0	0.0				
	Su.		6	15.0	31	77.5	3	7.5	0	0.0	0	0.0				
	M.O.		9	52.9	8	47.1	0	0.0	0	0.0	0	0.0				
42	S.T.	Synthesize Knowledge	26	35.6	45	61.6	2	2.7	0	0.0	0	0.0	150	98.0	1	.7
	S.P.		11	47.8	11	47.8	0	0.0	1	4.3	0	0.0				
	Su.		25	62.5	15	37.5	0	0.0	0	0.0	0	0.0				
	M.O.		11	64.7	6	35.3	0	0.0	0	0.0	0	0.0				
45	S.T.	Learn about Community Resources	34	46.6	36	49.3	3	4.1	0	0.0	0	0.0	145	94.8	2	1.3
	S.P.		12	52.2	9	39.1	1	4.3	0	0.0	1	4.3				
	Su.		18	45.0	20	50.0	1	2.5	1	2.5	0	0.0				
	M.O.		11	64.7	5	29.4	1	5.9	0	0.0	0	0.0				

S.T. = Science Teachers
S.P. = School Principals
Su. = Supervisors
M.O. = Ministry Officials

knowledge from a variety of sources" (Item 42). Finally, 94.8 percent of the research sample agreed that "field trips help students learn more about resources in their community" (item #45). A chi square test of the items in Table 12 revealed that there were no significant differences between science teachers, school principals, supervisors, and Ministry officals regarding those items. This means that the members of the four groups held similar opinions that agreed with the official policy objectives of field trips, even when significant numbers in a personnel group (e.g., 40 percent of teachers) were unaware that such objectives were official policy. This may occur because most educators and particularly teachers are able to assume from the nature of their occupation and training that every school program and/or activity will be directed toward some desirable outcome goals and they are generally aware of what objectives are sought. In a study by Duvall and Krepel to investigate school board policies concerning the use of field trips, the researchers concluded that field trips had been utilized by teachers in a majority of the school districts surveyed. School board policies related to field trips often do not exist or are unwritten. Teachers recognized that instructional stitutions outside the classroom differ from the normal classroom setting, but the existence of board policies for conducting field trips is evidence to the teacher that the board recognizes the

educational values of field trips. Thus, the teacher may utilize this instructional tool more frequently.[1]

In items #109 through 114 of the questionnaire, the researcher provided various correct and incorrect statements about the policy objectives of field trips. The respondents were asked to indicate whether these statements were official policy by checking "yes" or "no." An option of "don't know" was provided for those who were unsure whether a particular item was official policy.

In Table 13, it is apparent that the highest percentage of the research sample gave a correct response to actual policy objectives and incorrect or "no" responses to the statements that did not constitute official policy for field trips. For example, on the objective "to teach students about their environment" (item #109), 92.8 percent agreed that this was official policy, while only 2.6 percent disagreed. The highest percentages of correct responses, by group, came from supervisors and Ministry officials.

On the statement, "field trips help students to practice other activities than what they do in class" (Item #10), 78.4 percent of respondents agreed, corrrectly, that this objective was official policy, and only 13.1 percent disagreed. Again, Ministry officials and supervisors had the high percentages of correct responses.

Item #111 was an incorrect statement policy, in that no Ministry policy states that field trips are "for students

TABLE 13: Responses to Items #109-114 of the Questionnaire Regarding Whether Questionnaire Statements Constituted Official Policy for Field Trips, by Professional Group

Item	Questionnaire Statement	Professional Group	Correct Response Freq.	%	Don't Know Freq.	%	Incorrect Response Freq.	%	Total Correct Freq.	%	Total Incorrect Freq.	%
109	To teach students about their environment	S.T.	65	89.0	5	6.8	3	4.1	142	92.8	4	2.6
		S.P.	22	95.7	1	4.3	0	0.0				
		Su.	39	97.5	1	2.5	0	0.0				
		M.O.	16	94.1	0	0.0	1	5.9				
110	For students to practice activities other than what they do in class	S.T.	56	76.7	9	12.3	8	11.0	120	78.4	20	13.1
		S.P.	19	82.6	1	4.3	3	13.0				
		Su.	31	77.5	3	7.5	6	15.0				
		M.O.	14	82.3	0	0.0	3	17.6				
111	To give students and teachers a day off from school	S.T.	54	74.0	13	17.8	6	8.2	126	82.4	8	5.2
		S.P.	21	91.3	1	4.3	1	4.3				
		Su.	37	92.5	3	7.5	0	0.0				
		M.O.	14	82.4	2	11.8	1	5.9				
112	To reward high-achieving students	S.T.	45	61.4	15	20.5	13	17.8	100	65.4	31	20.3
		S.P.	16	69.6	1	4.3	6	26.0				
		Su.	25	62.5	6	15.0	9	22.5				
		M.O.	14	82.4	0	0.0	3	17.6				
113	For students to see and practice real examples of what they study in school	S.T.	64	87.7	5	6.8	4	5.5	138	90.2	6	3.9
		S.P.	19	82.6	3	13.0	1	4.3				
		Su.	39	97.5	1	2.5	0	0.0				
		M.O.	16	94.1	0	0.0	1	5.9				
114	For students to learn about social interaction and work as a group	S.T.	64	87.7	5	6.8	4	5.5	139	90.8	7	4.6
		S.P.	20	86.9	1	4.3	2	8.7				
		Su.	38	95.0	1	2.5	1	2.5				
		M.O.	17	100.0	0	0.0	0	0.0				

S.T.-Science Teachers; S.P.=School Principals; Su.= Supervisors; M.O. = Ministry Officials

and teachers to have a day off from school" (item #111). On this somewhat obviously inaccurate statement most of the respondents (82.4 percent) correctly checked "no" to indicate that was not official policy. Only 5.2 percent of respondents including 8.2 percent of the teachers agreed with the statement.

Item #112 was also a false policy statement, but less obviously so than #111. Here again, the majority of the sample (65.4 percent) agreed it was not a statement of official policy, but this still left approximately one-third of the sample who did not know that rewarding high achieving students with field trips was not a policy objective. On item #111 and 112, supervisors and Ministry officials more often identified the statements as correct than teachers and principals.

On item #113, 90.2 percent of the research sample, consisting of 87.7 percent of the teachers, 82.6 percent of the principals, 97.5 percent of the supervisors and 94.1 percent of the Ministry officials, agreed that it was Ministry field trip policy "for students to see and practice real examples of what they study in school."

On item #114, that field trips were "for students to learn about social interaction and work as a group," 90.8 percent of the respondents (100 percent of Ministry officials, 95.0 percent of supervisors, 86.9 percent of school principals, and 87.7 percent of science teachers)

agreed this goal represented official policy. The data from Item #114 supported information from the interviews with Ministry officials and supervisors that the main objective or primary purpose of field trips is "for students to learn how to interact socially with others in the society." The director of the department of school activities in the Ministry of Education explained the relative positions of social and course content objectives in Ministry level decisions about field trips.

> "This department is mainly concerned with social school activities and field trips are one of these activities, in which students gain scientific information as well as social interaction. When we consider a field trip for any school or class we focus on teaching students how to deal with each other and with people in the society as a whole in an open situation such as a farm or a factory. Even though this is the purpose, students go about learning new material and relate what they study in class to what they see in the field with the help of their concerned teachers. 2

Discussion

Tables 10, 11, 12 and 13 and the interview quotations showed that a high percentage of the research sample were aware of the policy objectives for field trips in Saudi Arabia, but Ministry officials and supervisors were more knowledgeable about these goals and objectives than science teachers and school principals, although most teachers and principals agreed with content of goal statements, even when they were not aware it was official policy. Ministry

officials and supervisors tended to be more aware of policy because they are educational policy makers who provide the decisions and design the objectives for the teachers, who play the role of operators, to put policy into effect. There also appeared to be dependence among teachers on formal, written policy regulations issued by central authorities. This was reflected in the use of statements like "I have not received official notification of policy objectives or goals for field trips" to excuse a teacher's failure to respond to policy items in the questionnaire. In other words, this experienced teacher was unable to articulate from this experience. While such dependence on on higher authority and written documentation is difficult to interpret without additional data that are outside the scope of this study, such responses imply some dependence on established order that may reflect the rigidities of the centralized, educational system in which these personnel teach. Under a system in which rote memorization equals learning and identical curricula, course content and texts are disseminated to every school from a central office in Riyadh, individual initiative and creative teacher-generated learning techniques tend to be lightly valued, if at all. The implications for field trip activity, which almost always requires individual initiative and creative teaching techniques, are not encouraging. This system, however, is evolving and in coming years individual initiative and

creativity in teaching are likely to be highly valued; once Saudi Arabia has successfully established universal primary and secondary education throughout the country and officials have time to examine and improve a system of education that is still in its initial building stages.

2. Perceptions of Field Trips

Conceptualization

A concept is a person's thought, idea, abstraction, or interpretation.[3] A field trip is a conception that varies among people in how it is perceived. Some people perceive field trips as an instructional aid to teaching, in which a teacher takes students out in the field to examine living and nonliving materials related to the subject of study. Others think of a field trip as a class event designed to increase public relations and social interaction among students, or an instructional and social activity a teacher undertakes for the students' learning benefit. Still others perceive field trips as a non-instructional activity or a way to get away from the school's everday routine.

To obtain the participants' own perceptions of field trips they were asked to write their own definitions of field trips and to give examples of what they perceived as a field trip. Scaled response options were used to

measure respondents' perceptions of specified definitions and concepts. For ease of analysis, each item or statement dealing with perceptions of field trips was treated separately.

Item #9 was a direct, open-ended question in which the respondents were asked to write, in a few sentences, their own definitions of a field trip. Using generally accepted conceptualization from the literature, the definitions given by the respondents were divided into four categories (plus a no response option). The first category included concepts related to instruction (process or product), such as "an out-of-school activitiy to achieve instructional goals and objectives" or "an intellectual aspect for information gathering and classifying according to pre-set educational goals and objectives." A second categroy included non-instruction related concepts (social or recreational) such as "a visit to a recreational center where students can practice their hobbies and make new friends" or "a picnic trip to a farm or the desert." The third category, combined instructional and social features consisted of concepts, such as "a school activity which achieves multiple instructional and social aquisitions" or "a school activity that teaches the students how to study things in their natural settings and how to interact with each other and with their teachers." The fourth category included non-applicable responses such as "spending a class period in

the science laboratory" or "joining a training program." A final category, was for those who left the item blank or indicated "no response." In dividing the participants' responses into categories, decisions were made by multiple raters and checked for interrater reliability.

Table 14 shows that among the four relevant categories, 72.8 percent of the subjects provided instruction-related concepts such as the examples stated above. Combined instructional and non-instructional concepts were reported by 12.5 percent of the subjects. The lowest percentage of the respondents, 5.3 percent, mentioned only non-instruction (social or recreational) concepts.

A chi-square test used to determine the significance of any differences occurring among the four participant groups in their definitions of the field trip activity revealed that there were no significant differences. Table 15 shows that among the 73 science teachers who participated in the study, 56 (77 percent) wrote instruction related definitions and concepts. Only one teacher (1.4 percent) gave a non-instruction concept and another five teachers (6.8 percent) gave combined definitions. Results for the other three professional groups were similar. About 70 percent of principals gave instruction-related concepts, as did 73 percent of supervisors and 68.7 percent of Ministry officials.

TABLE 14: Frequency of Concept Categories

Concept Category	Frequency (N)	Adjusted Frequency (%)
1. Instruction (process/ product)	110	72.3
2. Non-Instruction (social/ recreational)	8	5.3
3. Combined (Instruction and Social	19	12.5
4. Non-applicable	15	9.9
No Response	1	
Total	153	100.0

TABLE 15: Differences Between Participant Groups on Item #9

Concept Category	Science Teachers N	%	School Principals N	%	Supervisors N	%	Ministry Officials N	%	Row Totals N	%
1. Instructions (Process/Product)	56	76.5	14	60.9	29	72.5	11	68.7	116	72.3
2.Non-Instructional (social/recreational)	1	1.4	4	17.4	1	2.5	2	12.5	8	5.3
3.Combined (instructional and non-instructional)	5	6.8	4	17.4	7	17.5	3	18.8	19	12.5
4.Non-applicable	11	15.1	1	4.3	3	7.5	0	0.0	15	9.9
Column Totals	73	48.1	23	15.1	40	26.3	16	10.5	152	100.0

After each respondent gave his own concept or definition of the field trip activity in item #9, he was asked to give some examples of a field trip. Depending on the responses, the examples given by the subjects were also divided into four categories: (1) examples related to instructional concepts, (2) examples related to instructional and social concepts, (3) examples related to neither instructional nor social concepts and (4) no response. Categorization was checked for acuracy by the same means for the previous item. Most of the respondents (131 or about 87.3 percent of the sample) gave examples related to instructional concepts, such as "a visit to some factories in the community related to the Science curriculum" or "a visit to nearby farms to study plants in their natural setting." (Table 16) Examples related to both instructional and social concepts were reported by 13 subjects or about 10 percent of the sample, in statements such as "a whole day visit to a farm for learning and enjoyment" or "a visit to the university campus to meet older students." The remaining four responses involved examples that were neither instructional or social concepts of field trips.

The highest percentage of example given in item #10 related to instructional concepts. This was consistent with the results for Item #9, in which the highest percentage (72.3 percent) of the sample responded in the same category.

TABLE 16: Frequencies of Concept Related Examples of Field Trips

Examples Related To	Absolute Frequency (N)	Adjusted Frequency (%)
Instructional Concepts	131	87.3
Instructional and Social Concepts	15	10.0
Neither	4	2.7
No Response	3	
Total	153	100.0

Differences among the four respondent groups for Item #10 are shown in Table 17).

Table 17 shows that that there were no significant differences between the groups and that opinions held by the groups of subjects were similar to each other. Taking into consideration the varied number of participants in each group, the differences shown in Table 17 reflect only differences between the numbers of participants. Among the 73 science teachers who participated in this study, 93.2 percent gave examples of field trips related to instructional concepts. Of the school principals, 71.4

percent gave examples related to instructional concepts of field trips. This was also the case for 92.5 percent of supervisors and 94 percent of Ministry officials.

Overall, on both open-ended questions the highest percentage of all respondent groups, especially the science teachers and the supervisors, provided instructional concepts and examples of field trips. Their emphasis on the importance of the instructional aspects of field trip activity may arise because they are more involved with the science curriculum than school principals and Ministry officials, who hold advanced degrees in fields other than science and who are responsible for general overall school program.

The data showed that the majority of the science teachers (93.1 percent) and the majority of the supervisors (57.5 percent) held bachelor's degrees of science or science education (See Table 9), while the majority of the principals and Ministry officials' (91.3 percent and 76.5 percent) held advanced degrees in fields other than science.

Experienced science teachers and supervisors knew that there are certain topics in the intermediate science curriculum that should be studied outside the classroom, so they do their best to take students on field trips. In an interview with the general science supervisor of the Ministry of Education, he said, "there are a considerable number of science teachers and students who make use of the

TABLE 17: Differences Between Participant Groups* on Item #10

Examples of Field Trips Related to:	Science Teachers N	%	School Principals N	%	Supervisors N	%	Ministry Officials N	%	Row Totals N	%
Instructional Concepts	68	93.2	15	71.4	37	92.5	11	88.7	131	87.3
Instructional and Social Concepts	3	4.1	6	28.6	3	7.5	3	18.8	15	10.0
Neither	2	2.7	0	0.0	0	0.0	2	12.5	4	2.7
Column Total	73	48.7	21	14.0	40	26.6	16	10.7	150	100.0

*The differences shown in the table result from differences between the number of the participations in each group.

field trip, regulated by policy, to show the relation of what students see in the field to what they study in class. Concerned students gather speciments to take back to school."[4]

Educators' Perceptions of the Role of Field Trips

Individual perceptions of the educational role of field trips were examined by the researcher using several questionnaire statements containing commonly held perceptions of field trips. On items #23-29, respondents indicated their agreement or disagreement with various views of field trips by checking one of five scaled options: strongly agree, agree, undecided, disagree, or strongly disagree. Analysis of the subjects' responses to these perceptions, by professional affilitation, was done by chi-square technique which revealed that there were no significant differences between the four respondent groups.

Items 23-29 read as follows (Appendix E). A field trip is:

#23 - primarily for fun

#24 - primarily for instructional purposes

#25 - a very useful school activity

#26 - a very useful tool in teaching science

#27 - a simple and easy activity to do

#28 - a very risky activity and requires a lot of responsibility on the part of the teacher

#29- a waste of time

Table 18 shows that most of the respondents (82.1 percent) disagreed that "a field trip is primarily for fun." (#23).

However, on item #24, which represented the opposite extreme, even more respondents (96.7 percent) agreed that field trips are primarily for instruction. When subjects were asked to indicate whether they thought field trips were a useful (or multi-purpose) school activity (#25), 96.3 percent of responses indicated agreement.

Item #26 was similar to item #25 but emphasized science teaching more. Subjects were asked to consider the usefulness of field trips in teaching science and 146 or 96.1 percent of respondents indicated they agreed. Asked to indicate whether or not field trips were simple and easy to do (item #27), about one-third of the subjects (35.8 percent) felt that field trips were a simple and easy school activity, 57.4 percent of the subjects felt they were not, and 6.8 percent of the sample were uncertain or undecided. Since teachers bear the heaviest burden of responsibility, initiative and effort for a science class field trip, while principals, supervisors and Ministry staff are less involved, it is of interest that percentages for teachers varied little from overall totals. On item #27, science teachers (about 33 percent) agreed with the statement, 57 percent disagreed and about 10 percent were uncertain. Differences among principals were also unremarkable.

TABLE 18: Responses to Questionnaire Items #29-29 Regarding Individual Perceptions of Field Trips

Item No.	Group	Strongly Agree (5) Freq.	%	Agree(4) Freq.	%	Un-decided(3) Freq.	%	Disagree(2) Freq.	%	Strongly Disagree(1) Freq.	%	Total Agreeing Freq.	%	Total Disagreeing Freq.	%
23 Fun	S.T.	5	7.2	12	17.4	2	2.9	27	39.1	23	33.3	24	16.6	119	82.1
	S.P.	1	4.5	1	4.5	0	0.0	12	54.5	8	36.4				
	SU	0	0.0	3	7.9	0	0.0	14	36.8	21	55.3				
	M.O.	1	6.3	1	6.3	0	0.0	9	56.3	5	31.3				
24 Instruc-tion	S.T.	46	63.9	22	30.6	2	2.8	2	2.8	0	0.0	147	96.7	2	1.3
	S.P.	16	69.9	7	3014	0	0.0	0	0.0	0	0.0				
	SU	28	70.0	12	30.0	0	0.0	0	0.0	0	0.0				
	M.O.	11	64.7	5	29.4	1	5.9	0	0.0	0	0.0				
25 Useful Activity	S.T.	30	41.7	39	54.2	1	1.4	1	1.4	1	1.4	146	97.3	3	2.0
	S.P.	12	52.2	11	47.8	0	0.0	0	0.0	0	0.0				
	Su.	20	52.6	18	47.4	0	0.0	0	0.0	0	0.0				
	M.O.	13	76.5	3	17.6	0	0.0	1	5.9	0	0.0				
26 Useful Tool	S.T.	47	64.4	22	30.1	3	4.1	1	1.4	0	0.0	146	96.1	1	0.7
	S.P.	14	60.9	8	34.8	1	4.3	0	0.0	0	0.0				
	SU	25	62.5	15	37.5	0	0.0	0	0.0	0	0.0				
	M.O.	12	75.0	3	18.8	1	6.3	0	0.0	0	0.0				
27 Simple & Easy	S.T.	8	11.6	15	21.7	7	10.1	34	49.3	5	7.2	53	35.8	85	57.4
	S.P.	2	8.7	6	26.1	1	4.3	13	56.5	1	4.3				
	SU	0	0.0	9	23.1	1	2.6	27	69.2	2	5.1				
	M.O.	5	29.4	8	47.1	1	5.9	3	17.6	0	0.0				
28 High Risk	S.T.	35	47.9	22	30.1	5	6.8	7	9.6	4	5.5	105	69.5	40	26.5
	S.P.	4	17.4	10	43.5	1	4.3	8	34.8	0	0.0				
	SU	4	10.3	27	69.2	0	0.0	7	17.9	1	2.6				
	M.O.	1	6.3	2	12.5	0	0.0	11	68.8	2	12.5				
29 Waste of Time	S.T.	0	0.0	2	2.9	1	1.4	19	27.5	51	69.9	3	2.0	148	97.4
	S.P.	0	0.0	0	0.0	0	0.0	8	34.8	15	65.2				
	SU	1	2.6	0	0.0	0	0.0	4	10.3	34	87.2				
	M.O.	0	0.0	0	0.0	0	0.0	1	6.3	16	94.1				

S.T.-Science Teachers; S.P. (School Principals; SU (Supervisors); M.O. (Ministry Officials)

Supervisors seemed to realize the effort involved more than others. About 23 percent agreed with the statement, 74 percent disagreed and 2.6 percent was uncertain. On the other hand, Ministry officials seemed to have little perception of the teacher effort a field trip requires. Of the Ministry official group, 77 percent agreed, 17.6 percent disagreed and 5.9 percent were uncertain. Thus, the highest percentage of the supervisor group (74 percent) disagreed on the statement and felt that field trips were not a simple and easy school activity while the highest percentage of the Ministry officials groups (77 percent) said that the field trip was a simple and easy school activity. Interpretation of these divergent findings might be best done from the responsibilities of the personnel. Supervisors discuss field trips with teachers and advise them, so they may be more aware of the difficulties than Ministry officials, who only make the policies and may be too far removed from the actual activity to perceive the work and responsibility involved. The variation in perceptions between policy makers and policy implementors should be of serious concern to those who are responsible for leadership in Saudi Arabian education.

Item #28 was designed to obtain the respondents' opinion of the risk and the responsibility attached to field trips. Of the teachers, 78 percent agreed that field trips are risky and require a lot of responsiblity on the part of

the teacher. Only 15 percent did not agree and about 7 percent were uncertain. School principals and supervisors felt similarly about this statement. Only the Ministry officials felt differently. Of these officials only 19 percent agreed that field trips are risky, while 81 percent of the group disagreed. As in item #27, this means that personnel who are directly involved with children and trip planning were more aware of the risk and responsibility than Ministry personnel who control the education process from their offices in Riyadh.

On the final item in this section (item #29), education personnel generally disagreed, by 97.4 percent that field trips were "a waste of time."

Discussion

Examination of the subjects' perceptions of field trips has generally shown that they conceive of it as an instruction-related activity and supported this conception with instruction-related examples (Tables 14, 15, 16 and 17). As an instruction-related activity, field trips were perceived by a considerable majority of the respondents (generally over 95 percent) as neither primarily for fun nor a waste of time, but as a useful school activity, particularly as a tool in teaching science, that is primarily for instructional purposes. Substantial

differences in perceptions were found only on the issues of whether or not field trips were simple and easy to do and whether they involved high risk and great responsibility for teachers. A majority of teachers disagreed they were easy to do and the teachers were supported in this perception by their principals and particularly the supervisors who disagreed by over 70 percent. Only Ministry officials, by more than 70 percent, felt field trips were simple and easy to do. Similar results were obtained on the issue of risk and teacher responsibility, showing that the perceptions of the front line staff who bear the brunt of the extra work and risk involved in pre-trip, during trip and post-trip planning, instruction and leadership (the teachers) were supported by those to whom they are most directly responsible--that the efforts of teachers who carry out field trip activities are noted and appreciated by principals and supervisors on the next two hierarchical levels. However, the widely divergent responses of Ministry officials on these two issues indicate they may have an unrealistic view of the effort and risk involved in field trips for the teacher.

3. Suggested Goals and Objectives of Field Trips

As with the official policy goals and objectives of field trips, the researcher tried to obtain the individuals'

opinions of what they thought, believed, or suggested should be goals and objectives for field trips. Several items in the questionnaire were designed to achieve this purpose. Items #11 and #15 were open-ended questions for which the respondents were asked to write answers. Items 30-51 were statements with which the respondents were asked to indicate their agreement or disagreement on a Likert scale.

For item #11, which was a direct open-ended question, subjects were to write what they believed the goals and objectives of field trips should be. Goal and objective categories obtained from the completed questionnaires and the literature reviewed were used to categorize the responses on this question. Objectives of field trips (plus a no response or no goals option) was used to categorize the responses on this question.

Frequencies for the various responses in Table 19 show that the highest percentage of the research sample, 52.7 percent, suggested instructional and attitudinal goals and objectives with responses, such as, "for students to expand their scientific knowledge and grasp the importance of science and its horizons and extent." The next most favored category was (36.5 percent) instructional goals only and very few subjects suggested other response options.

To determine the significance of and differences between educator groups on item #11 a chi-square test was used (Table 20).

TABLE 19: Frequency of the Suggested Goals and Objectives of Field Trips, Item #11

Category	Absolute Frequency	Adjusted Freq.(%)
Instructional Goals	54	36.5
Instructional and Social Goals	5	3.4
Instructional and Attitudinal Goals	78	52.7
Instructional, Social and Attitude Goals	6	4.0
Attitudinal Goals Only	5	3.4
No Response or No Goals	5	
Total	153	100.0

The chi-square test revealed that there were differences within and between the four respondent groups. A significance level of 0.005 was used to determine variance among the five variables. The options of the respondents in their suggested goals and objectives of field trips varied between these stated goals. Table 20 shows that among the 72 science teachers who responded to this question, 40 of them or about 56 percent reported instructional and attitudinal goals and objectives. Another 30 science teachers or about 42 percent wrote instructional goals only. In general, 97.2 percent of the teachers reported instructional and attitudinal goals of field trips. This means that science teachers tend to emphasize both the instructional and attitudinal goals of field trips, which is consistent with the teachers' responses to questions about their perceptions of field trips (Table 17) where 93.2 percent of the teachers emphasized an instructional concept of field trips.

School principals were similar to teachers in their responses to this item. Among the 19 principals, 12 principals (63.2 percent) indicated instructional and attitudinal goals; 6 principals, 31.5 percent reported instructional goals only. A total of 94.7 percent of the principals reported both instructional and attitudinal goals of field trips. Of the supervisor group, the highest percentage, 52.5 percent, also chose the instructional and

TABLE 20: Differences Between Participant Groups on Item #11

Variables	Science Teachers No.	%	School Principals No.	%	Supervisors No.	%	Ministry Officials No.	%	Row Totals No.	%
Instructional Goals	30	41.7	6	31.5	11	27.5	7	41.2	54	36.5
Instructional & Social Goals	0	0.0	0	0.0	0	0.0	5	29.4	5	3.4
Instructional & Attitudinal Goals	40	55.5	12	63.2	21	52.5	5	29.4	78	52.7
Instructional/ Social/ and Attitudinal Goals	0	0.0	0	0.0	6	15.0	0	0.0	6	4.0
Attitudinal Goals	2	2.7	1	5.3	2	5.0	0	0.0	5	3.4
Column Totals	72	48.7	19	12.8	40	27.0	17	11.5	148	100.0

attitudinal goals and objectives of field trips. Another 27.5 percent of them reported instructional goals only. A total of 80 percent of this group focused on both instructional and attitudinal goals.

The highest percentage of the Ministry officials (41.2 percent) reported instructional goals only. Instructional and social goals as well as instructional and attitudinal goals were chosen by only 29.4 percent of this group. A total of 70.6 percent of the Ministry officials chose both instructional and attitudinal goals. In general, the highest percentage of each group emphasized the instructional and attitudinal values of field trips which meant that most of the participant educators were aware of the potential instructional and attitudinal benefits which can arise from field trips for the students.

Item #15 of the questionnaire dealt indirectly with suggested goals and objectives of field trips. The participants were asked to indicate what they thought was achieved by using field trips properly in teaching science. For the purpose of the study, a list of four categories of interrelated goals and objectives of field trips (plus a no response or no goals option) was used to categorize the responses on this question. These categories were (1) <u>academic acquisition</u>, with responses such as "learning and understanding of the environment" or "acquisition of learning experiences and new skills." (2) <u>acquisition</u>

Table 21: Frequencies of Suggested Goals and Objectives on Item #15 of the Questionnaire

Suggested Goals Related to:	Frequency	Freq.(%)
Acquisition of academic know-ledge	41	27.5
Acquisition of Practical Know-ledge and skills	19	12.8
Acquisition of Both Academic and Practical Knowledge	88	59.0
Neither	1	0.7
No Response	4	
Total	153	100.0

of practical knowledge and skills such as "understanding the relationship between science and life." (3) both academic and practical knowledge which included "understanding the process of science" and "to develop a positive attitude toward science." (4) Neither or not applicable responses. Frequencies of the various responses are shown in Table 21.

Among the four goals and objectives categories, the highest percentage of the group, 59 percent, indicated acquisition of both academic and practical knowledge related goals and objectives; 27.5 percent of the subjects wrote acquisition of academic knowledge goals only. Acquisition of only practical knowledge and skills was chosen by 12.8 percent of the respondents. Therefore, nearly every respondent suggested goals and objectives related to acquisition of academic and practical knowledge of science.

To determine the significance of differences of responses to Item #15 of the questionnaire and to determine participant groups, frequencies and percentages were calculated (Table 22).

Table 22 shows that the highest percentage of the science teacher group (58.3 percent) reported both academic and practical knowledge related goals. Another 16 teachers (22.2 percent) suggested acquisition of academic knowledge related goals only. And 13 teachers, or about 18 percent stated practical knowledge and skills related goals.

TABLE 22: Difference Between Participant Groups on Item #15

Variables	Science Teachers No.	%	School Principals No.	%	Supervisors No.	%	Ministry Officials No.	%	Row Totals No.	%
Acquisition of Academic Knowledge	16	22.2	7	33.3	12	30.0	6	37.5	41	27.5
Acquisition of Practical Knowledge & Skills	13	18.1	1	4.8	5	12.5	0	0.0	19	12.8
Acquisition of Both Academic & Practical Knowledge	42	58.3	13	61.9	23	57.5	10	62.5	88	59.0
Neither	1	1.4	0	0.0	0	0.0	0	0.0	1	0.7
Column Totals	72	48.3	21	14.1	40	26.9	16	10.7	149	100.0

Of the school principals group, 13 out of 21 or about 62 percent reported both academic and practical knowledge related goals. Another 7 principals (33.3 percent) chose acquisition of academic knowledge goals.

Twenty-three out of 40 supervisors (57.5 percent) reported acquisition of both academic and practical knowledge related goals. Another 12 supervisors (30 percent) wrote goals related to academic knowledge only.

Ten of the Ministry officials (62.5 percent) reported both academic and practical knowledge related goals. The other 6 officials (37.5 percent) reported academic knowledge related goals only.

Selected Goals and Objectives

Another means used to obtain the subjects' opinions on suggested goals and objectives for field trips was the use of scaled options on selected goals and objectives. Items #30-51 of the questionnaire comprised various related and unrelated, positive and negative statements. On these items, respondents were asked to indicate their agreement or disagreement with the stated goals and objectives. A weighted score was given to each response; Strongly Agree= 5, Agree=4, Undecided=3, Disagree=2, and Strongly Disagree=1. Some of these items #30, 31, 35, 41, 42, and 45 dealt with official policy goals and objectives and have

been discussed in a previous section of this chapter. For ease of data presentation, tables 24, 25, 26, and 27 showing these figures are presented in Appendix H. Table 23 summarized the results of items #30-51.

For ease of data analysis, items #30-51 have been categorized into four objectives categories: learning content, learning process, and skills, motivation effects, and others (Table 23).

As shown in Table 23, items #30, 32, 35, 36, 38, 39, 40 and 45 were related to learning content objectives and were agreed upon by the research sample. The level of agreement ranged from 71.2 percent to 96.1 percent which indicated that the respondents knew or believed that field trips helped achieve these learning content objectives.

Items #42, 47-51 dealt with learning process and skills objectives of field trips. Table 23 shows that these items were also agreed upon by respondents which also showed that respondents believed that field trips achieved learning process and skills objectives.

The third category of objectives was motivation effects for students. Respondents generally agreed from 77.2 percent to 96.7 percent that field trips helped achieve these objectives.

Field trips supplement teachers' information (item #33) received agreement of 90.1 percent. Another 78.8 percent of the respondents agreed that field trips permit students to

practice other activities than what they do in class (item #43). All of the above items were positive statements of field trips' objectives obtained from the study and the literature reviewed; some of these objectives (items #30, 32, 35, 36, 38 and 41) were policy objectives.

Item #37 was a false objective statement which was used to test the respondents' accuracy. Table 23 and Tables 24-27 in Appendix H show that the majority of the respondents agreed with the positively stated goals and objectives of field trips and disagreed with the negatively stated ones, which means that the educational personnel in Saudi Arabia tended to be well aware of the potential values of field trips and that they would yield considerable educational benefits for science and social science students and their society.

4. Problems of Field Trips and Suggested Solutions

Too often we hear about problems facing the success of any enterprise. As mentioned in the pilot study, some of the barriers to successful field trips are personal conceptions and others are barriers blamed on teacher reluctance. Teachers report that school principals contribute to perceived problems because they will not approve field trip activities. Some school principals accuse teachers of not wanting to make the extra effort or

TABLE 23: Responses to Questionnaire Items 30-51 by Percentage

Category	Item #	Statement (Objectives)	Agree %	Disagree %
Learning Content	30	Retain what was learned	96.1	1.3
	32	Vocational choices	76.2	9.9
	35	Understanding of the environment	98.0	1.3
	36	First-hand experience	96.1	1.3
	38	Knowledge of cultural issues	91.4	0.6
	39	Awareness of econoimc issues	83.9	6.7
	40	Awareness of social problems	71.2	9.6
	45	Learning about resources in the community	94.8	1.3
Learning Process and Skills	42	Synthesize knowledge	98.0	0.7
	47	Inquiry learning	91.1	2.1
	48	Scientific research	92.5	3.4
	49	Problem-solving	82.3	4.8
	50	Processes of science	87.2	2.0
	51	Designing experiments	87.9	2.7
Motivation Affects	31	Appreciation of nature	95.4	2.6
	34	A change from the regular classroom	96.7	2.0
	41	Motivation for self-directed learning	87.6	2.6
	44	Personal goals	77.2	3.4
	46	Positive attitudes toward science	95.8	0.7
Others	33	Supplement teacher's information	90.1	5.3
	37	A day off from school	13.7	78.1
	43	Practice other activities	78.8	17.1

undertake managerial responsibilities. Others say supervisors and Ministry officials insist on classroom-oriented learning. Supervisors and Ministry officials blame principals and teachers for a lack of interest and lack of enthusiasm. In this section of the chapter the researcher relates the views of education personnel regarding the real conflicts and barriers to the successful use of field trips. To achieve this purpose, the researcher used both open-ended questions and prepared statements referring to the problems of field trips. Item #21 of the questionnaire was an open-ended direct question asking the respondents to write, in a few sentences, what they saw as the problems facing the successful use of field trips. A list of eight categories obtained from the returned questionnaires (plus a no response option) were used to categorize the responses given to this question. This list was as follows (See Appendix G):

1. Time Constraints for responses such as "the length of the school curriculum and the shortage of time," "teachers have a full in-class schedule." or "the class period is 45 minutes, not enough for even a short trip."

2. Cost Constraints for responses such as "the financial support allocated for field trips is sometimes not enough to conduct one field trip," "inaccessibility of the means of transportation," or "the high cost of food and transportation".

3. Managerial Concerns (including teachers, principals, and Ministry officials) for responses such as "the lack of approval of field trips by most of the school principals," "school principals and Board of Education officials concerned more about in-class teaching," or "teachers do not want to take the risk and responsibility of taking their students on a field trip."

4. Resource Site or Location Problems which included "lack of close locations that have materials related to what students study in school," "some locations do not approve of student visitations or limit the student numbers," or "some government agencies require permission from the Ministry of Education or Board of Education which is hard to obtain in time for the trip."

The other four categories were multiples of two or more of these problems.

Frequencies and percentages of the various responses to this question (#21) are shown in Table 28. In order of decreasing frequency percentages, the following list presents the results of this question:

(1) 23.2 percent of the research sample reported multiple cost, time and resource site problems.

(2) 17 percent of the sample mentioned cost, time and managerial concerns.

(3) 13.6 percent of the sample focused on managerial concerns only.

Other categories and combinations accounted for less than 10 percent of the sample and are shown in Table 28.

To determine the differences among groups in responses to item #21 of the questionnaire, frequencies and

Table 28: Responses to Item #21, Barriers to Successful Use of Field Trips

Category Label	Absolute Freq.	Adjusted Freq. (%)
1. Time Constraints	11	7.5
2. Cost Constraints	13	8.8
3. Managerial Concerns	20	13.6
4. Resource or Site Problems (RP)	10	6.8
5. Time and Cost (1&2)	14	9.5
6. Time, Cost & Resources (1+2+4)	34	23.2
7. Time, Managerial & Resources (3+2+4)	12	8.2
8. Time, Cost & Managerial (1+2+3)	25	17.0
9. All (nos. 1-4) of the above	8	5.4
No Response	6	
Total	153	100.0

percentages were calculated (Table 29A). Data in this table show only moderate differences between science teachers, school principals, supervisors and Ministry officials on item #21 of the questionnaire. This means that the members of the four groups held rather similar opinions on the problem facing the successful use of field trips in the Saudi intermediate schools.

Item #22 was a direct question designed to obtain participants' suggestions on how to solve the problems of field trips and their recommendations for improvement of this activity. After the respondents wrote what they believed to be the problems facing field trips (Item #21) they were asked to discuss their solutions (item 22). The responses to this question (See Appendix G) were divided into eight categories (plus a no response option). These categories were as follows:

(1) limit the number of students who participate in the field trip

(2) explain the benefits and importance of field trips to educators, parents and students

(3) provide for financial needs, including means of transportation

(4) allocate more time for school activities in general and field trips in particular

(5) 2+4

(6) 3+4

(7) 1+2+3

(8) 2+3+4

TABLE 29A: Differences Between Participant Groups on Item #21 Using Chi-Square Techniques

Problem Category	S.T. No.	S.T. %	S.P. No.	S.P. %	Su No.	Su %	M.O. No.	M.O. %	Row Totals No.	Row Totals %
1. Time Constraints (T.C.)	5	6.9	3	14.3	2	5.1	1	6.7	11	7.5
2. Cost Constraints (C.C.)	8	11.1	1	4.8	4	10.3	0	0.0	13	8.8
3. Managerial Concerns (M.C.)	13	18.1	1	4.8	3	7.7	3	20.0	20	13.6
4. Resource Problems (R.P.)	3	4.2	2	9.5	3	7.7	2	13.3	10	6.8
5. Time and Cost	9	12.5	4	19.0	1	2.6	0	0.0	14	9.5
6. Time, Cost & Resources	10	13.9	6	28.6	11	28.2	7	46.7	34	23.1
7. Time, Managerial & Resources	7	9.7	0	0.0	4	10.3	1	6.7	12	8.2
8. Time, Cost & Managerial	10	13.9	4	19.0	10	25.6	1	6.7	25	17.0
9. All (1-4) of the above	7	9.7	0	0.0	1	2.6	0	0.0	8	5.5
Column Totals	72	49.0	21	14.3	39	26.5	15	10.2	147	100.0

Frequencies and percentages of the various responses for this question (#22) are shown in Table 29B which shows that the highest percentage of the research sample (30.6 percent) recommended the combined option of providing for the needs expressed by teachers, including money and transportation and more time for school activities. Those in the sample who recommended more time for activities equaled only 23.8 percent. Another 16.3 percent of the sample suggested explaining the benefits and importance of field trips to educators, parents, and students to resolve problems that face the use of field trips. Only 9.5 percent of the sample recommended providing for financial and transportation needs alone. Another 8.8 percent of the group made the combined explaining the benefits with providing for the needs and allocating more time for school activities. The combined alternatives of explaining the benefits and allocating more time (category 4) were suggested by 48 percent. Another 4.8 percent of the sample recommended the three alternatives specified in options 2+3+4 (Table 29B). The differences between the four groups in response to item #22 are shown in Table 30. The table shows that there were only small differences between the four groups except in regard to views on time and budget (response categories 3 & 4). Totaling response categories 3 & 4, supervisors tended to identify addition of budget and

TABLE 29-B: Frequency of Suggested Solutions for Field Trip Problems (Item #22)

Category of Response	Absolute Frequency	Adjusted Freq. (%)
1. Limit the students' numbers	2	1.4
2. Explain the benefits and importance to educators, parents, etc.	24	16.3
3. Provide budget & transportation	14	9.5
4. Allocate more time for school activities	35	23.8
5. 2 + 4	7	4.8
6. 3 + 4	45	30.6
7. 1 + 2 + 3	7	4.8
8. 2 + 3 + 4	13	8.8
No Response	6	
Total	153	100.0

time for field trips as a way of increasing their use less frequently than teachers, principals and Ministry officials.

The differences between the four groups in response to item #22 are shown in Table 30. This table revealed that there were small differences between the four participant groups on item #22 of the questionnaire, except regarding views on time and budget (response categories 3 & 4). Totaling response categories 3 & 4, supervisors tended to identify addition of budget and time for field trips as a way of increasing their use less frequently than teachers, principals and Ministry officials.

When data from Table 30 are clustered to sum the responses in each of the four categories, it shows that:

a. 68 percent of the respondents suggest an increase in available time (category 4),

b. 53.7 percent recommended an increase in budget for field trips,

c. 34.7 percent recommended clarification of benefits of field trips to the public vs. to professional education and,

d. 6.2 percent recommended limiting the number of students.

It was obvious from the above figures and the related literature in Chapter Two, that these problems and solutions were the most common problems everywhere which means that the educational personnel who reported those problems and

TABLE 30: Differences Between Participant Groups on Item 22 Using Chi Square Technique

Suggested Solutions	S.T. No.	S.T. %	S.P. No.	S.P. %	Su No.	Su %	M.O. No.	M.O. %	Row Totals No.	Row Totals %
1. Limit Students Numbers	2	2.8	0	0.0	0	0.0	0	0.0	2	1.4
2. Explain Benefits to Educators, etc.	12	16.9	2	10.0	8	20.5	2	11.8	24	16.3
3. Provide for Budget & transportation	7	9.9	2	10.0	3	7.6	2	11.8	14	9.5
4. Allocate More time for School Activities	18	25.4	6	30.0	4	10.3	7	41.2	35	23.8
5. 2+4	1	1.4	2	10.0	4	10.3	0	0.0	7	4.8
6. 3+4	24	33.8	7	35.0	11	28.2	3	17.6	45	30.6
7. 1+2+3	2	2.8	0	0.0	5	12.8	0	0.0	7	4.8
8. 2+3+4	5	7.0	1	5.0	4	10.3	3	17.6	13	8.8
Column Totals	71	48.3	20	13.6	39	26.5	17	11.6	147	100.0

those who wrote various articles on this subject face similar situations.

In addition to the problems discussed in previous sections of this chapter, there are other conceptual and regulatory problems that need to be discussed. To clarify these problems the researcher designed some items in the questionnaire related to these problems. Items #23, 24, 37, 74 and 75 dealt with individual conceptions and perceptions of field trips and have been discussed in earlier sections of this chapter. Items #105-108, 111 and 112 dealt with the regulations of the Ministry of Education regarding the use of field trips.

The conceptual problems arises from misconceptions of the actual role of field trips. As shown in Table 18, 16.6 percent of the research sample failed to recognize the instructional value of field trips and considered them primarily for fun (item #23). This agreement came from 24.6 percent of teachers, 9.0 percent of principals, 7.9 percent supervisors, 12.6 percent Ministry officials, while 96.7 percent of the sample considered field trips to have instructional purposes (Item #24).

Another conceptual problem was evident in responses to item #37 (Table 25-App H). About 14 percent of the research sample agreed that the purpose of field trips was to allow teachers and students to have a day off from school. This agreement came from science teachers (17 percent), school

principals (22.7 percent), supervisors (25 percent) and Ministry officials (13 percent). From this it seems clear that the misconceptions arise mainly among science teachers and then school principals, which is probably why so many of the respondents suggested the need for more information about the benefits and importance of field trips.

On the other hand, many of the teachers felt that their school principals do not encourage them to undertake field trips. To examine this argument, the researcher asked all the participants whether principals encourage science field trips in general (Item #74) and short science field trips in particular (Item #75). Table 31 shows the frequencies and percentages of the participants' responses.

Of the groups whose responses were of most interest on item #74, "principals encourage science field trips," 100 percent of the principals group agreed, while 50 percent of the teachers either disagreed (22 percent) or were uncertain (28 percent). On item #75, "principals encourage short science field trips," it was found that about 91 percent of the principals agreed on the statement, while about 42 percent of the teachers either disagreed or were undecided on the same statement. Supervisors' and Ministry officials' opinions tended to support the principals, although more than one-third were undecided.

The chi square test of item #74 revealed a significant difference of 0.0006 between the four participant groups.

On item #75, differences at a significance level of .01 were found between the four groups. It seems obvious that there are differing perceptions between teachers and principals regarding the use of field trips in the intermediate boys' schools in Saudi Arabia.

The issue of the Ministry of Education's position on field trips in the intermediate boys' schools in Saudi Arabia was examined by various correct and incorrect statements regarding Ministry provisions for field trips. Items #105-108 dealt directly with such provisions and respondents were asked to check "yes" for each correct statement, "no" for each incorrect statement and "don't know" if they were uncertain (Table 32).

Table 32 shows that 40.5 percent of the research sample correctly affirmed that "the Ministry of Education stipulates that field trips must be conducted at least twice a year at every school." (Item 105) Incorrect responses equaled 33.4 percent and 26.1 percent of the sample was undecided whether or not the statement is a policy regulation. Teachers and supervisors answered correctly at about the same rate on this question. Supervisors and principals had a surprisingly high rate of incorrect responses.

The statement in item #106 "the Ministry of Education approves the use of field trip activities for every subject of the school curriculum," was a true statement and found

TABLE 31: Frequency and Differences of the Four Participant Groups' Responses to Items #74 and #75

Item #	Statement	Group	Strongly Agree No.	Strongly Agree %	Agree No.	Agree %	Undecided No.	Undecided %	Disagree No.	Disagree %	Strongly Disagree No.	Strongly Disagree %	Total Agreement No.	Total Agreement %	Total Disagreement No.	Total Disagreement %	Total Undecided No.	Total Undecided %
74	Principals Generally Encourage Science Field Trips	S.T.	13	18.1	24	33.3	20	27.8	13	18.1	2	2.8	89	59.3	17	11.3	44	29.4
		S.P.	8	34.8	15	65.2	0	0.0	0	0.0	0	0.0						
		Su	3	7.5	18	45.0	17	42.5	1	2.5	1	2.5						
		M.O.	1	6.3	7	43.8	7	43.8	0	0.0	0	0.0						
75	Principals Encourage Short Science Field Trips	S.T.	10	13.9	32	44.4	19	26.4	10	13.9	1	1.4	96	64.4	15	10.1	38	25.5
		S.P.	8	34.8	13	56.5	1	4.4	1	4.3	0	0.0						
		Su	2	5.1	21	53.8	13	33.3	3	7.7	0	0.0						
		M.O.	1	6.7	9	60.0	5	33.3	0	0.0	0	0.0						

general agreement from 41.2 percent of the research sample, disagreement from 31.4 percent and 27.4 percent didn't know. Teachers knowledge on this issue was much lower (23 percent) when compared with other groups (50-70 percent correct). However, all four groups gave about the same percentage of incorrect replies with "undecided" accounting for the greatest differences on this item.

The statement on item #107, the "Ministry of Education allocated money in the budget for field trip activities," was also a true statement and found general agreement among the education personnel of 49.7 percent and disagreement of 20.3 percent of the sample, and 30 percent didn't know. Percent of correct responses varied for 37 percent teachers to 88 percent of Ministry officials with 49 percent of principals giving the wrong answer.

The statement in item #108 of the questionnaire was "the Ministry of Education stipulates that only high achieving students may go on field trips." This was a false statement; there is no rule in the policy regulations recommending that only high-achieving students go on field trips.

The data in Table 32 show that 48.4 percent of the research sample correctly identified this statement as false; 31.4 percent incorrectly said it was true and the rest of the group (20.2 percent) said they didn't know. Again the range of correct replies varied from 19 percent

TABLE 32: Responses to Items #105-108 Regarding Ministry of Education Regulations for Field Trips

Item #	Questionnaire Statement	Professional Group	Correct Response Freq.	%	Don't Know Freq.	%	Incorrect Response Freq.	%	Total Correct Freq.	%	Total Incorrect Freq.	%	Total Don't know Responses Freq.	%
105	The Ministry of Education stipulates that field trips must be conducted at least twice a year for every school	S.T.	28	38.4	32	43.8	13	17.8	62	40.5	40	26.1	51	33.4
		S.P.	10	43.5	3	13.0	10	43.5						
		Su	14	35.0	11	27.5	15	37.5						
		M.O.	10	58.8	5	29.4	2	11.8						
106	The Min. of Ed. approves of the use of field trip activity for every subject in the school	S.T.	17	23.3	30	41.1	26	35.6	63	41.2	48	31.4	42	27.4
		S.P.	14	60.9	1	4.3	8	34.8						
		Su	20	50.0	10	25.0	10	25.0						
		M.O.	12	70.6	1	5.9	4	23.5						
107	The Ministry of Education allocates budget for field trip activities	S.T.	27	37.0	36	49.3	10	13.7	76	49.7	31	20.3	46	30.0
		S.P.	11	47.8	2	8.7	10	43.5						
		Su	23	57.5	7	17.5	10	2.5						
		M.O.	15	88.2	1	5.9	1	5.9						
108	The Ministry of Education stipulates that only high-achieving students may go on field trips	S.T.	14	19.2	24	32.9	35	47.9	74	48.4	48	31.4	31	20.2
		S.P.	13	56.5	0	0.0	10	43.5						
		Su.	33	82.5	5	12.5	2	5.0						
		M.O.	14	82.4	2	11.8	1	5.8						

for teachers to 82 percent for supervisors and Ministry officials. Principals vs. teachers gave about equal percentage of incorrect replies.

Comparison of the above statistics shows that there is a problem of teachers and principals misperceiving the position of the Ministry of Education on the use of field trips. Generally, the Ministry favors and supports the use of field trips far more than is perceived by teachers and principals. For example, only 28 out of 73 teachers (38.4 percent) and 10 out of 23 principals (43.5 percent) knew that the Ministry of Education stipulates the conducting of field trips at least twice a year (item #105). The rest of the participant teachers (61.6 percent) and school principals (56.5 percent) either gave incorrect responses or didn't know. Supervisors and the Ministry officials were more aware of this policy.

Item #106 provided more evidence of the same trend as only 17 teachers (23.3 percent) and 14 principals (60.9 percent) answered correctly that the Ministry approves of field trips for all school curriculum. The rest of the respondents in these groups (76.7 percent of the teachers, 39.1 percent of the principals) either said they didn't know or answered incorrectly.

Teachers and principals also tended to be unaware of support for field trips. Table 32 shows that only 27 out of 73 teachers (37 percent) and 11 out of 23 principals (47.8

percent) were aware that the Ministry of Education allocates money in the school budget for field trip activities (item #107). The majority of these groups (63 percent of the teachers' group and 52.2 percent of the principals' group) were unaware of this financial support for this activity. In comparison, 88.2 percent of the Ministry officials were aware of this supportive provision and only 11.8 percent were unaware of it.

Finally, on item #108, only 19.2 percent of the teacher group and 56.5 percent of principals knew that the Ministry of Education did not specify that only high-achieving students could go on field trips (item #108), while 80.8 percent of the teachers and 43.5 percent of the principals thought incorrectly that it was the policy to take only high achieving students on field trips.s In contrast, 82.5 percent of the supervisors and 82.4 percent of the Ministry officials answered this statement correctly.

In summary, Ministry policy encourages and supports field trip activity and does not limit their use in curricular areas or students who can participate. However, it seems evident that school teachers and principals, who are distant from the central Ministry of Education in their locations, tend to assume that Ministry policy is less supportive of field trip activity than such policy actually is. It is not difficult to see that such widespread

misperceptions would be likely to restrict the enthusiastic use of field trips by teaching personnel.

5. Principles and Characteristics of an Effective Field Trip

After reviewing the literature related to the use of field trips in teaching science, a list of the most common principles and characteristics of effective and successful field trips was established. For the purpose of the study, the researcher stated these and other principles as statements or questions to which subjects were asked to respond in completing the questionnaire. Some items were designed to obtain the respondents' own designations of principles and characteristics of an effective field trip (items #16-19), other items measured respondents' agreement or disagreement with specifically stated principles and characteristics of successful field trips drawn from the literature (item #52-66).

Item #16 of the questionnaire was an open-ended question in which respondents were asked to write, in few sentences, a description of what they considered a good field trip for teaching science in the intermediate schools. A list of seven principles of an effective field trip derived from the investigator's review of the literature (plus a no response option) was used to categorize responses (Table 33).

Among the seven categories of effective field trip principles, 64.1 percent of the subjects felt field trips should be related to on-going school curriculum and have mostly educational purposes. Another 14.5 percent of the research sample combined preplanning and the relationship with on-going school curriculum for a successful field trip (category #5). Preplanning alone was considered the most important principle of a successful field trip by 12.4 percent; 6.2 percent of the sample determined that the teacher should require a follow-up report from the students or other after-trip classroom activities in order to have an effective field trip. Only 1.4 percent of the sample wrote non-instruction related principles (Category 4), 0.7 percent reported both 1 and 3 (category #7) and another 0.7 percent reported 1, 2 and 3 (Category #6).

Item #17 of the questionnaire was also an open-ended question and concerned the teacher's role in an effecive field trip. Participants (teachers and others) were asked to write, in a few sentences, what they think a teacher should do to contuct an effective and successful field trip. A list of seven activities covering the three common stages of any teaching strategy (plus a no response option) was used to categorize the responses (Table 34).

Table 34 shows that the written responses including the three important stages of a teaching strategy (i.e., (a) preparing and planning, (b) activities in the field, and (c)

Table 33: Frequency of Responses to Question #16 Concerning Principles of Effective Field Trips

Principles	Absolute Freq.(N)	Adjusted Freq.(%)
1.Complement the school curriculum & have the most educational benefits	93	64.1
2. Preplanning (goals, objectives, pre-visit, etc.)	18	12.4
3. Require follow-up report or after trip class activities	9	6.2
4. Non-instructional (unrelated to school curriculum)	2	1.4
5. 1+2	21	14.5
6. 1+2+3	1	0.7
7. 1+3	1	0.7
8. No response	8	
Total	153	100.0

Valid Cases = 145

Missing Cases = 8

after-trip activities) tc various degrees.[5] The highest percentage of the respondents (38.5 percent) reported that pre-planning and pre-visiting the site is the teacher's most important role in a successful field trip. The next highest percentage (35.1 percent) specified pre-planning and discussion with authorities and students about the trip and requiring a follow-up report after the trip (Category #4). Only 8.8 percent of the sample added the active engagement of the teacher in the field (walking with students, explaining, discussing and answering students' questions) to the previous options (category #7). The percentage of support for the rest of the options scored even lower. Perhaps the most interesting information available from responses to Item #17 was the lack of support for the active engagement of the teacher while the class is in the field. The role received the least support as a single option (category #1) and the least support as a double option combined with either category #2 or #3. As teachers made up nearly half (47.7 percent) of the subjects (Table 5), it was of interest to determine whether this lack of support for the teacher's active participation in the field reflected the opinions of all the subject groups or just teachers.

Table 35 showed that respondents' opinions of the teacher's role in a successful field trip varied only slightly according to their professional positions. Table

TABLE 34: Frequencies and Percentage of Responses to Item #17 Regarding Teacher's Role in Field Trips

Teachers Role	Absolute Freq.(N)	Adjusted Freq.(%)
1. Walk with students in the field to explain, discuss, answer questions, etc.	4	2.7
2. Discuss the field trip with principal, supervisor and students, and assign a follow-up report	9	6.1
3. Pre-plan and previsit to the site and get various permissions	57	38.5
4. 2 & 3	52	35.1
5. 1 & 3	11	7.4
6. 1 & 2	2	1.4
7. 1, 2 & 3	13	8.8
8. No response	5	
Total	153	100.0

35 shows that among the 73 science teachers who participated in this study, 58 (80.5 percent) stressed pre-planning the trip and pre-visiting the site, along with preparation discussions and getting appropriate permissions. Another 11.1 percent of the teachers specified preparation discussion and getting permissions as the single most important role--for an overall total of 83.3 percent of teachers who considered pre-trip activities their most important functions.

Only three teachers (4.2 percent) and one principal (4.8 percent) considered active engagement of the teacher with students in the field the single most important role of the teacher in a successful field trip. Additionally, none of the supervisors or Ministry officials considered teachers' active participation in the field their most important role in conducting an effective field trip. Very few combined it in a multiple role. The largest percentage of these personnel (48.7 and 43.8 percent, respectively), as well as the principals (47.6 percent), considered the combination of pre-trip roles in options #2 and #3 the teacher's essential role.

When data from Table 35 are clustered to sum the responses in each of the three categories, it is shown that:

a. the number of respondents who selected pre-planning and pre-visit to the site (Category #3) were 134 or 90.5 percent;

TABLE 35: Differences Between Participant Groups on Item #17

Teacher Roles	S.T. No.	S.T. %	S.P. No.	S.P. %	Su No.	Su %	M.O. No.	M.O. %	Row Totals No.	Row Totals %
1.Active engagement with students in the field	3	4.2	1	4.8	0	0.0	0	0.0	4	2.7
2.Preparation and getting various permissions for the field trip	8	11.1	0	0.0	0	0.0	1	6.3	9	6.1
3.Pre-planning and pre-visit to the site	34	47.2	8	38.1	9	23.1	6	37.5	57	38.5
4. 2 & 3	16	22.2	10	47.6	19	48.7	7	43.8	53	35.1
5. 1 & 3	4	5.6	1	4.8	4	10.3	2	12.5	11	7.4
6. 1 & 2	1	1.4	0	0.0	1	2.6	0	0.0	2	1.4
7. 1 & 2 & 3	6	8.3	1	4.8	6	15.4	0	0.0	13	8.8
Column Totals	72	48.6	21	14.2	39	26.4	16	10.8	148	100.0

b. the number of respondents who selected preparation and obtaining various permissions (category #2) were 77 respondents or 52.0 percent.

c. the total respondents who selected "Teacher's active engagement" (category #1) were 30 or 20.3 percent.

Generally, then, education personnel responding to this item emphasized teachers' pre-trip responsibilities and felt they had essentially no important active role while their class was in the field. Dibella and Steels' hypothetical example of the teacher who sits chatting with a trip monitor while the students roam around on their own (see p. 71) was termed "overstated," but may be the norm in Saudi Arabia. According to these findings, teachers' failures to lead, to be role models and to teach on field trips are not only tolerated, but expected by supervisory personnel.

Another open-ended question dealing with the principles of an effective field trip was designed to obtain the participants' ideas of the students' role in an effective field trip and how students can get the most out of the activity. In item #18, participants were asked to write, in few sentences, what they think students can do to benefit from a field trip.

From the literature reviewed, a list of nine categories was used to classify the responses to this question (Table 36. The highest percentage of the research sample (29.5 percent) reported that students should actively participate

in the process of the trip and ask questions, look for evidence, take notes and behave properly on the field trip (category 6) to gain the greatest benefit from the activity. Another 16.8 percent of the sample considered the students' active participation and questions (category 1) the most important role a student can play; 15.4 percent of the sample considered that searching for evidence, taking notes and behaving properly in the field (Category 2) was the essential role for students.

By totaling the nmber of respondents selecting each of the five categories in Table 36, it was found that:

a. the largest number of respondents (98 or 65.7 percent) selected category #2 that "students have to look for evidence and take notes,"

b. 95 respondents (or about 63.8 percent) selected category #1 "students must actively participate in the trip,"

c. 49 respondents or 32.9 percent selected category #3 "stuents have to write a follow-up report".

Another way to look at the table is that the majority of the respndents (91.9 percent) favored the first two response categories, alone or in combination. These results are somewhat inconsistent with results of the two previous questions because fully 63.8 percent of the respondents indicated that the student role was to actively participate, discuss, and ask questions--alone or in combination with

TABLE 36: Frequencies and Percentages of Responses to Question #18 Regarding Students' Role in Field Trips

Students' Roles	Absolute Freq.(N)	Adjusted Freq.(%)
1.Actively participate in the trip and ask questions or discuss	25	16.8
2.Look for evidence and take notes and observe behavior principles	23	15.4
3. Write a follow-up report	4	2.7
4. Understand the goals and objectives of the field trip	5	3.4
5.Behavior principles	3	2.0
6. 1&2	44	29.5
7. 1&3	14	9.4
8. 2&3	19	12.7
9. 1&2&3	12	8.1
10.No Response	4	
Totals	153	100.0

other behaviors--and this role seems to presuppose a complementary active role on the part of the teacher to act as the discussion leader and question-answer, a point addressed in greater detail later.

Item #19 was also an open-ended question dealing with examples of a good field trip. After respondents had described what they considered a good field trip (item #16), what they saw as the teachers' role in an effective field trip (item #17), and students' role in a beneficial field trip (item #18), they were asked to give some examples of what they considered a good field trip, with locations or possible sites to visit being the emphasis of this item because it was felt location suggestions would tend to reflect whether respondents felt field trips were essentially educational or recreational activities, in the sense that a trip to a circus is recreation-oriented for a science class and a trip to a farm is education-oriented. Thus, they would tend to support or conflict with direct information on this subject and also give some idea of the range of the subjects' interest and imagination in this matter.

After reviewing the completed questionnaires, a list of nine site categories was designed by grouping similar suggestions, to categorize responses on this question. Table 37 shows that among the various suggested sites, the farm or desert, government agency, and factory option

TABLE 37: Frequency and Percentage of Responses to Question #19 Regarding Sites for Good Field Trips

Potential Sites	Absolute Freq.(N)	Adjusted Freq.(%)
1.Visit to another school or training facility	1	0.7
2.Visit to a factory and/or desert	7	4.7
3.Visit to a farm and/or desert	23	15.5
4.Visit to a government agency	7	4.7
5.Visit to a factory	15	10.1
6. 4 & 5	27	18.3
7. 3 & 5	25	16.9
8. 3 & 4	14	9.5
9. 3,4 & 5	29	19.6
10.No Response	5	
Total	153	100.0

(category 9) was the location most favored for an effective field trip, by 99.3 percent of the respondents. This percentage was derived from respondents' suggestions of two or more locations in their examples. Of the respondents who mentioned only one site for a good field trip, 15.5 percent of the sample suggested a visit to a farm or the desert, (category 3) 4.7 percent suggested a visit to a government agency (Category #4), 10.1 percent suggested a visit to a factory, (category 5) but only 0.7 percent mentioned a visit to another school or a training facility as a good site for a good field trip. The rest of the sample (about 69.0 percent) suggested combinations of two or more of the previous examples. From these results, it seems that educational personnel view the field trip as an educational activity, corrobating the results found in earlier sections of this report. Interest and imagination seemed limited as 26 percent made only one suggestion and suggestions tend to be traditional types of field trip destinations.

Other items in the questionnaire were designed to further examine the respondents' perceptions of the principles and characteristics of an effective field trip and teachers', students', principals', and supervisors' role in an effective and successful field trip. Items #52-61 dealt with the teacher's role in an effective field trip in ten prepared statements designed to measure the respondents'

agreement or disagreement on various specific teacher role behaviors.

According to Table 38, which shows the frequencies and percentages of responses to these items, most respondents consistently gave positive responses to the prepared statements about the roles of the teacher in conducting an effective and successful field trip. Item #52, "pre-planning," obtained the unanimous agreement of the respondents. "Discussing the procedures of a field trip with students" (item 53) was agreed by 97.4 percent to be an important and necessary role of the teacher conducting trip. "A teacher must pre-visit the site of the field trip" (item #54) found the general agreement of 92.8 percent of the sample. On item #55, "a teacher should obtain authorized permission from the site he is going to visit," 147 out of 153 respondents (96.1 percent) agreed, while 97.4 percent of all respondents agreed that "the conductor of the field trip should discuss the field trip with his school principal and get his approval" (item #56). That "a teacher conducting a field trip should actively engage in the field activity and walk with his students in the field explaining, discussing, and guiding the activity" (item #57) found general agreement (98.6 percent) among the participant group. Another role of the teacher that found general agreement among the participantss (99.3 percent) was "giving

TABLE 38: Frequency of Responses to Items #52-61 Regarding the Teacher's Role in Field Trips, by Participant Group

Item #	Teachers Role	Group	Strongly Agree No.	%	Agree No.	%	Undecided No.	%	Disagree No.	%	Strongly Disagree No.	%	Total Agreement No.	%	Total Disagreement No.	%	Total Undecided No.	%
52	Do Pre-Planning	S.T.	56	76.7	17	23.3	0	0.0	0	0.0	0	0.0	153	100.0	0	0.0	0	0.0
		S.P.	20	87.0	3	13.0	0	0.0	0	0.0	0	0.0						
		Su	32	80.0	8	20.0	0	0.0	0	0.0	0	0.0						
		M.O.	14	82.4	3	17.6	0	0.0	0	0.0	0	0.0						
53	Discuss F.T. with Students	S.T.	43	58.9	28	38.4	2	2.7	0	0.0	0	0.0	149	97.4	1	0.7	3	1.9
		S.P.	15	65.2	7	30.4	0	0.0	1	4.4	0	0.0						
		Su.	27	67.5	12	30.0	1	2.5	0	0.0	0	0.0						
		M.O.	14	82.4	3	17.6	0	0.0	0	0.0	0	0.0						
54	Pre-Visit with site	S.T.	36	49.3	31	42.5	6	8.2	0	0.0	0	0.0	142	92.8	2	1.3	9	5.9
		S.P.	14	60.9	8	34.8	1	4.3	0	0.0	0	0.0						
		Su	17	42.5	21	52.5	0	0.0	2	5.0	0	0.0						
		M.O.	7	41.2	8	47.1	2	11.7	0	0.0	0	0.0						
55	Get permission from the site	S.T.	43	58.9	24	32.9	4	5.5	2	2.7	0	0.0	147	96.1	2	1.3	4	2.6
		S.P.	13	56.5	10	43.5	0	0.0	0	0.0	0	0.0						
		Su	31	77.5	9	22.5	0	0.0	0	0.0	0	0.0						
		M.O.	11	64.7	6	35.3	0	0.0	0	0.0	0	0.0						
56	Discuss with principal and get his permission	S.T	38	52.0	31	42.5	3	4.1	0	0.0	1	1.4	149	97.4	1	0.7	3	1.9
		S.P.	15	65.2	8	34.8	0	0.0	0	0.0	0	0.0						
		Su	23	57.5	17	42.5	0	0.0	0	0.0	0	0.0						
		M.O.	12	70.6	5	29.4	0	0.0	0	0.0	0	0.0						
57	Walk with the students in the field	S.T.	50	68.5	22	30.1	1	1.4	0	0.0	0	0.0	151	98.6	1	0.7	1	.07
		S.P.	18	78.3	5	21.7	0	0.0	0	0.0	0	0.0						
		Su	24	60.0	16	40.0	0	0.0	0	0.0	0	0.0						
		M.O.	12	70.6	4	23.5	0	0.0	1	5.9	0	0.0						

TABLE 38: Cont

Item #	Teachers Role	Group	Strongly Agree No.	%	Agree No.	%	Undecided No.	%	Disagree No.	%	Strongly Disagree No.	%	Total Agreement No.	%	Total Dis-Agreement No.	%	Total Undecided No.	%
58	Give Students opportunity to ask questions	S.T.	50	68.5	22	30.1	1	1.4	0	0.0	0	0.0	152	99.3	0	0.0	1	0.7
		S.P.	19	82.6	4	17.4	0	0.0	0	0.0	0	0.0						
		Su	27	67.5	13	32.5	0	0.0	0	0.0	0	0.0						
		M.O.	15	88.2	2	11.8	0	0.0	0	0.0	0	0.0						
59	Answer students' questions	S.T.	46	63.0	25	34.2	2	2.7	0	0.0	0	0.0	151	98.7	0	0.0	2	1.3
		S.P.	16	69.6	7	30.4	0	0.0	0	0.0	0	0.0						
		Su	27	67.5	13	32.5	0	0.0	0	0.0	0	0.0						
		M.O.	14	82.4	3	17.6	0	0.0	0	0.0	0	0.0						
60	Show relationship between field and class	S.T.	51	69.9	21	28.8	1	1.4	0	0.0	0	0.0	152	99.3	0	0.0	1	0.7
		S.P.	19	82.6	4	17.4	0	0.0	0	0.0	0	0.0						
		Su	30	75.0	10	25.0	0	0.0	0	0.0	0	0.0						
		M.O.	15	88.2	2	11.8	0	0.0	0	0.0	0	0.0						
61	Assign follow-up report	S.T.	42	57.5	29	39.7	1	1.4	1	1.4	0	0.0	150	98.0	1	0.7	2	1.3
		S.P.	18	78.3	5	21.7	0	0.0	0	0.0	0	0.0						
		Su	32	80.0	8	20.0	0	0.0	0	0.0	0	0.0						
		M.O.	15	88.2	1	5.9	1	5.9	0	0.0	0	0.0						

the students opportunities to ask questions about what they see in the field" (item #58).

When students are given an opportunity to ask questions, there must be someone who answers those questions. In this case, 98.7 percent of the respondents agreed that it is the teacher's role to answer students' questions or introduce them to somebody in the field who can do so (item #59). Respondents also generally agreed (99.3 percent) that as well as answering students' questions, a teacher should show the students the relationships between what they see in the field and what they study in class (item #60). Finally, item #61 of the questionnaire, "the teacher should ask the students to write a follow-up report about the trip," found general agreement of 98 percent.

Overall, then, agreement with all ten statements about the teacher's role in the field trip was so consistent that one item received approval from 100 percent of the respondents and even the statement which elicited the least positive response garnered 92.8 percent approval. Compared with responses to the open-ended item (#17) about the teacher's role in field trips, it is apparent that most personnel were in agreement with all aspects of the teacher's role when those functions were stated for them. In fact, three aspects of the teacher's active participation in the field, which went virtually unmentioned when respondents wrote their own descriptions of the teacher's

role, appeared as three of the four most favored teacher roles when responses to the prepared role statements (items #52-61) were tabulated. The one statement with which all respondents agreed, however, put emphasis on the same pre-visit and preparatory responsibilities of teachers that were mentioned most often in responses to open-ended item #17. At this point it is not possible to fully explain the discrepancies and consistencies in the data derived from the open-ended item #17 and prepared statements #52-61. It is likely that there was some instrument bias toward positive responses to the latter items since the "agree" option was so consistently favored by virtually all respondents. It is also possible, since items #52-61 appeared toward the end of the instrument, (and item #17 near the beginning) that respondents "learned," from intervening questionnaire items, what roles the teachers might be expected to play in an effective field trip.

Items #62-64 of the questionnaire dealt with the principal's role in an effective field trip, through statements designed to elicit agreement or disagreement on specifically stated role behaviors. Table 39 shows these items and the frequencies and percentages of the subjects' responses.

According to the Ministry of Education's regulations for field trips, one of the school principal's responsibilities is to obtain permission for the trip from

the Board of Education in his district.[6] In item #62 of the questionnaire, participants were asked to indicate their agreement or disagreement with a statement of this regulation. As shown in Table 39, there is considerable variation in agreement with this role; 52 percent of principals disagreed that it is their responsibility to get approval for field trips from the Board of Education. On the other hand, 67 percent of teachers and about 90 percent of supervisors and Ministry officials recognized this function as a role of the principal in the trip. This could mean that the principals prefer to have the freedom to make this decision at the local school level. On the other hand, teachers, supervisors, and the Ministry of Education officials believe that principals should acquire permission from higher officials for field trip activities.

In another statement, teachers, principals, supervisors and Ministry officials were asked to indicate whether the school principal should join the teacher and the students on the field trip (item 63). Table 39 shows that only 40.5 percent of the sample agreed with the statement, 47.7 percent disagreed, and 11.8 percent were undecided. Among those who agreed were over 40 percent of the teacher group, 48 percent of the principals' group, 40 percent of the supervisors' group and less than 30 percent of the Ministry officials group. The data above shows that the majority of the respondents felt that the school principal

TABLE 39: Frequency and Percentage of Responses to Items #62-64 Regarding the Principals' Role in Field Trips by Professional Group

Item #	Principal's Role	Group	Strongly Agree No.	Strongly Agree %	Agree No.	Agree %	Undecided No.	Undecided %	Disagree No.	Disagree %	Strongly Disagree No.	Strongly Disagree %	Total Agreement No.	Total Agreement %	Total Disagreement No.	Total Disagreement %	Total Undecided No.	Total Undecided %
62	Get permission from the Board of Education	S.T.	28	38.3	21	28.8	7	9.6	13	17.8	4	5.5						
		S.P.	5	21.7	6	26.1	0	0.0	7	30.5	5	21.7	112	73.2	33	21.6	8	5.2
		Su	18	45.0	19	47.5	1	2.5	1	2.5	1	2.5						
		M.O.	10	58.8	5	29.4	0	0.0	2	11.8	0	0.0						
63	Join the teacher & students on the field trip	S.T.	17	23.3	13	17.8	11	15.1	30	41.1	2	2.7						
		S.P.	3	13.1	8	34.8	0	0.0	9	39.1	3	13.0	62	40.5	73	47.7	18	11.8
		Su	5	12.5	11	27.5	4	10.0	10	25.0	10	25.0						
		M.O.	2	11.8	3	17.6	3	17.7	5	29.4	4	23.5						
64	Provide support to the teacher in conducting the field trip	S.T.	22	30.1	38	52.1	13	17.8	0	0.0	0	0.0						
		S.P.	5	21.7	16	69.6	0	0.0	2	8.7	0	0.0						
		Su	16	40.0	21	52.5	2	5.0	1	2.5	0	0.0	133	86.9	3	2.0	17	11.1
		M.O.	5	29.4	10	58.8	2	11.8	0	0.0	0	0.0						

should not join the group on the field trip, probably because of his other school responsibilities.

One of these responsibilities is to encourage appropriate school activities and support the teaching staff in conducting such activities (item 64). Those agreeing with a statement of this role were 86.9 percent of the sample which comprised 82.2 percent of the teachers, 91.3 percent of the principals, 92.5 percent of the supervisors, and 88.2 percent of the Ministry officials.

Items #65 and 66, asked opinions about the responsibilities of supervisors regarding field trips (Table 40). In item #65, respondents were asked to indicate whether they agreed or disagreed that a supervisor's role in an effective field trip is to actively participate by joining in such trips. Table 40 shows that 56.9 percent of the research sample disagreed with the statement, 27.4 percent agreed, and 15.7 percent were undecided. It is worthwhile to note here that among those who agreed with the statement were 30 percent of the supervisor group. Only 28.7 percent of the teachers agreed that supervisors should join them on the field trip and 17.7 percent of the Ministry personnel.

Another role of the supervisor with which respondents were asked to agree or disagree was, "a supervisor should discuss the procedures of the field trip with teachers." On this item (#66), most respondents (85.6 percent) agreed,

TABLE 40: Frequency and Percentage of Responses to Items #65 and #66 Regarding the Supervisor's Role in Field Trips By Professional Groups

Item #	Supervisor's Role	Group	Strongly Agree No.	Strongly Agree %	Agree No.	Agree %	Undecided No.	Undecided %	Disagree No.	Disagree %	Strongly Disagree No.	Strongly Disagree %	Total Agreement No.	Total Agreement %	Total Disagreement No.	Total Disagreement %	Total Undecided No.	Total Undecided %
65	Join the students & teacher on the field trip	S.T.	9	12.3	12	16.4	15	20.6	24	32.9	13	17.8						
		S.P.	1	4.4	5	21.7	3	13.1	7	30.4	7	30.4	42	27.4	87	56.9	24	15.7
		Su	5	12.5	7	17.5	2	5.0	17	42.5	9	22.5						
		M.O.	2	11.8	1	5.9	4	23.5	5	29.4	5	29.4						
66	Discuss the procedures of the field trip with the teacher	S.T.	17	23.3	42	57.5	3	4.1	9	12.3	2	2.8						
		S.P.	8	34.8	13	56.5	0	0.0	2	8.7	0	0.0	131	85.6	15	9.8	7	4.6
		Su	17	42.5	20	50.0	2	5.0	1	2.5	0	0.0						
		M.O.	4	23.5	10	58.8	2	11.8	1	5.9	0	0.0						

among them, 92.5 percent of the supervisors and 80.8 percent of the teachers..

In summary, there were several points about their own and their colleagues' roles on which the professional groups agreed, but others on which there was substantial disagreement. Agreement in excess of 92 percent on all ten statements about the teacher's role suggests this is a role which is fairly well defined for all the educators. Similarities and agreement among the professional groups on the principals' and supervisors' roles was not nearly as prevalent. Teachers, supervisors and Ministry officials recognized that it was the principal's responsibility to obtain Board of Education approval for field trips, but the majority of principals did not agree.

The respondents also disagreed about whether the principal should or should not join the class on the field trip, but the differences cut across the professional groups with 30 to 48 percent of each group in favor, 52 to 70 percent opposed to the principal being an active participant on the trip. They were even less in favor of active participation by supervisors. Faced with the same question in regard to supervisors' role, 70 to 82 percent of the various groups opposed supervisor participation, 18-30 percent supported such participation and almost 16 percent couldn't decide.

There was substantial agreement across the groups, however, on alternative roles for principals and supervisors. Eighty to over ninety percent of each professional group agreed that the principal's role in an effective field tirp is to encourage the activity and support the teacher in carrying it out. Similar percentages (80 to 92 percent) of each professional group agreed that the supervisor's role in an effective field trip is to advise and discuss the field trip procedures with the teachers. However, about 18 percent of the Ministry officials did not see that as an essential role. One reason for this disagreement could be that Ministry officials anticipate that supervisors have other essential roles such as making sure that each teacher covers certain topics in a definite time. Ministry officials also believe that teachers do not need that attention from the supervisors because (as discussed in a previous chapter) field trips are one of the optional school activities that are left up to the teachers and the school authorities. So they believe that those who consider the option should be aware of it in every detail and do not need discussion with supervisors. In an interview with the director of the department of school activities, he said, "field trips are one of the school activities that are optional to teachers and principals who know their benefits and importance to their students."[6]

6. Relationships Between The Science Program and the Use of Field Trips

Educators generally agree that field trips are but one teaching device in the school program.[7] There is growing acceptance that some school subjects, such as language and religion are best taught in the classroom, but that other subjects such as science and social studies courses can benefit from teaching both in and out of classrooms.[8] To examine teachers' use and the significance of field trips in the science program in the Saudi intermediate schools, the researcher used several items in the form of questions and statements scattered throughout the questionnaire (items #14, 26, 46, 67, 68, 77 and 78).

Item #14 was an open-ended question dealing directly with perceived relationships between the use of field trips and the science program. Depending on the purpose of the study, the researcher attempted to obtain the participants' feeling on the existence and the direction of the relationship between the science curriculum and field trips. In item #14 subjects were asked to write whether or not they perceived any relationship between the science program and field trip activities. Two categories: positive relation and negative relation (plus a no response option) were used to categorize the response to this question. Frequencies of these responses are shown in Table 41.

It is evident from the table that there was general agreement among 98 percent of those responding to this question that the use of field trips has a positive relationship with the science program. For example, many respondents wrote, "There is a firm and strong relationship between the field trips and the intermediate science curriculum because the science domain is the environment." Others said "there is a positive relationship because field trips are essentially the application of the theoretical knowledge students receive to their everyday lives." Only 2.0 percent of these responding suggested a negative relationship.

The significance of the relationship between the science curriculum and the field trip was tested by several statements dealing directly and indirectly with this relationship. In items #26, 46, 67, 68, 77 and 78 of the questionnaire, participants were asked to indicate their agreement or disagreement with prepared statements regarding the use of field trips in the science program at the intermediate level. Table 42 shows the frequencies and percentages of responses to these items.

The existence and the strength of the relationship between the science curriculum and field trips can be grasped from the subjects' responses to statements dealing with this relationship. For example, if a respondent agreed that the field trip is a very useful tool in teaching

science (item #26), it can be inferred that he agrees that field trips have positive value for the science curriculum.

On item #26, 96.1 percent of respondents agreed that "field trips are very useful in teaching science." The same percentage agreed that field trips aid students to develop positive attitudes toward science" (item #46). Almost all of the sample subjects (99.3 percent) responded positively to the statement that "field trips help to acheive the purposes of teaching science in the intermediate schools" (item #67).

TABLE 41: Relationships Between the Science Program and the Use of Field Trips by Frequency

Reported Relationship	Absolute Freq.(N)	Ajusted Freq.(%)
Positive	146	98.0
Negative	3	2.0
No Response	4	
Total	153	100.0

TABLE 42: Frequencies and Percentages of Responses to Items #26, 46, 67, 68, 77 and 78 Regarding Attitudes Toward the Effects of Field Trips, By Professional Group

Item #	Science Curriculum & Field Trip Relationships	Group	Strongly Agree No.	Strongly Agree %	Agree No.	Agree %	Undecided No.	Undecided %	Disagree No.	Disagree %	Strongly Disagree No.	Strongly Disagree %	Total Agreement No.	Total Agreement %	Total Disagreement No.	Total Disagreement %	Total Undecided No.	Total Undecided %
26	Are a very useful tool in teaching science	S.T.	47	64.4	22	30.1	3	4.1	1	1.4	0	0.0	146	96.1	1	0.7	5	3.3
		S.P.	14	60.9	8	34.8	1	4.3	0	0.0	0	0.0						
		Su	25	62.5	15	37.5	0	0.0	0	0.0	0	0.0						
		M.O.	12	75.0	3	18.8	1	6.3	0	0.0	0	0.0						
46	Aid students to develop positive attitudes toward science	S.T.	39	53.4	28	38.4	5	6.8	1	1.4	0	0.0	147	96.1	1	0.7	5	3.3
		S.P.	10	43.5	13	56.5	0	0.0	0	0.0	0	0.0						
		Su	17	42.5	23	57.5	0	0.0	0	0.0	0	0.0						
		M.O.	10	58.8	7	41.2	0	0.0	0	0.0	0	0.0						
67	Help to achieve the purposes of teaching science	S.T.	49	67.1	24	32.9	0	0.0	0	0.0	0	0.0	152	99.3	0	0.0	1	0.7
		S.P.	15	65.2	8	34.8	0	0.0	0	0.0	0	0.0						
		Su	26	65.0	14	35.0	0	0.0	0	0.0	0	0.0						
		M.O.	9	52.9	7	41.2	1	5.9	0	0.0	0	0.0						
68	Most science courses require outdoor activities	S.T.	15	20.5	29	39.7	8	11.0	18	24.7	3	4.1	83	54.2	51	33.4	19	12.4
		S.P.	6	26.1	9	39.1	3	13.1	4	17.4	1	4.3						
		Su	3	7.5	14	35.0	4	10.0	19	47.5	0	0.0						
		M.O.	4	23.5	3	17.7	4	23.5	1	5.9	5	29.4						
77	Supervisors agree that FT are a very useful tool in teaching science	S.T.	15	20.6	35	47.9	16	21.9	4	5.5	3	4.1	122	79.7	9	5.9	22	14.4
		S.P.	7	30.4	10	43.5	4	17.4	2	8.7	0	0.0						
		Su	27	67.5	12	30.0	1	2.5	0	0.0	0	0.0						
		M.O.	10	58.8	6	35.3	1	5.9	0	0.0	0	0.0						
78	Ministry officials agree that FTs are a very useful tool in teaching science	S.T.	12	16.4	34	46.6	22	30.1	0	0.0	5	6.9	115	75.8	7	4.6	30	19.6
		S.P.	7	30.4	9	39.1	5	21.8	0	0.0	2	8.7						
		Su	17	42.5	20	50.0	3	7.5	0	0.0	0	0.0						
		M.O.	7	41.2	10	58.8	0	0.0	0	0.0	0	0.0						

A far lower percentage (57.5 percent) of the sample agreed on item #68, that "most of the science courses require outdoor activities". Examined by professional groups, it is evident that a majority of teachers and principals (over 60 percent) agreed and a majority of supervisors and Ministry officials (almost 60 percent) either disagreed or were undecided. A possible explanation of this finding may be that the former groups are closer to day to day classroom events and actual lesson-giving than the supervisors and officials and thus may have a greater appreciation of the values of outdoor activities in teaching science. In other words, personnel who work directly with the science curriculum know what activities are needed in teaching the science to their students more than the Ministry policy.

Item #77 related specifically to supervisors but was also intended to get the other groups' perceptions of supervisors' opinions. It stated that "supervisors have generally agreed that field trips are very useful in teaching science." On this item, 97.5 percent of the supervisors and 94.1 percent of Ministry officials agreed. Fewer school principals (73.9 percent) and teachers (68.5 percent) perceived that supervisors felt field trips have positive value for science classes.

Item #78 was similar to item #77 but specifically concerned the Ministry officials who have responsibility for

school activities. It was not surprising to find that 100 percent of Ministry officials agreed they felt field trips are a useful tool in teaching science. Similarly, high agreement was found among the supervisor group (92.5 percent) on this point, but the agreement level dropped sharply among principals (69.5 percent) and teachers (63 percent).

In general, Table 42 reveals that there was a level of 96 percent among the respondents on the first three statements (items #26, 46 and 67) regarding the generally accepted values of field trips in teaching science. However, when the term field trip was narrowed to the outdoor activities that are essential for many natural and environmental science courses, the majority of teachers and principals agreed, but the majority of supervisors and Ministry officials did not agree. Moving from assessment of the sample subjects' opinions on the relationship of field trips and science classes to their perceptions of their colleagues' views and this relationship, it was found that supervisors and Ministry officials were nearly unanimous in their agreement that their groups saw field trips as a useful tool in teaching science. The teachers and principals, however, did not perceive their enthusiasm for the use of field trips. At this point it is difficult to determine whether this represents misreporting on the part of supervisors and officials or misperceptions on the part

of teachers and principals. What can be said is that what supervisors and Ministry officials expressed on the questionnaire is not what teachers and principals perceive in their actions.

7. Teachers' Attitudes Toward and Use of Field Trips

A person's attitude toward an activity can be perceived from the frequency of his participation in or use of the activity. For example, when someone travels extensively, it may be perceived that he has a positive attitude toward travel. In the same way, science teachers' attitudes toward field trips may be judged by the frequency of their use of the activity and by their beliefs as to what a field trip can achieve in their students' learning experience. In this study, the researcher examined educators' attitudes toward field trips by several questions and statements in the questionnaire relating to their use (items #20, 69-73, 87 and 100). Because each item had several possible responses and responses were compared across professional groups, a discussion of differences by nationality (Saudi or non-Saudi) is reserved to the end of this section.

Item #20 was an open-ended question in which the subjects were asked to indicate approximately how often a teacher should take his class on a field trip. Although the question was directed specifically to teachers, the responses of the other participant groups helped to clarify

their attitudes. A list of three numeral categories (plus a no response option) was used to categorize responses to this question. From the frequencies for the various responses shown in Table 43, the number of field trips recommended per year varied among the respondents, with 36 percent of the research sample suggesting 1-3 trips during a school year, 44.7 percent suggesting 4-6 field trips, and 19.3 percent of the sample recommending more than six trips during the school year.

TABLE 43: Number of Field Trips During the School Year by Frequency: Recommendations of Survey Participants

Number of Field Trips per Year	Absolute Freq.(N)	Adjusted Freq.(%)
1-3 trips	54	36.0
4-6 trips	67	44.7
more than 6 trips	29	19.3
No response	3	
Totals	153	100.0

To differentiate between the groups and to determine whether or not the teacher's responses differed from other groups' responses, a chi square test was used. Table 44 reveals, there were differences within and between the four respondent groups. Among the 73 science teachers who participated in this study, 32.9 percent of them recommended 1-3 trips per year, 41.1 percent of them felt that four to six trips per year would be sufficient, and 26 percent wanted more than six trips during the school year.

Table 44 also reveals that of the science teachers who participated in this study, 100 percent responded to this question. Although their responses varied, they all recommended the use of field trips in teaching science, at least 1-3 trips during the school year which indicates a positive attitude toward the use of field trips in their science classes. In comparing the responses of the four professional groups, it is interesting to note that the highest frequency of field trips (more than 6/year) was recommended by proportionately more teachers (26 percent) than any other group and the lowest trip frequency (1-3 trips) was recommended by proportionately more Ministry officials than any other group.

Items #59-73 were direct and indirect statements designed to assess respondents beliefs as to what a field trip could achieve in terms of students' total learning experience as indicators of their attitudes. On these

TABLE 44: Differences Between Participant Groups on Item #20 Concerning Frequency of Field Trips, Using the Chi Square Technique

Suggested Number of Field Trips Per School Year	S.T.		S.P.		Su		M.O.		Row Totals	
	No.	%	No.	%	No.	%	No.	%	No.	%
1-3 trips	24	32.9	8	38.0	14	35.0	8	50.0	54	36.0
4-6 trips	30	41.1	10	47.7	22	55.0	5	31.3	67	44.7
More than 6 trips	19	26.0	3	14.3	4	10.0	3	18.7	29	19.3
Column Totals	73	100.0	21	91.3	40	100.0	16	94.1	150	100.0

items, participants were asked to indicate their agreement or disagreement with prepared statements concerning both student performance and teacher attitudes. Table 45 shows the frequencies and percentages of responses to these items.

One of the benefits of field trips is to allow students to study living and non-living specimens in their natural setting. On item #69 of the questionnaire, 97.4 percent of the respondents agreed with this statement, 2 percent disagreed and 0.6 percent were undecided. Among teachers, 97.2 percent agreement reflected the sample's positive concensus toward this academic benefit.

In the realm of student attitudes, the consensus of the sample as a whole was not as positive that "students prefer field trip activity over all other school activities," but 72.5 percent of the respondents agreed and 27.5 percent either disagreed or were undecided. Here, also, the teachers' response reflected the sample averages, as did the responses of the supervisors and Ministry officials. Only the principals differed, reflecting over 90 percent agreement, less than 10 percent disagreement, and no undecided responses.

The statements in items #71 and 72 reflected negative views of field trips so that a respondent's disagreement was indicative of a positive attitude toward field trips offered the statement that "students do not learn much on a field trip," over 90 percent of the sample disagreed, while less

TABLE 45: Frequencies and Percentages of Responses to Items 69-73, by Professional Group

Item #	Questionnaire Statement	Group	Strongly Agree No.	Strongly Agree %	Agree No.	Agree %	Undecided No.	Undecided %	Disagree No.	Disagree %	Strongly Disagree No.	Strongly Disagree %	Total Agreement No.	Total Agreement %	Total Disagreement No.	Total Disagreement %	Total Undecided No.	Total Undecided %
69	Students learn more by studying in their natural setting	S.T.	29	39.7	42	57.5	1	1.4	1	1.4	0	0.0	149	97.4	3	2.0	1	0.6
		S.P.	13	56.5	10	43.5	0	0.0	0	0.0	0	0.0						
		Su	20	50.0	18	45.0	0	0.0	2	5.0	0	0.0						
		M.O.	6	35.3	11	64.7	0	0.0	0	0.0	0	0.0						
70	Students prefer field trip activities over all other school activities	S.T.	18	24.7	35	47.9	15	20.5	4	5.5	1	1.4	111	72.5	18	11.8	24	15.7
		S.P.	8	34.8	13	56.5	0	0.0	2	8.7	0	0.0						
		Su	7	17.5	18	45.0	5	12.5	10	25.0	0	0.0						
		M.O.	4	23.5	8	47.1	4	23.5	1	5.9	0	0.0						
71	Students do not learn much on a field trip	S.T.	2	2.8	5	6.8	6	8.2	38	52.1	22	30.1	12	7.9	133	86.9	8	5.2
		S.P.	1	4.3	1	4.3	0	0.0	13	56.5	8	34.8						
		Su	0	0.0	1	2.5	1	2.5	26	65.0	12	30.0						
		M.O.	0	0.0	2	11.7	1	5.9	7	41.2	7	41.2						
72	Students can get just as much benefit from classroom work	S.T.	2	2.7	3	4.1	1	1.4	46	63.0	21	28.8	11	7.2	140	91.5	2	1.3
		S.P.	0	0.0	0	0.0	0	0.0	16	69.6	7	30.4						
		Su	0	0.0	3	7.5	0	0.0	28	70.0	9	22.5						
		M.O.	0	0.0	3	17.6	1	5.9	7	41.2	6	35.3						
73	Teachers enjoy conducting field trips	S.T.	6	8.2	44	60.3	10	13.7	9	12.3	4	5.5	119	77.8	16	10.4	18	11.8
		S.P.	4	17.4	15	62.2	3	13.0	1	4.4	0	0.0						
		Su	5	12.5	31	77.5	2	5.0	1	2.5	1	2.5						
		M.O.	4	23.5	10	58.9	3	17.6	0	0.0	0	0.0						

than 10 percent either agreed or were undecided. Similar results obtained for the statement, "students can get just as much benefit from classroom work." On both these items, teachers', principals', and supervisors' responses were consistent with total sample percentages but Ministry officials' responses varied. Almost 12 percent said "students don't learn much on field trips," and over 17 percent felt "they'd benefit just as much from classroom work." These negative attitudes toward field trips in response to questionnaire items #71 and 72 seem to be inconsistent with the earlier finding (item #78) that 100 percent of these officials felt field trips to be "a useful tool in teaching science" (Table 42). While there does appear to be non-congruence here, it should be kept in mind that the non-congruent group is considerably smaller in number but more influential than the others (see Table 3).

Item #73 was a direct statement dealing with teachers' attitudes toward field trips. On the item, "teachers enjoy conducting field trips," 77.8 percent of the sample agreed with the statement, 10.4 percent disagreed and 11.8 percent were undecided. It is of interest that the other professional groups' perceptions of teachers' attitudes toward field trips were more positive than the teachers themselves. Ninety percent of supervisors, 82.4 percent of Ministry officials and 79.6 percent of principals agreed that teachers enjoyed conducting field trips, while only

68.5 percent of teachers held this view. This finding is particularly interesting in comparison to the earlier finding that teachers perceive the Ministry of Education's and other higher officials' positions on field trips as much more negative than these positions actually are. In other words, the teachers, who are subordinates in this hierarchy of professional educators, perceive the attitudes of those above them as more negative toward field trips than those attitudes are, the superordinates perceive subordinates' attitudes toward field trips as being more positive than those attitudes really are.

In summary, educators in S.A.believe that field trips affect the learning of students in intermediate boys' schools positively and that what students learn on field trips cannot be achieved in any classroom activity. From their interaction with students they believe that students prefer field trips over all other school activities and teachers enjoy conducting this popular activity.

Another way to test educators' attitudes toward the use of field trips in science teaching was to determine the frequency (or perceived frequency) of use of this activity in comparison with other instructional activities. In items #79-104 of the questionnaire, the researcher listed thirteen selected teaching strategies, which included field trips, to compare the teachers' actual use of this activity to other activities. On items #79-91 teachers (only) were asked to

check the frequency of their actual use of these strategies. On items #92-104, all respondents were asked to indicate, on a six-part scale, how often these strategies should be used: everyday, 2-3 times a week, once a week, once a month, once a semester, or not at all. For the purposes of the study, only the teachers' responses were analyzed and are discussed here. Table 46 shows the teachers' responses concerning the frequency of actual and desired use of the selected strategies.

The highest percentage of the teachers who participated in the study (43.8 percent) used neither lecture (43.8 percent) nor guest speakers (69.9 percent) as a teaching strategy at all, but the highest percentage of them also suggested that lecture (41.1 percent) should be used at least once a month and guest speakers (46.6 percent) should be used once a semester.

Group discussion, as a science teaching strategy, was used as often as every day by 30.1 percent of the teachers and the highest percentage of the teachers (37 percent) suggested that this strategy should be used every day. The highest percentage of the teachers' group (43.8 percent) indicated that they did not use small group activity as a teaching strategy, but the highest percentage of them (38.3 percent) also suggested that small group activity as a teaching strategy should be used at least once a week.

TABLE 46: Teachers' Actual Use and Recommended Use of Thirteen Selected Teaching Strategies by Frequency

Teaching Strategy	Actual Use: Every day No.	%	2-3 times a week No.	%	Once a week No.	%	Once a month No.	%	Once a semester No.	%	Not at all No	%	Desired Used: Every day No.	%	2-3 times a week No.	%	Once a week No.	%	Once a month No.	%	Once a semester No.	%	Not at all No.	%
Lecture	7	9.6	9	12.3	8	11.0	14	19.2	3	4.1	32	43.8	6	8.2	8	11.0	7	9.6	30	41.1	14	19.2	8	11.0
Guest Speaker	1	1.4	0	0.0	1	1.4	4	5.5	14	19.2	51	69.9	1	1.4	1	1.4	2	2.7	19	26.0	34	46.6	16	21.9
Group Discussion	22	30.1	13	17.8	15	20.5	1	1.4	7	9.6	15	20.5	27	37.0	18	24.7	12	16.4	9	12.3	6	8.2	1	1.4
Small-Group activity	5	6.8	3	4.1	13	17.8	14	19.2	6	8.2	32	43.8	2	2.7	11	15.1	28	38.3	21	28.8	2	2.7	1	1.4
Demonstration	10	13.7	20	27.4	29	39.7	7	9.6	2	2.7	5	6.8	15	20.5	24	32.8	26	35.6	5	6.8	2	2.7	1	1.4
Students should perform a lab. experiment	12	16.4	5	6.8	19	26.0	10	13.7	2	2.7	25	34.2	9	12.3	9	12.3	37	50.7	14	19.2	0	0.0	4	5.5
Showing films	6	8.2	8	11.0	30	41.1	22	30.1	6	8.2	1	1.4	8	11.0	20	27.4	29	39.7	15	20.5	0	0.0	1	1.4
Showing colored slides	9	12.3	10	13.7	29	39.7	15	20.5	4	5.5	6	8.2	12	16.4	24	32.8	28	38.3	6	8.2	1	1.4	2	2.7
Field Trips	0	0.0	0	0.0	5	6.8	7	9.6	17	23.3	44	60.3	0	0.0	2	2.7	3	4.1	37	50.1	19	26.0	12	16.4
Showing Models	16	21.9	9	12.3	21	28.8	17	23.3	4	5.5	6	8.2	16	21.9	15	20.5	28	38.3	11	15.1	2	2.7	0	0.0
Showing Pictures	19	26.0	17	23.3	21	28.8	11	15.1	1	1.4	4	5.5	19	26.0	14	19.2	27	37.0	8	11.0	0	0.0	2	2.7
Testing	2	2.7	6	8.2	16	21.9	48	65.8	1	1.4	0	0.0	2	2.7	3	4.1	22	30.1	46	63.0	0	0.0	0	0.0
Reviewing Tests	3	4.1	7	9.6	8	11.0	51	69.9	4	5.5	0	0.0	3	4.1	6	8.2	19	26.0	43	58.9	2	2.7	0	0.0

Once a week was the frequency with which 39.7 percent of the teachers used demonstration as a teaching method, and the highest percentage of them (35.6 percent) suggested that demonstration should be used once a week in teaching science.

Student-performed laboratory experiments were not used at all as a teaching strategy by the highest percentage (34.2 percent) of teachers, but 50.7 percent of them recommended this teaching strategy should be used at least once a week.

The highest percentage of the teacher group (41.1 percent) indicated use of educational films as a teaching strategy in science as much as once a week and the highest percentage of them (39.7 percent) suggested that this teaching strategy should be used at least once a week. As with films, colored slides were used as a teaching strategy by a high percentage of 39.7 percent at least once a week. A high percentage of teachers (38.3 percent) also recommended that this technique should be used once a week.

Field trips were not used as a teaching strategy at all by the majority of the teachers (60.3 percent) but the highest percentage of them (50.7 percent) also suggested that field trips should be used at least once a month.

The highest percentage of the teachers (28.8 percent) said that they use models as an instructional strategy as much as once a week and the highest percentage of them (38.3

percent) suggested that this method of teaching should be used at least once a week. As with models, showing pictures was used as a teaching strategy by 28.8 percent as much as once a week, and 37 percent suggested that it should be used once a week.

Testing, as a teaching strategy was used by 65.8 percent of the teachers as much as once a month; 63 percent of the teachers also recommended that testing should be used once a month. As with testing, reviewing tests was used by of 69.9 percent as much as once a month. Also, 59.6 percent of the teachers suggested that this method should be used at least once a month.

Table 46 revealed that field trips were underused as a strategy in teaching science in the intermediate boys' schools where participant teachers were employed. The highest percentage of the participant teachers (60.3 percent) indicated that they did not use field trips at all, but approximately the same percentage recommended that field trips should be used as much as once a month in teaching science. For some reason, those teachers have not used field trips as much as they feel they should. Considering their strongly positive attitudes toward the learning benefits of field trips and reported enjoyment of conducting field trips, it is apparent that some force or agency, outside the majority of teachers themselves, is restricting them from undertaking such activity.

Time constraints, cost constraints, managerial concerns and resource site or location scarcity were some of the problems reported by teachers as forces or restraints that limit their use of field trips (see Table 28). Another major restraint was the teachers' misperception of higher level officials' positive attitudes toward field trips.

Table 46.1 shows that 6 respondents or about 4 percent of the research samples recommended the use of field trips 2-3 times a week and another 7 respondents or about 5 percent recommended the use of field trips as much as once a week. It goes without saying that these respondents probably checked those response categories without reading them. However, 127 respondents or about 83 percent recommended that field trips should be used as much as once a semester or once a month.

To determine whether non-Saudi science teachers differ from Saudi science teachers in their attitudes toward or their use of field trips as a science teaching method, responses to the items dealing with attitudes toward and/or use of field trips (items #20, 69-73, 87 and 100) were analyzed by nationality (Saudi or non-Saudi) using the chi square test (Table 47). Among the 73 teachers participated in the study, 52 were Saudis, 21 were non-Saudis.

The chi square test of responses to item #20 revealed that there wre no significant differences between the two groups of teachers (a significance level of 0.8368). Thus,

TABLE 46.1: Shows the Desired Uses of Field Trips as Perceived by S.T., S.P., Su, and M.O. on Item #100 of the Questionnaire

Pro-fessional Group	Every day		2-3 Times A Week		Once A Week		Once A Month		Once A Semester		Not at All	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
S.T.	0	0.0	2	2.7	3	4.1	37	50.1	19	26.0	12	16.4
S.P.	0	0.0	1	4.3	2	8.7	13	56.5	6	26.1	1	4.4
Su	0	0.0	1	2.5	1	2.5	26	65.0	12	30.0	0	0.0
M.O.	0	0.0	2	11.8	1	5.9	10	58.8	4	23.5	0	0.0

S.T. = Science Teachers
S.P. = School Principals
Su. = Supervisors
M.O. = Ministry Officials

the opinions of the teachers as to the number of field trips to be conducted during a school year were similar. The highest percentage of both groups (36.5 percent of Saudi teachers and 38.1 percent of non-saudi teachers) recommended 4-6 trips per year. The second highest percentage (32.7 percent of Saudi teachers and 33.3 percent of non-Saudi teachers) suggested "1-3" trips per year. Of the Saudi group, 30.8 percent, and 28.6 percent of the non-Saudi group suggested the most frequent category of "more than 6" trips per year.

TABLE 47: Differences Between Saudi and Non-Saudi Science Teachers' Recommendations Regarding Field Trips Per Year (item 20)

Suggested Number of Field Trips Per Year	Saudi Teachers*		Non-Saudi Teachers**		Row Totals	
1-3 Trips	17	32.7	7	33.3	24	32.9
4 trips	19	36.5	8	38.1	27	37.0
More than 6 trips	16	30.8	6	28.6	22	30.1
Column Totals	52	71.2	21	28.8	73	100.0

*N=52

**N=21

Frequencies and percentages were used to differentiate between Saudi and non-Saudi science teachers' responses to items #69-73. For use of analysis, the "strongly agree" and "agree" options were combined, as were the "strongly disagree" and "disagree" options.

Table 48 shows that 96.2 percent of the Saudi science teachers and 100 percent of the non-Saudi science teachers agreed that "students learn more by studying things in their natural setting" (item #69). High percentages of both groups (75 percent of the Saudi group and 71.4 percent of the non-Saudi group) also agreed that their students "prefer field trip activities over all other school activities" (item #70). Only 7.7 percent of Saudi teachers disagreed and 17.3 percent were undecided. None of the non-Saudi group disagreed and 28.6 percent were undecided.

On the negatively oriented item, "students do not learn much in the field trip activity" (item #71), just under 80 percent of the Saudi teachers and over 90 percent of the non-Saudi teachers disagreed. Equal percentages of Saudis and non-Saudis agreed. Almost twelve percent of the Saudi teachers were undecided but no non-Saudis were undecided. On item #72, "students can get just as much benefit from classroom work." A similar 92.3 percent of the Saudi group and 90.5 percent of the non-Saudi group disagreed and 7.7 percent of the Saudis and 9.5 percent of the non-Saudis either agreed or were undecided.

TABLE 48: Frequencies and Percentages of Saudi and Non-Saudi Science Teachers Responses to Items #69-73 of the Questionnaire

Item #	Group	Agree No.	Agree %	Undecided No.	Undecided %	Disagree No.	Disagree %
69	Saudi	50	96.2	1	1.9	1	1.9
	Non-Saudi	21	100.0	0	0.0	0	0.0
70	Saudi	39	75.0	9	17.3	4	7.7
	Non-Saudi	15	71.4	6	28.6	0	0.0
71	Saudi	5	9.6	6	11.5	41	78.8
	Non-Saudi	2	9.5	0	0.0	19	90.5
72	Saudi	3	5.8	1	1.9	48	92.3
	Non-Saudi	2	9.5	0	0.0	19	90.5
73	Saudi	33	63.5	8	15.4	11	21.1
	Non-Saudi	16	76.2	2	9.5	3	14.3

On item #73, 63.5 percent of the Saudi science teachers and 76.2 percent of the non-Saudi science teachers agreed that teachers enjoy conducting field trips; 36.5 and 23.8 percent, respectively, did not agree.

The results above showed that similar responses were given to all the statements indicating there were no major differences between the attitudes of Saudi and non-Saudi science teachers in regard to either student benefit or teacher enjoyment of field trips. It thus may be concluded that no substantial differences exist between the attitudes of Saudi and non-Saudi science teachers toward the use of

field trips as a science teaching activity in the intermediate level boys' schools of Saudi Arabia.

The procedure used to compare the use of field trips as a teaching strategy with other selected teaching strategies (Table 46) was used to compare Saudi and non-Saudi science teachers' use and recommended use of field trips (Table 49).

Table 49 shows that the majority of the Saudi teachers (67.3 percent) did not used field trips as a teaching strategy at all, 13.5 percent used them once a week, with another 9.6 acknowledging once a month use. Of the non-Saudi teachers, a smaller majority, 52.4 percent, did not use field trips at all, 42.8 percent acknowledged taking field trips once a semester and 4.8 percent said they took them once a month. Before discussing these results, the recommended use for both groups is pertinent. The highest percentage of both groups (50 percent of the Saudi group and 57.1 percent of the non-Saudi group) recommended using field trips once a month; 21.2 percent of the Saudi group and 33.4 percent of the non-Saudis suggested once a semester, 3.8 percent of the Saudis (no non-Saudis) said they should be used 2-3 times a week and another 7.7 percent of the Saudis (no non-Saudis) thought field trips should be held once a week. Finally, 17.3 percent of the Saudi teachers and 9.5 percent of the non-Saudi teachers suggested that field trips should not be used at all.

TABLE 49: Differences Between Saudi and Non-Saudi Science Teachers in Their Actual Use of Field Trips as a Teaching Strategy and the Way It Should be Used (Item #87 and 100)

Item #	Teaching Strategy	Group	Every-day No.	%	2-3 times a week No.	%	Once a week No.	%	Once a month No.	%	Once a semester No.	%	Not at all No.	%
87	Do use field trip	S.A.	0	0.0	0	0.0	5	9.6	5	9.6	7	13.5	35	67.3
		N.S.	0	0.0	0	0.0	0	0.0	1	4.8	9	42.9	11	52.4
100	Should use field trips	S.A.	0	0.0	2	3.8	4	7.7	26	50.0	11	21.2	9	17.3
		N.S.	0	0.0	0	0.0	0	0.0	12	57.1	7	33.4	2	9.5

Table 49 revealed that there are some differences between Saudi and non-Saudi science teachers in their response to these items, but the similarities between them are much greater than the differences. The majority (over 50 percent) of both groups responded that they did not use field trips at all on item #87 and the majority (50 percent) of both groups also agreed that field trips should be used at least once a month on item #100. Thus, it may be concluded that there were no major differences between Saudi and non-Saudi science teachers in their attitudes toward the use of field trips in the intermediate Saudi boys' schools.

As for minor differences, a substantially larger percentage of non-Saudi teachers (42.9 percent) took field trips once a semester and a smaller percentage of non-Saudis (4.8 percent) than Saudis (9.6 percent) acknowledged use once a month. Here again it should be remembered that these groups were of considerably different sizes with the Saudi group (N=52) more than twice the size of the non-Saudi group (N=21), so that while the 42.9 percent of non-Saudis who took field trips once a semester seems much larger than the 13.5 percent of Saudis who did the same--the difference is only individuals. When percentages for non-Saudis who do not use field trips at all are combined and compared with Saudis who do not use field trips at all, slightly more non-Saudis (47.7 percent) and Saudis (32.7 percent) use field trips.

There were similarly mixed minor results for the question on recommended use of field trips. A smaller percentage of non-Saudis than Saudis recommended "no use at all," but some of those who advocated the use of field trips among Saudis recommended once a week or even "2-3 times a week" frequency, while no non-Saudis recommended any frequency higher than once a month.

Further Interpretations

In Chapter Four the researcher analyzed the data collected from responses to the questionnaire interviews, documentation and related literature. An effort was made to relate the results of this study to previous studies consistent with the research questions. The data were divided into: Awareness of official policy goals and objectives; Perceptions of field trips; Suggested goals and objectives of field trips; Problems of field trips, Principles of an effective field trip; Relationship between the science program and the use of field trips; Teachers attitudes toward the use of field trips.

Data relevant to awareness of policy objectives showed that a high percentages of the research sample were aware of policy objectives but Ministry officials and supervisors demonstrated greater awareness of policy objectives than teachers and principals because the former officials were closer to the source of policy decisions or were themselves

the decision makers. Most teachers and principals agreed with the content of the policy objectives, but teachers seemed to depend upon official written notification from central authorities to know what those objectives were, rather than being willing to surmise what they would be from their experiences.

The Ministry officials who are the chief policy makers for the field trip activity tended to have an unrealistic view of the extra effort and risk inherent in this activity for the teachers who conduct such trips. These front line staff who bear the brunt of the extra work and responsibility involved in out-of-classroom learning activities, were supported by their principals and supervisors in their perceptions that field trips were not simple and easy to carry out and involved substantial added responsibility and high risk. Ministry officials views were widely divergent on these points, but they did agree with the other three groups that field trips were a useful instruction-related school activity that is particularly valuable in teaching science.

When various goals and objectives of field trips were suggested by the research subjects they tended to emphasize either instructional or attitudinal benefits of such activity for the students. In responding to various goals and objectives of field trips drawn from the literature in

the field, almost all the respondents chose academic and practical knowledge-related goals.

In analyses of the items related to field trip problems and suggested solutions, it was found that although Ministry of Education policy encourages and supports field trip activity, teachers and principals tend to be either unaware of support that exists at the Ministry level, or to assume a more negative attitude than exists. For example, most teachers and principals indicated, either directly or indirectly, that the absence of funds for transportation or necessary meals and admission fees limited them in carrying out the field trip activity; the majority of them being unaware that funds were made available at the Ministry level to support the cost of field trip-related expenses. The majority of Ministry officials and supervisors were aware of positive policy support and budgetary provisions for field trips at the Ministry level, so the major problems seemed to be matters of inadequate communication or miscommunication within the educational hierarchy. This finding was supported by widely divergent results among the groups elsewhere in this research, such as the Ministry officials' divergent view that field trips were easy and riskless activities for teachers.

A majority of all respondents agreed that an effective field trip should complement the classroom curriculum and have mostly educational benefits. When asked to describe an

effective field trip in their own words, the majority agreed on the importance of preplanning such an activity but failed to mention the importance of the teacher's role in accompanying the students in the field to focus their field experience, explain phenomena and facilitate discussion. They also generally failed to mention the importance of classroom activities following the field trip to reinforce the learning experience in the field. However, when these activities were provided for respondents in prepared statements with which they could agree or disagree, the large majority of all respondents agreed that these activities were important.

Generally, the respondents perceived a positive value for field trips in the schools' science curriculum, but teachers and principals agreed on the importance of outdoor activities in teaching most science courses, while the majority of supervisors and Ministry officials disagreed. Similarly consistent with the previous findings indicating a lack of communication or miscommunication between professional groups, almost all Ministry officials and supervisors indicated that their groups viewed field trips as a useful tool in teaching science, but only two-thirds to three-quarters of the teachers and principals correctly perceived the Ministry officials' and the supervisors' positive attitudes on this matter. The Ministry officials' and supervisors' view of field trips as useful in teaching

science was also inconsistent with the lack of importance they assigned to outdoor activities.

In response to the final category of items related to teachers' attitudes toward and use of field trips, it was found that educators in Saudi Arabia generally felt that field trips have a positive effect on the learning of students in intermediate boys' schools and that what students learn from field trips cannot effectively be achieved in any other way. They also feel that students enjoy field trips more than other school activities and that teachers enjoy conducting this popular activity. Within these generally positive attitudes, however, there were some discrepancies indicative of the communication problems between professional groups noted earlier. For example, eighty to ninety percent of the Ministry officials, supervisors and principals agreed that teachers enjoyed conducting field trips, while less than seventy percent of the teachers held this view. Such discrepancy is particularly important viewed together with the teachers' misperceptions of the views of Ministry officials and supervisors noted earlier. While teachers and principals tended to view the attitudes of Ministry officials and supervisors toward field trips as more negative than those attitudes actually are, the reverse was true for Ministry officials', supervisors' and principals' perceptions of teachers' attitudes.

Another way of testing the teachers' attitudes toward field trips was to ask them how frequently they used this learning activity and how often they thought they should use it. By listing field trips with twelve other teaching strategies for which teachers were asked to indicate their actual use and desired use, it was determined that field trips were not used at all by a majority of the teachers, but a majority felt they should be used (desired use) at least once a month. Given that the teachers' responses reflected their actual attitudes on this matter, it seems that barriers exist beyond the teachers themselves, that prevent them from conducting field trips.

Divided by nationality, Saudi and non-Saudi teachers' responses were essentially the same on attitudes toward and use of field trips, so it is unlikely that the presence of foreign teachers in the sample biased the results. It is more likely that the discrepancy between actual use and desired use is at least partially due to the communication failures and misperceptions of colleagues' attitudes noted throughout the study. In the fifth chapter, following a summary of the study, the findings from these analyses are reviewed and recommendations are made. These recommendations include suggestions for actions to help overcome the problems found and for further studies.

Chapter Four Notes

1 Charles R. Duvall and Wayne J. Krepel "School Board Policies Related to Field Trips," Education Vol. 95, No. 4, (Summer 1975), p. 331.

2 Interview with the director of the Department of School Activities, Saudi Arabia, Riyadh, 1985.

3 Philip D. Morehead, The New American Roget's College Thesarus, New American Library, Inc., New York, 1978.

4 Interview with the general science supervisor in the Ministry of Education, Riyadh, S.A., 1984.

5 Edgar C. Bye, "How to Conduct a Field Trip," How to Do it Series, No. 12 (Washington, D.C.: National Council for the Social Studies, 1967).

6 Ministry of Education, "Policy Objectives of Field Trips," Special Report from the Ministry of Education to all Educational Districts, Ministry of Education, Riyadh, S.A., 1985 (in Arabic).

7 Shirley A. Brehm, The Teacher's Handbook for Study Outside the Classroom (Columbus: Charles E. Merrill, 1969), p.33.

8 Jonathan Fairbanks, "The Elastic Classroom," Journal of Environmental Education, 11, 3 (Spring, 1980), p. 22.

9 Interview with the director of the Department of School Activities in the Ministry of Education, Riyadh, S.A., 1985.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary

Purpose

The major purpose of this study was to explore the existing status of field trips as an educational method in Saudi Arabia. The effort was made to understand the background of current usage, resources, and factors or problems that limit their use as an effective method of teaching science in the boys' intermediate schools in Saudi Arabia.

Procedures

To achieve this purpose, the descriptive method was employed, using a normative survey as a survey of data collection that concentrated on current practices related to field trips. Also, interviews were used to collect particular data which could not be collected by a questionnaire and to ascertain the accuracy of participants' responses. To achieve the purposes of this study, then: (1) a survey questionnaire was constructed and administered to a sample of intermediate school science teachers,

intermediate school principals, science and social studies supervisors, and Ministry and Board of Education officials concerned with school activities; (2) survey interviews were held with selected school principals and Ministry officials to investigate the current status of field trips as an educational activity in the intermediate boys' schools in Saudi Arabia; and (3) a review of official documentation regarding the policy objectives and regulations for field trips in Saudi Arabia was undertaken.

The questionnaire was specifically designed to elicit participants' responses as to (a) awareness of official policy goals and objectives of field trips, (b) concepts and perceptions of field trips, (c) suggested goals and objectives of field trips, (d) problems that limit the successful use of field trips in teaching science, (e) principles and characteristics of an effective field trip, (f) the nature and extent of relationships between science curriculum and the use of field trips, and (g) teachers' attitudes toward or their use of field trips as a method for teaching science. To gain a better understanding of policy goals and regulations governing field trips, interview questions were adapted from the questionnaire and addressed to Ministry and Board of Education officials.

Following sample selection, 235 questionnaires were distributed to 100 intermediate science teachers, 25 school

principals, 80 science and social studies supervisors, and 30 Ministry or Board of Education officials. There were 153 completed, usable questionnaires (65.1 percent of those distributed) returned from 73 science teachers (52 natives of Saudi Arabia and 21 foreign teachers), 23 school principals, 40 supervisors and 17 Ministry or Board of Education officials.

For statistical analysis of the data, non-parametric statistical techniques were chosen because the data collected represented qualitative data in the form of categories and ranks. Three statistical procedures consistent with the nature of the data were used: (1) frequency tables, (2) the chi-square test, and (3) the cross-tabulation technique.

Findings

Several major findings were derived from the study. First, from the review of official documentation regarding the policy goals and objectives for field trips in Saudi Arabia, and from the participants' responses to specifically designed questions and statements in the questionnaire, it was found that there are definite official policy goals and objectives for every school program and/or activity in Saudi Arabia, including field trips. These are determined and disseminated by the Ministry of Education from the central office in Riyadh,

and emphasize academic knowledge, spiritual and intellectual goals, social and personal applications and attitudes toward learning. The quantitative results revealed that Ministry of Education personnel are more cognizant of the policy goals and objectives for field trips than the principals and teachers who are lower in the hierarchy of educational personnel and generally located farther from the policy making and disseminating central Ministry officials in the capital city.

In regard to the concepts and perceptions of field trips held by education personnel, the results revealed that the highest percentage of the respondents reported instruction-related (educational) concepts of field trips, with responses as "an out-of-school activity to achieve instructional goals and objectives," while fewer respondents reported that the primary purpose of field trips was social. The majority of respondents also rated the field trip activity as an important instructional activity and supported that by instructional examples of field trips, such as "a visit to a farm to study plants in their natural setting." The general agreement of the respondents with instruction-related concepts and definitions of field trips in response to questionnaire statements is inconsistent with the opinion held by some parents and students that field trips are mainly for fun and fulfill mostly social objectives. In response to a statement in the questionnaire

emphasizing recreational objectives (item #23), 82 percent of the respondents disagreed and ;96.7 percent agreed that the primary purpose of field trips is instructional (Table 48).

Examining perceptions of educational personnel regarding the desired goals and objectives of field trips, the data showed that the highest percentage (52.7 percent) of the respondents suggested combining instructional and attitudinal goals and objectives. The next most favored category was instructional goals alone (36.5 percent) (Table 19). The high level of agreement among the participants on the instructional and attitudinal aspects of field trips supported the previous findings concerning the instruction-related concepts and definitions of field trips and indicated that there is general concensus among education personnel on the instructional aims of field trips.

As to factors or problems that may interfere with the successful use of field trips, the following problems were most frequently mentioned by the participants: (a) financial problems, with responses as "the high cost of food and transportation." (b) time and scheduling problems with examples such as "teachers have a full in-class schedule and are expected to cover the textbook in a definite period of time;" management problems which included such responses as "most of the school principals and Ministry personnel are concerned more about in-class teaching" or "field trips are

too risky and teachers are not willing to take that risk." Also, there were perceived resource site or location problems which included such responses as "lack of close locations that have materials related to the subject matter." The highest percentage of the research sample (23.2 percent) reported multiple financial, time and site problems. The lowest percentage (6.8 percent) reported scarcity of resource sites as the sole problem facing the success of field trips (Table 27). The most favored solutions to overcome these problems were: (1) allowing more time for school activities, (2) provisions for financial support, (3) informing educators of the benefits and importance of field trips, and (4) limitations on the number of students participating in field trips. The highest percentage of the research sample suggested provisions for financial support and other needs and allocating more time for school activities.

The researcher also found other problems, such as miscommunication between teachers and principals regarding the use of field trips (the principals said they encouraged field trips and the teachers disagreed) and teachers' and principals' misperception of the position of the Ministry of Education on the use of field trips. The Ministry of Education was shown to favor and support the use of field trips far more than is perceived by teachers and principals. For example, 11.1 percent of teachers reported financial

problems alone and 36.1 percent of the teachers reported financial problems in addition to other problems impeded the use of field trips (Table 28). No Ministry officials blamed financial considerations alone for interferring with successful field trip activity because they were aware that the Ministry of Education allocates funds for field trip activities, a fact of which 63 percent of teachers and 52.2 percent of principals were unaware (Table 32). Another example of the prevasiveness of misperceptions and misinformation among the levels of the education hierarchy was evident in the differential response to the statement, "principals encourage science field trips." Principals of all the intermediate boys' schools involved in the study (100 percent) responded positively to this statement, while 50 percent of the teachers either responded negatively or didn't know whether or not their principals encouraged science field trips (Table 31). That teachers seriously misperceive the position of the Ministry of Education was also particularly evident in their 80.8 percent erroneous (positive) response to the statement that "the Ministry of Education stipulates that only high-achieving students may go on field trips."

The educators' beliefs about the principles and characteristics of an effective field trip were found, to concur with any other teaching strategy, to have three stages: (1) preparation and planning, (2) activities in

the field, and (3) follow-up. According to the participants of this study, in order to be effective and successful, the field trip should be: (a) related to the on-going school curriculum and have mostly educational benefits; (b) preplanned as to goals and objectives by the conductor; (c) assured as to the site by the conductor's pre-visit; (d) followed by an after-trip report or class activities.

The results showed that the most important principle for an effective field trip was its relationship to the school curriculum and emphasis on educational benefits. This option received the highest percentage (about 64 percent) of the participants' positive responses (Table 33).

There were found to be several roles a teacher should play on an effective field trip. The following roles were those most frequently supported by the study participants when they were asked whether they agreed or disagreed with specified teacher roles.

(1) pre-plan the field trip procedures

(2) show relationship between materials in the field and in class

(3) give students opportunities to ask questions

(4) walk with students in the field to explain, discuss, answer questions, etc.

(5) assign a follow-up report about the trip for all participating students

(6) discuss the purposes of the field trip with the principal, supervisor and students

(7) get various permissions from the school administration, the site authority and the parents.

(8) pre-visit the site of the field trip

Roles that involved the teacher's active participation in the field were the second, third and fourth preferences of the respondents, a finding that was in direct contradiction on the results of the similar open-ended question which elicited almost no responses implying the direct participation of the teacher in the field.

The data did not agree, however, that pre-planning is considered the most important role teachers play in an effective and successful field trip (Tables 37, 38).

Like teachers, students have various important roles to play on an effective field trip. Education personnel considered the following to be the most important roles played by students:

(1) actively participate in the trip activities, discuss, and ask questions

(2) look for evidence and take notes

(3) understand the goals and objectives of the field trip

(4) write a follow-up report about what they see on the trip

(5) observe behavior principles

The survey results revealed that active participation and looking for evidence were most frequently reported as the

most important roles the students play in an effective field trip (Table 36).

Choices of principals' roles, in an effective field trip, were as follows:

(1) provide support and encouragement to the teacher conducting the trip

(2) get permission from the Board of Education

(3) join the teacher and students on the field trip.

According to the policy regulations for field trips, the school principal should obtain permission from the Board of Education in his district. The statistical results of the survey showed that about 52 percent of the principals did not recognize their responsibility to get this permission, perhaps preferring to have the freedom to make this decision at the local school level. The majority of the other groups, particularly the higher level personnel, agreed this function was the principals' role (88 percent). Across professional groups, the study revealed that one of the most important roles a school principal should play is to support and encourage all appropriate school activities. However, teachers did not perceive principals as providing encouragement (Table 39).

The supervisor's role in an effective field trip was also examined in the study. It was agreed by most respondents (85.6 percent) that the most important role a supervisor can play in an effective field trip is to discuss

the procedures of the field trip with the teacher (Table 40).

In considering places to visit for a successful field tirp, the following sites were mentioned in the study:

(1) farm

92) the desert

(3) a government agency

(4) a factory

(5) another school or training school

The data showed that among the various sites suggested, the farm, desert, government agency, and factory were the most favored locations for an effective field trip which summed to the highest percentage of 94.6 percent among all other locations (Table 37). When analyzed separately, the potential sites selected by respondents were: Factory, 71.6%; government agency, 52.1%; farm and/or desert, 41.5%. Thus, field trips to urban sites appear to be favored.

Regarding the nature and the extent of the relatinship between the science curriculum and the use of field trips, the study revealed that there was a strong positive relationship between the use of field trips and teaching science in the participating intermediate schools.

Finally, the educators' attitudes toward and use of the field trip in teaching science were examined. It was found that educators believe that field trips affect the learning

of students in the intermediate boys' schools positively and feel that what students learn on field trips cannot be achieved in any other classroom activity. However, by comparing the use of field trips as a science teaching strategy with other common strategies it was found that field trips were not used as often as they should be in the Saudi schools (Table 46). Although science teachers enjoy conducting field trips, according to their own responses, they have not used them as much as they feel they should. While less than half reported taking field trips at all during a school year, the majority of the sample recommended one to three, or up to four trips (two each semester).

The results also showed that no significant differences existed between Saudi and non-Saudi science teachers in their attitudes toward the use of field trips as a teaching activity in the intermediate boys' schools of Saudi Arabia. In responding to a question about the number of field trips they actually use and the number of field trips that should be used, over half of each group reported not using field trips currently and recommeded that field trips should be used at least once a month (Table 49).

Conclusion

The research provided a comprehensive description of the existing status of field trips as an educational method

in Saudi Arabia. This included the official goals and objectives of field trips promulgated by the Ministry of Education; the concept of field trips as perceived by science teachers, school principals, supervisors and Ministry officials; suggested goals and objectives of field trips stated by the participants; factors or problems that limit the use of field trips as an effective method of teaching science in the boys' intermediate schools in Saudi Arabia; the principles and characteristics of an effective field trip; the nature and extent of the relationship between the science curriculum at the intermediate level and the use of field trips; and educators' attitudes toward and use of field trips in teaching science in the intermediate schools in Saudi Arabia. Attention was given to differences between Saudi and non-Saudi teachers in attitudes toward and use of field trips in teaching science, but no such differences were found.

In conclusion, the field trip is one of the school activities recommended by the Ministry of Education in Saudi Arabia; the Ministry has written objectives covering field trips and provides budget allocations for such trips. However, because of reasons that include time and scheduling problems, and other managerial concerns, and miscommunication and misperceptions by teachers and principals, the field trip activity has not been utilized effectively in teaching science in the intermediate boys'

schools in Saudi Arabia. More than 50 percent of teachers do not use field trips at all in teaching science (Table 49).

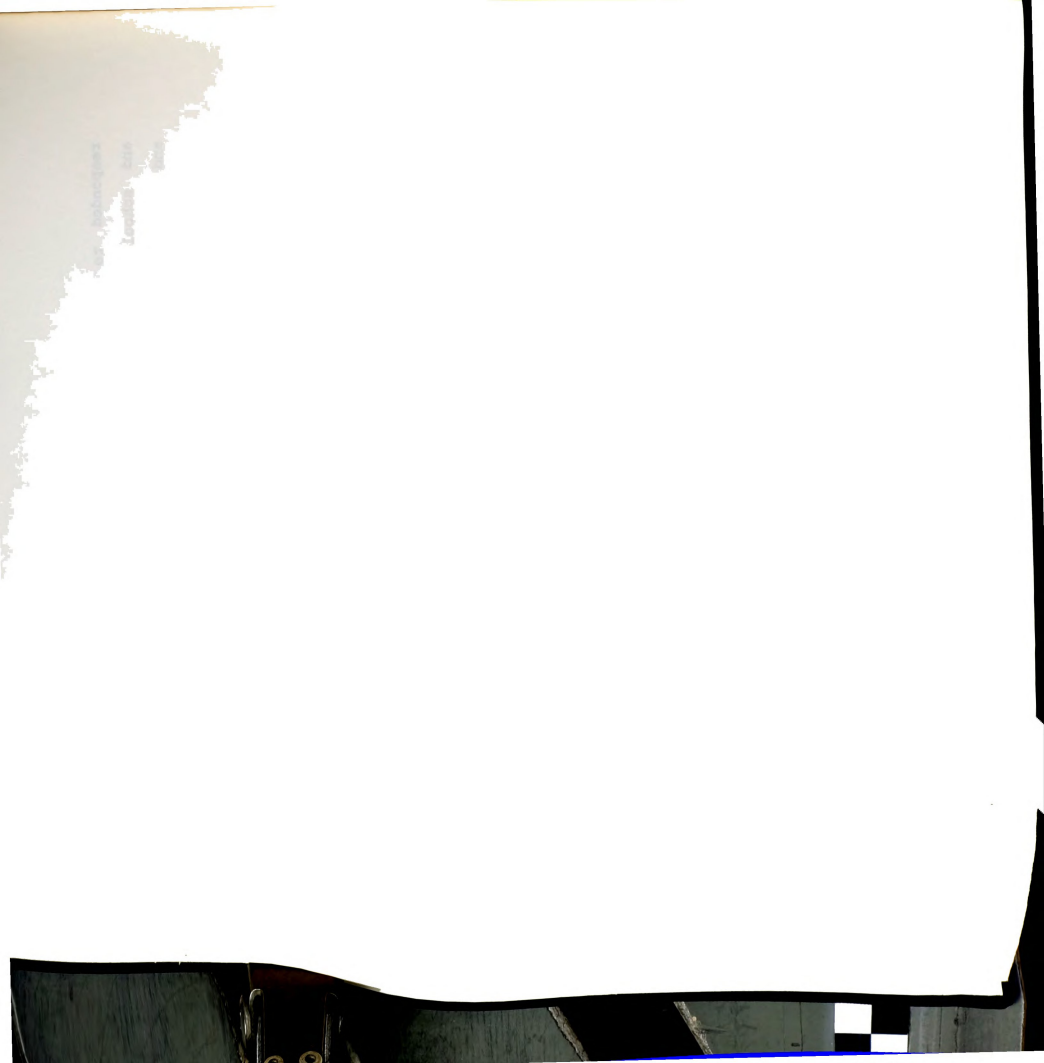
Of these problems, lack of communication, erroneous communication and misperceptions are of the most concern because "lack of time," "scheduling problems," and "educator reluctance" would seem to be problems that are easily resolved once teachers and principals perceive that their supervisors are interested in facilitating field trips. Poor communication and erroneous perceptions about field trips, on the other hand, seem to pervade the education hierarchy and seriously interfere with the successful use of this activity. The study revealed that about one-third of the research sample misperceived the policy goals and regulations of field trips. There was a persistent tendency on the part of personnel who are lower in the education hierarchy to perceive the attitudes of their supervisors inaccurately. Those at the local school level, particularly teachers, consistently saw principals, supervisors and Ministry officials as more negative toward field trips that the responses of these personnel indicated they were.

Recommendations

Currently, field trips are not utilized effectively in teaching science in the intermediate boys' schools of Saudi Arabia. The attitudes and beliefs of 153 subjects who

responded to the questionnaire indicated science teachers and school principals do not understand the policy goals and regulations regarding field trips set forth by the Ministry of Education. Science teachers generally have positive attitudes toward field trips but are not using field trips as much as they think they should. Their responses indicated that lack of certain materials, misperceptions of the Ministry's position, and a lack of encouragement on the part of the principals, were responsible for this situation. Therefore, the Ministry of Education of Saudi Arabia should take positive action to encourage wider utilization of field trips as a means of teaching science at the intermediate school level.

First, the Ministry of Education should give special attention to the problems of misperception and miscommunication between personnel on different levels of the education hierarchy. The Ministry should distribute a written statement of the goals and objectives and provision of any school program and/or activity to all educational districts and make sure that every school principal and teacher gets a copy. Supervisors should be given the opportunity to provide liaison between schools and the Ministry more effectively. The Ministry of Education should also involve teachers and principals in designing school programs and activities so teachers and principals will have an opportunity to express their ideas and feelings about what



they do. The Ministry of Education should design a training program for science and social studies teachers, particularly, that emphasizes the utilization of field trips and their potential value in teaching science and social studies courses.

The Ministry of Education should provide more assistance to principals and teachers in determining possible sites for field trips. Pre-arrangements should be made by the Ministry of Education or their representative Boards of Education with community resources that may be suitable sites for field trips. A booklet about each community's resources could be developed by the Ministry of Education to help teachers and school principals select suitable sites for field trips within the Ministry's budget allocations. The Ministry of Education should provide for all the needs of field trips including money and means of transportation that are not already provided.

The problems of time and scheduling could be solved by special arrangements with school personnel within the school schedule. One solution would be to designate one day each two or three weeks for field trips and allow teachers to arrange their schedules accordingly. Double periods might occasionally be allocated in some classes to have more time for field trips. The Ministry of Education or Board of Education could help by providing some suggestions and, by

so doing, emphasize their approval of the field trip activity.

The Ministry of Education through the current school principals' program should inform principals of their roles in an effective field trip, so as to encourage such effective school activities and ensure that teachers are supported in conducting these activities. The Ministry of Education, with the cooperation of the Ministry of Information, might also broadcast programs on radio and television about the goals, objectives and the importance of field trips so parents and children will be aware of their educational values.

A suggestion was made by one intermediate college instructor that the intermediate college in every major city in Saudi Arabia could provide all the materials needed for science laboratory experiments, set them up in a large science laboratory, and invite science teachers to bring their students over for a beneficial field trip that would also be supportive of education in general by giving students a science experience on a larger, more advanced campus that they might eventually aspire to attend.

Most important, however, is to disseminate knowledge of the favorable attitude toward field trips held by those at the highest level of the educational hierarchy. When teachers and principals are made aware that those above them in authority encourage appropriate, well-conducted field

trips and will assist them in facilitating such trips, it is likely that many more such trips will be taken.

Implications for Further Research

This study has emphasized the utilization of field trips as a teaching strategy at the intermediate school level in Saudi Arabia. On the basis of the research conducted in this study, the following suggestions are made for further research. Beyond replicating this endeavaor, research could be conducted to examine the utilization of field trips on secondary or elementary school levels.

The principles and characteristics of an effective field trip, used in this research, could be used in further experimental research to examine their affects on students' learning. While this study has emphasized the use of field trips as a science teaching strategy, further research could focus on other science teaching strategies, such as the effective use of school laboratories, classroom demonstrations, audio visual aids, etc.

One of the recommendations of the study was to have every intermediate college in Saudi Arabia set aside a suitable site for field trips and encourage teachers and students to make field trips to such a site. Although such a site would also involve a classroom or laboratory setting, another study could try this recommendation experimentally and examine its effect.

A further research study could focus on the students' perceptions and definitions of field trips and their roles in an effective field trip and how to make the most out of a field trip. Other future research could focus on the parents' perceptions of field trips and how they can help their children learn through the use of field trip activities.

The study revealed that personnel who are lower in the education hierarchy poorly perceived the policy goals and regulations of field trips. A further study could focus on policy goals and regulations of other educational enterprises and how they are perceived by teachers.

Finally, the purpose of this study was to provide the educational system of Saudi Arabia with information about field trips and their utilization in Saudi Arabia. Field trips have been shown to be an effective method of teaching science that is adaptable to the Saudi culture and has been proven successful in other countries so that educators and curriculum designers can utilize the information to enrich programs for teachers and students. The researcher thus hopes that this study can make a modest contribution to improving science education programs in the Kingdom of Saudi Arabia.

APPENDIX A

A LETTER FROM THE SAUDI ARABIAN NATIONAL CENTER FOR SCIENCE AND TECHNOLOGY

بسم الله الرحمن الرحيم

Kingdom of Saudi Arabia
Saudi Arabian National Center
for Science and Technology
Directorate of Information Systems &
Technical Services
Director's Office

المملكة العربية السعودية
المركز الوطني للعلوم والتكنولوجيا
أنظمة المعلومات والخدمات الفنية
مكتب المدير

Ref : الرقم : Date : التاريخ :

TO WHOM IT MAY CONCERN

This is to confirm that the National Data Bases Division of the Saudi Arabian National Center for Science and Technology has conducted a search for Mr. Abdul Fattah Bokhorji on it's National Data Bases Arabic and English in the area of field trips, outdoor education school activities and surveying in Saudi Arabia. There was no record in our Arabic data base on these subjects. This means that our division, specialized in gathering Saudi documents, has not yet been able to include such work in its data collection.

With best regards.

Abdul Razzak, Ph.D., M.L.S.
Coordinator, National Data
Bases Division.

APPENDIX B

Panel of Experts

1. Dr. James J. Gallagher, Professor, Teacher Education, Michigan State University
2. Dr. Christopher Sower, Professor, Department of Sociology, Michigan State University
3. Dr. William Mehrens, Professor, Counseling, Educational Psychology, Michigan State University
4. Dr. Ibrahim Ismail Farrag, Professor, Educational Technology, King Abdul-Aziz University, College of Education
5. Ms. Lucille Slinger, Graduate Student, Teacher Education, Michigan State University
6. Mr. Abdul-Razzaqu Habib, Graduate Student, Educational Psychology, Michigan State University

APPENDIX C

LETTER CERTIFYING TRANSLATION OF QUESTIONNAIRE

بسم الله الرحمن الرحيم

In the name of Allah the most merciful and the most beneficient

The Islamic Society of Greater Lansing

THE ISLAMIC CENTER

920 South Harrison Road • East Lansing, Michigan 48823

Telephone: (517) 351-4309 or (517) 337-9089

July 17, 1984

To Whom It May Concern:

The Islamic Center of Greater Lansing hereby certifies that the translation from English to Arabic, of the questionnaire, "A Survey Questionnaire Concerning the Use of Field Trips in Teaching Science in the Intermediate Schools in Saudi Arabia," presented by Mr. Abdul Fattah R. Bokhorji, is accurate in meaning and style. This certification is issued at his request.

M. Abou El-Seoud

Moh. Abou El-Seoud
Chairman of the Board
of Trustees

The Islamic Society of Greater Lansing
920 SOUTH HARRISON ROAD
EAST LANSING, MI 48823

APPENDIX D

ARABIC VERSION OF THE QUESTIONNAIRE CONCERNING THE UTILIZATION OF FIELD TRIPS IN TEACHING SCIENCE IN THE BOYS' INTERMEDIATE SCHOOLS IN SAUDI ARABIA

بسم الله الرحمن الرحيم

عزيزي المربي الفاضل

السلام عليكم ورحمة الله وبركاته ، وبعد :

ان محور اهتمام هذه الدراسة هو الحصول على بعض المعلومات الخاصة باستخدام الرحلات الميدانية في تدريس العلوم بالمرحلة المتوسطة بمدارس المملكة العربية السعودية بما في ذلك الممارسات الحالية لهذه الانشطة .

وبناء على ذلك فقد قمت بعمل هذا الاستبيان الموجز الذي بين يديك وانني اذ اقدر اجابتكم الوافية والصريحة فانه ليسعدني كثيرا أن تتم اجابتكم على هذا الاستبيان وارجاعه لي في نفس اليوم علما بأن كل المعلومات التي ستدلون بها في هذا الاستبيان ستكون موضع سرية تامة ولن يطلع عليها أحدا سوى الباحث ولجنة الاشراف على البحث .

وانني اذ ارحب بتعليقاتكم وافتراحاتكم البناءة بخصوص هذا البحث ، هناك مجال لكتابة هذه التعليقات والاقتراحات في نهاية كل جزء وانه ليسعدني ان اوافيكم بملخص النتائج التي ستصل اليها هذه الدراسة لمن يرغب في ذلك فيما بعد .

كما ان هذا البحث لن يكتمل ويكتب له النجاح الا بتوفيق الله ثم بمشاركتكم الفعالة واجابتكم الصريحة .

وفي النهاية فانني اشكر لكم سلفا اشتراككم في هذا الاستبيان

والسلام عليكم ورحمة الله وبركاته .

الباحث

- ١ -

الرجاء قراءة التعليمات السابقة لكل جزء والتأكد من فهمها جيدا حتى تكون الاجابة سديدة وتخدم الغرض من البحث .

الجزء الاول :

تعليمات : الرجا وضع علامة (√) فى الفراغ المواجه للعبارة المناسبة والتى تنطبق عليك .

1 - مهنتك الحالية وعدد سنوات الخدمة فى هذا العمل كما يلى :

المهنة	جديد (أول سنه)	٢-٣ سنوات	٤-٧ سنوات	أكثر من ٧ سنوات
a. مدرس علوم	___	___	___	___
b. مدير مدرسة	___	___	___	___
c. موجه	___	___	___	___
d. مسئول عن النشاط المدرسى فى : ادارة التعليم أو وزارة المعارف	___	___	___	___
e. خلاف ما ذكر (حدد)	___	___	___	___

2 - الجنسية

a. سعودى ☐

b. غير سعودى (متعاقد) ☐

3 - المؤهلات

الدرجة العلمية	التخصص	تاريخ التخرج
a. دبلوم كلية متوسطة		
b. بكالريوس علوم		
c. بكالريوس علوم وتربية		
d. ماجستير .		
e. دكتوراه .		
خلاف ما ذكر (حدد). ( )		

الجـــزء الثانـــى :

تعليمات : الرجا التكرم بكتابة ١ - ٣ جمل قصيرة للاجابة على كل سؤال:

1- ماذا يخطر بذهنك عندما تفكر فى رحلة ميدانية فى تدريس العلـــــوم ؟
أى (تعريف الرحلات الميدانية)

_____

_____

_____

2- أذكر بعض أمثلة لرحلات ميدانية ؟

_____

_____

_____

3- ما أهـــداف :ستخدام الرحلات الميدانية فى تدريس العلوم بالمرحلـــة المتوسطة فى نظرك ؟

_____

_____

_____

4- ما الأهداف التى وضعتها وزارة المعارف لاستخدام الرحلات الميدانية فـــى المرحلة المتوسطة ؟

_____

_____

_____

5- ما الأهداف الرئيسية من تدريس العلوم فى المرحلة المتوسطة ؟

_____

_____

_____

- ٣ -

6- ما العلاقة التى تراها بين الرحلات الميدانية وتدريس العلوم فى المرحلة المتوسطة ؟

7- ما الذى يمكن تحقيقه من استخدام الرحلات الميدانية فى تدريس العلوم بالمرحلة المتوسطة ؟

8- صف ما تعتبره رحلة ميدانية ناجحة فى تدريس العلوم بالمرحلة المتوسطة ؟

9- ما الذى يجب على المدرس عمله للقيام برحلة ميدانية ناجحة ؟

10- ما الذى يجب على التلميذ عمله للاستفادة من الرحلة الميدانية ؟

11- اذكر امثلة لبعض رحلات ميدانية ناجحة مع تحديد الوقت الذى تراه كافيا وعدد الطلبة المشاركين فى الرحلة ؟

المثـــــــــال	الوقت الكافى	عدد الطلبة

12- كم تقريبا عدد الرحلات الميدانية التى يجب أن يقوم بها المدرس خلال السنة الدراسية ؟

13- عدّد بعض المشاكل التى تعترض استخدام الرحلات الميدانية .

- ٥ -

14- ما هي توصياتك لتطوير استخدام الرحلات الميدانية . واذكـــــــر اى اقتراحات أخرى تراها مناسبة ؟

_____

_____

_____

الجزء الثالث :

تعليمات : فضلا ضع علامة (✓) فى الفراغ المناسب امام كل عبارة مما يأتى:

الرقم		موافق بشدة	موافق	غير متأكد	غير موافق	غير موافق بشدة	Comp. Code
أولا	الرحلة الميدانية عبارة عن :						
1-	رحلة ترفيهية فقط .						018
2-	نشاط لتحقيق أهداف تعليمية						019
3-	نشاط مدرسى مفيد جدا						020
4-	وسيلة مفيدة جدا لتدريس العلوم						021
5-	نشاط بسيط وسهل التنفيذ						022
6-	نشاط صعب ويتطلب جهد ومسئوليـــة كبيرة من جانب المدرس						023
7-	مجرد مضيعة للوقت						024
8-	غير ما ذكر (فضلا أذكر)						025

الرقم		موافق بشدة	موافق	غير متأكد	غير موافق	غير موافق بشدة	Comp. Code
ثانيا	الرحلات الميدانية :						
1-	تساعد التلاميذ على تثبيت ماتعلموه						030
2-	تؤدى الى زيادة تقدير الحياة العملية						031
3-	تساعد التلاميذ على اختيار مهنة المستقبل .						032
4-	تكمل معلومات المدرس						033
5-	تغيير للعمل المألوف فى الفصل الدراسى						034
6-	غير ذلك (أذكر)						035

ثالثا	الرحلات الميدانية عموما وفعت لتحقيق الاهداف التالية :						
1-	تساعد التلاميذ على فهم البيئة التى يعيشون فيها .						040
2-	تزود التلاميذ بالخبرات العلمية المباشرة .						041
3-	تمكن التلاميذ والمدرسين من أخذ يوم اجازه من العمل المدرسى .						042
4-	تعزز معلومات التلاميذ عن النواحى الثقافية						043
5-	تزيد من وعى التلاميذ عن النواحى الاقتصادية						044

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الرقم	موافق بشدة	موافق	غير متأكد	غير موافق	غير موافق بشدة	Comp. Code
6- تزيد من وعي التلاميذ نحو المشاكل الاجتماعية .						045
7- تشجع التلاميذ على التعلم الذاتي						046
8- تنمي قدرات التلاميذ على الحصول على المعلومات من مصادر مختلفة						047
9- تمكن التلاميذ من القيام ببعض الأنشطة المتعذر تنفيذها في الفصل المدرسي مثل الألعاب الرياضية والأنشطة الاجتماعية .. الخ .						048
10- تساعد التلاميذ على معرفة أهدافهم الخاصة وكيفية تحقيقها .						049
11- تساعد التلاميذ على معرفة مصادر الانتاج في بلادهم .						050

رابعا: وضعت الرحلات العيدانية في تدريس العلوم لتحقيق الأهداف التالية :						
1- مساعدة التلاميذ على تنمية اتجاهات موجبة نحو العلوم						051
2- تعلم التلاميذ طرق التعلم بالاستكشاف .						052
3- تعلم التلاميذ طرق البحث العلمي						053
4- تعلم التلاميذ سلوك حل المشكلات						054
5- تنمية مهارات التلاميذ عن عمليات التعلم .						055
6- تعطي الفرصة للتلاميذ لتعميم التجارب .						056

الرقم		موافق بشدة	موافق	غير متأكد	غير موافق	غير موافق بشدة	Comp. Code
خامسا	للقيام برحلة ميدانية ناجحة يجب على المدرس أن :						
-1	يعمل تخطيط مسبق للرحلة الميدانية						057
-2	يناقش الغرض من الرحلة الميدانية مع التلاميذ .						058
-3	يقوم بزيارة مسبقة لموقع الرحلة						059
-4	يحصل على إذن من المسئولين في موقع الرحلة .						060
-5	يناقش موضوع الرحلة الميدانية مع مدير المدرسة ليحصل على اذن منه .						061
-6	يتجول مع التلاميذ أثناء الرحلة						062
-7	يعطي التلاميذ فرصة لطرح الاسئلة أثناء الرحلة .						063
-8	يجيب على أسئلة التلاميذ ما أمكن أو يحيلهم على شخص متخصص في ذلك المجال .						064
-9	يوضح للتلاميذ العلاقة بين ما يشاهدونه في موقع الرحلة وما يدرسونه في المدرسة .						065
-10	يطلب من التلاميذ كتابة تقرير كامل عن الرحلة الميدانية .						066
-11	غير ذلك (فضلا اذكر) .						067



الرقم		موافق بشدة	موافق	غير متأكد	غير موافق	غيرموافق بشدة	Comp. Code
سادسا	كى تكون الرحلة الميدانية ناجحة يجب على مدير المدرسة أن :						
-1	يحصل على اذن من ادارة التعليم للقيام بالرحلة الميدانية .						070
-2	يشارك شخصيا فى الرحلة .						071
-3	يطرى المدرس على استعداده للقيام بالرحلة						072
-4	غير ما ذكر (فضلا اذكر) :						073

سابعا	كى تكون الرحلة الميدانية الميدانية ناجحة يجب على الموجه أن :						
1 -	يشارك شخصيا فى الرحلة الميدانية .						076
2 -	يناقش خطوات الرحلة مع المدرس .						077
3 -	غير ما ذكر (فضلا اذكر)						078

	الجزء الرابع :						
1 -	احد اهداف تدريس العلوم بالمرحلة المتوسطة هو مساعدة التلاميذ على فهم البيئة التى يعيشون فيها .						080

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	موافق بشدة	موافق	غير متأكد	غير موافق	غير موافق بشدة	Comp. Code
2 - معظم دروس العلوم بالمرحلة المتوسطة تتطلب القيام بأنشطة خارج المدرسة						081
3 - يتعلم التلاميذ اكثر بدراسة الاشياء في بيئتها الطبيعية .						082
4 - يفضّل التلاميذ الرحلة الميدانية على جميع الانشطة المدرسية الاخرى .						083
5 - لا يتعلّم التلاميذ كثيرا من الرحلة الميدانية .						084
6 - يمكن احراز نفس الفائدة سواء عن طريق الدراسة في الفصل او في الرحلة الميدانية						085
7 - يستمتع المدرس بالقيام برحلة ميدانية						086
8 - مدير المدرسة بصفة عامة يشجع الرحلات الميدانية في تدريس العلوم .						087
9 - مدير المدرسة يشجع الرحلات الميدانية القصيرة						088
10- الموجّه يشجع جميع الانشطة المدرسية						089
11- يتفق الموجهون بصفة عامة على ان الرحلة الميدانية وسيلة مفيدة في تدريس العلوم.						090
12- يتفق المسئولون في وزارة المعارف وادارات التعليم على أن الرحلة الميدانية وسيلة مفيدة في تدريس العلوم .						091

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الجـزء الخامـس :

هناك عدد من الطرق المستخدمة فى تدريس العلوم ، المرجو معرفة عدد مرات استخدامك الفعلى لبعض الطرق المذكورة أدناه (الجهة اليسرى من الجدول) ثم معرفة عدد المرات التى يجب استخدامها لهذه الطرق (الجهة اليمنى من الجدول).

تعليمات : فضلا ضع علامة (✓) فى المكان المناسب . رجاء التأكد من اجابة الجهة اليسرى من الجدول أولا ثم الجهة اليمنى .

Comp. Code	طـرق التـدريس	ماهو مستخدم بالفعل						ما يجب استخدامه					
		لم يستخدم اطلاقا	مرة كل فصل دراسى	مرة كل شهر	مرة كل ٢-٣ مرة كل اسبوع	مرة كل اسبوع	مرة كل يوم	لم يستعمل اطلاقا	مرة كل فصل دراسى	مرة كل شهر	مرة كل ٢-٣ مرة كل اسبوع	مرة كل اسبوع	مرة كل يوم
096	محاضـــــرة												
097	محاضر زائر من خارج المدرسة												
098	مناقشـــة جماعيـــة												
099	تقسيم الفصل الى مجموعـات												
100	عروض عملية يقوم بها المدرس												
101	تجارب معملية يقوم بها التلاميذ												
102	عـرض افـلام علميـة												
103	عـرض شـرائح ملونـة												
104	رحـلات ميدانيـة												
105	عـرض مجسمـات												
106	عـرض صـور												
107	اجـراء اختبـارات												
108	مراجعـة اختبـارات												
109	خلاف ما ذكر :												

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الجـــزء الســـادس :

تعليمات : فضلا حدد اجاباتك على الاسئلة التالية بوضع علامة (√) فى المربع المقابل للعبارة المناسبة .

الرقـــم		لا	نعـــم	لا أدرى	Comp. Code
1	وزارة المعـــارف :				
	a - ترغب أن على كل مدرسة القيـام برحلة ميدانية مرتين على الأقل فى السنة				120
	b - تقر على استخدام الرحلات الميدانية لكل المواد الدراسية .				121
	c - خصصت ميزانية لأنشطة الرحلات الميدانيـــــة				122
	d - ترغب أن التلاميذ المتفوقين فقط هم الذيـــن يذهبون فى الرحلة الميدانية .				123

2	أهداف وزارة المعارف للرحلات الميدانية هى :				
	a - تعليم التلاميذ عن البيئة المحيطة بهـــــم				124
	b - تمكين التلاميذ من ممارسة أنشطة أخرى غير التى يقومون بها فى الفصل مثل الالعاب الرياضية - - الخ .				125
	c - تمكين التلاميذ والمدرسين من أخذ يوم اجـــازة من العمل المدرسى .				126
	d - مكافئة الطلبة المتفوقين .				127
	e - أن يرى التلاميذ ويمارسوا أمثلة حية لمـــــا يدرسونه فى المدرسة .				128
	f - تعليم التلاميذ السلوك الاجتماعى والعمل الجماعى				129
	g - غير ذلك (فضلا أذكر) -				130

مع جزيل الشكر والتقدير ،

APPENDIX E

THE ENGLISH VERSION OF THE QUESTIONNAIRE CONCERNING THE UTILIZATION OF FIELD TRIPS IN TEACHING SCIENCE IN THE BOYS' INTERMEDIATE SCHOOLS IN SAUDI ARABIA

LETTER TO ACCOMPANY THE EDUCATORS' QUESTIONNAIRE

Dear Educator:

I am interested in studying the use of field trip activity in teaching science in the intermediate boys' school in Saudi Arabia. To obtain information about the current practices in the use of field trips, I have developed the attached questionnaire. I would appreciate your explicit and frank responses. It would be most appreciated if you would answer and return this questionnaire on the same day that you receive it.

Your responses will be kept in the strictest confidence. I would welcome any comments or suggestions you may have in regard to this research project. A summary of the survey results will be provided to you if you request it.

This research cannot be completed unless your responses are a part of the analysis. Thank you for your prompt response to this questionnaire and your help with my research project.

Sincerely,

The Researcher

Please make sure that you read and understand all instructions before completing each section.

Code No.

PART I

Instructions: Place a check mark (√) next to the answer that best describes your response to each statement.

(5) (6) Experience

1. My current position and years of experience in this position are:

Position	New (1st year)	2-3 Years	4-7 Years	More Than 7 Years
Science teacher	___	___	___	___
School principal	___	___	___	___
Supervisor	___	___	___	___
Ministry (or educational district) official	___	___	___	___

(7)

2. Nationality:

____ Saudi
____ Non-Saudi

(8)

3. Qualifications:

Degree	Major	Date
Intermediate college diploma		
Bachelor's		
Master's		
Doctorate		
Other (specify)		

PART II

Please write a few sentences in response to each of the following questions.

(9)

1. What comes to your mind when you think of field trip in teaching science? (The definition of field trip.)

(10) 2. Give some examples of field trips.

(11) 3. What are the goals of using field trips at the intermediate-school level in your opinion?

(12) 4. What are the official policy objectives of using field trips in the intermediate schools?

(13) 5. What are the goals and objectives for teaching science in the intermediate boys' schools?

(14) 6. What do you see as the relationship between teaching science and the use of field trips?

(15) 7. What do you think is achieved by using field trips in teaching science at the intermediate-school level?

(16) 8. Describe what you consider a good field trip for teaching science in the intermediate schools.

(17) 9. What must a teacher do to conduct an effective field trip?

(18) 10. What must a student do to benefit from a field trip?

(19) 11. **Give several examples of what you consider good field trips for intermediate boys, how long they should be, and how many students should engage in such trips.**

Example	Suggested Time for Trip	No. of Students

(20) 12. How often should a teacher take a class on a field trip?

(21) 13. List some of the common problems regarding the use of field trips.

(22) 14. What recommendations do you have for improving the use of field trips?

PART III

Instructions: Please put a check mark (✓) in the column that best describes your response.

Note:
SA = Strongly Agree
A = Agree
U = Undecided
D = Disagree
SD = Strongly Disagree

		SA	A	U	D	SD
First	A field trip is:					
(23)	1. primarily for fun.					
(24)	2. primarily for instructional purposes.					
(25)	3. a very useful school activity.					
(26)	4. a very useful tool in teaching science.					
(27)	5. a simple and easy activity to do.					
(28)	6. a very risk activity and requires a lot of responsibility on the part of the teacher.					
(29)	7. a waste of time.					
	8. other (please state)					
Second	Field trips:					
(30)	1. help retain what has been learned.					
(31)	2. lead to more appreciation of nature.					
(32)	3. assist students with making vocational choices.					
(33)	4. supplement teachers' information.					
(34)	5. would be a change from what is usually done in class.					
	6. other (please state)					
Third	Field trip activities, in general, address the following objectives:					
(35)	1. provide students with an understanding of the environment in which they live.					
(36)	2. provide students with first-hand experience.					
(37)	3. allow teachers and students to have a day off from school.					
(38)	4. strengthen students' knowledge of cultural issues.					
(39)	5. provide awareness of economic issues.					
(40)	6. provide awareness of social problems.					
(41)	7. motivate students for self-directed learning.					
(42)	8. develop students' ability to synthesize knowledge from a variety of sources.					

		SA	A	U	D	SD
(43)	9. allow students to practice other activities that they cannot practice in class, e.g., sports, social interaction, etc.					
(44)	10. help students identify their own personal goals and develop means of achieving them.					
(45)	11. help students learn more about resources in their community.					
Fourth	A field trip activity in science is designed to:					
(46)	1. aid students in the development of positive attitudes toward science.					
(47)	2. teach students methods of inquiry learning.					
(48)	3. teach students methods of scientific research.					
(49)	4. teach students about problem-solving strategies.					
(50)	5. develop students' skills in the processes of science.					
(51)	6. provide opportunities for students to design experiments outside classrooms.					
Fifth	For a successful field trip a teacher should:					
(52)	1. do preplanning for the field trip.					
(53)	2. discuss the purpose of the field trip with his students.					
(54)	3. visit the site before the trip.					
(55)	4. get permission from the site they are going to visit.					
(56)	5. discuss the field trip with the school principal to get his permission.					
(57)	6. walk around with students during the field trip.					
(58)	7. give students an opportunity to ask questions in the field.					
(59)	8. try to answer students' questions or introduce them to somebody in the field who can do so.					
(60)	9. show the relationships between what students see in the field and what they study in school.					
(61)	10. ask the students to write a follow-up report about the trip.					
	11. other (please state)					
Sixth	For a successful field trip, the school principal should:					
(62)	1. get permission from the Board of Education for the trip.					
(63)	2. actively participate in the field trip with the teacher and students.					

		SA	A	U	D	SD
(64)	3. compliment the teacher for conducting the field trip.					
	4. other (please state)					
Seventh	For a successful field trip the supervisor should:					
(65)	1. actively participate in the field trip.					
(66)	2. discuss the procedures of the field trip with the teacher.					
	3. other (please state)					
	PART IV					
(67)	1. One of the purposes of teaching science in the intermediate school is to introduce students to their environment.					
(68)	2. Most of the science courses at the intermediate level require outdoor activities.					
(69)	3. Students learn more by studying things in their natural setting.					
(70)	4. Students prefer field trip activities over all other school activities.					
(71)	5. Students do not learn much in the field trip activity.					
(72)	6. Students can get just as much benefit from classroom work.					
(73)	7. Teachers enjoy conducting field trips.					
(74)	8. Principals generally encourage science field trips.					
(75)	9. Principals encourage short science field trips.					
(76)	10. Supervisors encourage all school activities.					
(77)	11. Supervisors generally agree that a field trip is a useful tool in teaching science.					
(78)	12. Ministry officials agree that a field trip is a useful tool in teaching science.					

PART V

Instructions: A variety of teaching strategies are used to teach science. I would like to know how often you have used various strategies if you are or have been a teacher (left side of the chart below). Furthermore, I would like to know how often you feel various science teaching strategies should be used (right side of the chart below). Place a check mark (✓) in the appropriate columns below. Be sure to check both right- and left-hand columns.

	How Often You Do Use							How Often Should Be Used						
	Not at All	Once a Semester	Once a Month	2-3 Times a Week	Once a Week	Every Day	Teaching Strategy	Every Day	Once a Week	2-3 Times a Week	Once a Month	Once a Semester	Not at All	
(79)	___	___	___	___	___	___	Lecture	___	___	___	___	___	___	(92)
(80)	___	___	___	___	___	___	Guest speakers	___	___	___	___	___	___	(93)
(81)	___	___	___	___	___	___	Group discussion	___	___	___	___	___	___	(94)
(82)	___	___	___	___	___	___	Small-group activity	___	___	___	___	___	___	(95)
(83)	___	___	___	___	___	___	Demonstration	___	___	___	___	___	___	(96)
(84)	___	___	___	___	___	___	Students perform a laboratory experiment	___	___	___	___	___	___	(97)
(85)	___	___	___	___	___	___	Showing films	___	___	___	___	___	___	(98)
(86)	___	___	___	___	___	___	Showing colored slides	___	___	___	___	___	___	(99)
(87)	___	___	___	___	___	___	Field trip	___	___	___	___	___	___	(100)
(88)	___	___	___	___	___	___	Showing models	___	___	___	___	___	___	(101)
(89)	___	___	___	___	___	___	Showing pictures	___	___	___	___	___	___	(102)
(90)	___	___	___	___	___	___	Testing	___	___	___	___	___	___	(103)
(91)	___	___	___	___	___	___	Reviewing tests	___	___	___	___	___	___	(104)
	___	___	___	___	___	___	Others (specify)_____ _____	___	___	___	___	___	___	

PART VI

Instructions: **Please indicate your awareness of the following statements by putting a check mark (✓) in the column that best describes your response.**

		No	Yes	Don't Know
	1. The Ministry of Education:			
(105)	a. regulates that field trip activities must be conducted at least twice a year for every school.			
(106)	b. approves of the use of field trip activity for every subject in the school.			
(107)	c. allocates budget for field trip activities.			
(108)	d. regulates that only high-achieving students go on a field trip.			
	2. The policy objectives of field trips are:			
(109)	a. to teach students about their environment.			
(110)	b. for students to practice other activities than what they do in school, e.g., sports, etc.			
(111)	c. for students and teachers to have a day off from school.			
(112)	d. to reward the high-achieving students.			
(113)	e. for students to see and practice a real example of what they study in school.			
(114)	f. for students to learn about social interaction and group work.			
	g. other (please state)			

THANK YOU FOR YOUR COOPERATION IN COMPLETING THIS QUESTIONNAIRE!

APPENDIX F

LETTERS OF PERMISSION FOR DATA COLLECTION

بسم الله الرحمن الرحيم

KINGDOM OF SAUDI ARABIA
Ministry of Higher Education
KING ABDULAZIZ UNIVERSITY
College of Education
MADINAH MUNAWWARAH

المملكة العربية السعودية
وزارة التعليم العالي
جامعة الملك عبد العزيز
كلية التربية بالمدينة المنورة

Ref. الرقم ٣٧٧/١/٥ ع/ ٤٨/٩٠٢
Date التاريخ ٢٠/١/١٤٠٥ هـ

سعادة/ وكيل وزارة المعارف المساعد لشئون التعليم العام بالرياض .. المحترم،،
السلام عليكم ورحمة الله وبركاته ،،

أحيط سعادتكم علما بأن الأستاذ/ عبد الفتاح رضا بخرجي المعيد بكلية التربية / فرع جامعة الملك عبد العزيز بالمدينة المنورة والمبتعث حاليا للولايات المتحدة الأمريكية للحصول على درجتي الماجستير والدكتوراه يقوم الآن باعداد البحث الخاص برسالته للدكتوراه في مجال النشاط المدرسي وهي بعنوان : " الاستفادة من الرحلات الميدانية في تدريس العلوم بالمرحلة المتوسطة " وهو بصدد جمع المعلومات من قبل المسئولين عن النشاط المدرسي في وزارة المعارف لانهاء هذا البحث .

عليه نأمل التفضل من سعادتكم بتيسير مهمته ومساعدته في اعطاءه البيانات المطلوبة والخاصة ببحثه للدكتوراه .

شاكرين لسعادتكم حسن تعاونكم معنا ،،
والسلام عليكم ورحمة الله وبركاته ،،

عميد كلية التربية بالمدينة المنورة
د. عمر بن حسن عثمان فلاتة

//حح

بسم الله الرحمن الرحيم

KINGDOM OF SAUDI ARABIA
Ministry of Higher Education
KING ABDULAZIZ UNIVERSITY
College of Education
MADINAH MUNAWWARAH

المملكة العربية السعودية
وزارة التعليم العالي
جامعة الملك عبد العزيز
كلية التربية بالمدينة المنورة

Ref
Date

الرقم ١٤٠٥/١١/٥٠٠٨٨٠
التاريخ ١٤٠٥/١١/١٤هـ

حفظه/ مدير ادارة التعليم بالمدينة المنورة .. المؤقر..
السلام عليكم ورحمة الله وبركاته ..

أحيط حفظكم علما بأن الأستاذ/ عبدالفتاح رضا بخرجي المعيد بكلية التربية بالمدينة المنورة والمبتعث حاليا للولايات المتحدة الأمريكية للحصول على درجة الدكتوراه في طرق تدريس العلوم بعنوان (الاستفادة من الرحلات الميدانية في تدريس العلوم بالمرحلة المتوسطة) متواجد حاليا بالمملكة للقيام بعمل بحث ميداني على شكل استبيان للمادة/ مدرس العلوم بالمدارس المتوسطة التابعة لادارتكم الموقرة وذلك تمهيدا لعودته للولايات المتحدة للانتهاء من رسالته للدكتوراه.

وانطلاقا من مبدأ التعاون القائم بين كلية التربية بالمدينة المنورة وادارتكم الموقرة.

نأمل التفضل من حفظكم بتسهيل مهمة سيادته نحو المرور على المدارس المتوسطة لاستيفاء الاستبيان الخاص برسالته من مدرس العلوم بتلك المدارس.

شاكرين لحفظكم حسن تعاونكم معنا..
والسلام عليكم ورحمة الله وبركاته..

عميد كلية التربية بالمدينة المنورة

د. عمر بن حسن عثمان فلاتة

//ص

ص.ب ٣٤٤ المدينة المنورة ... تلفون ٨٢٥٢٣٨٤ / ٨٢٥٢٣٨٥ / ٨٢٥٢٣٨٦ / ٨٢٥٢٣٨٧ / ٨٢٥٢٣٨٨ ... تلكس عربي ٤٠٠٦٥٣ حرب
P. O. Box 344 Madinah Munawwarah Phones: 8252384 - 8252385 - 8252386 - 8252387 - 8252388 Telex: 40023 KAUMED SJ

بسم الله الرحمن الرحيم

المملكة العربية السعودية
وزارة المعارف
منطقة المدينة المنورة التعليمية
التوجيه التربوي

الرقم : ٤٧/٥/٢/٢٧
التاريخ :
المشفوعات :

تعميم لجميع المدارس المتوسطة داخل المدينة

المكرم مدير .....

السلام عليكم ورحمة الله وبركاته ، وبعد :

نظرا لان الاستاذ / عبد الفتاح رضا بخرجي المعيد بكلية التربية بالمدينة المنورة و المبتعث حاليا للولايات المتحدة الامريكية للحصول على درجة الدكتوراه في طرق تدريس العلوم بعنوان الاستفادة من الرحلات الميدانية في تدريس العلوم بالمرحلة المتوسطة متواجد حاليا بالمملكة للقيام بعمل بحث ميداني على شكل استبيان لمدرسي العلوم بالمدارس المتوسطة . .

لذا نأمل تسهيل مهمته في اعداء الاستبيان لمدرسي العلوم بمدرستكم لاستيفائه في أي وقت سواء في الفسحة الكبيرة أو خارج أوقات الدوام الرسمي و اعادته للمعهد . .

ولكم تحياتي ,,,,,,

١٧/٥ سم *

مدير التعليم بالمدينة المنورة
حسين مصطفى الجواوي
١٧/٥

APPENDIX G

SCORING GUIDE USED FOR TABULATING AND SCORING RESPONSES TO OPEN-ENDED ITEMS IN THE QUESTIONNAIRE AND INTERVIEWS



Part I of Questionnaire

Item #	Scoring	Response Choices
(5)	Position:	
	1	Science Teacher
	2	School Principal
	3	Supervisor
	4	Ministry Official
	0	No Response
(6)	Experience:	
	1	New 1st Year
	2	2-3 years
	3	4-7 years
	4	More than 7 years
	0	No Response
(7)	Nationality:	
	1	Saudi
	2	Non-Saudi
	0	No Response
(8)	Qualifications:	
	1	Intermediate College Diploma
	2	B.S.
	3	B.S. & Ed.
	4	M.S. or M.H.
	5	Ph.D.
	6	Others
	0	No Response
(9)	Concept or Definition of Field Trips (F.T.)	
	4	Instructional (Process or Products or both)
	5	Multiple (Instruction and Social)
	3	Not Instructional (Social/fun) non-Science outcomes
	2	Neither
	0	No Response

(10) Examples of F.T.:

4	Instructional Examples
5	Instructional and Social
3	Non-Instructional
0	No Response, No Examples

(11) Personal Goals and Objectives:

2	Instructional (Application, Observation, Process or Products)
3	Instructional and Social
4	Instructional and Attitude Toward Learning
5	Instructional and Attitude and Social
1	Attitude Toward Learning
0	No Response

(12) Official Policy Objectives of F.T.:

Same as above

(13) Goals and Objectives of Science Program:

4	Educational Goals (Process or Products)
3	Spiritual Goals
5	3 + 4
2	Neither
0	No Response

(14) Relations Between Science and F.T.:

3	Positive Relations (Application)
1	Negative Relations
0	No Response

(15) Benefits of F.T.:

1	Acquisition of Academic Knowledge on Science.
2	Acquisition of Practical Knowledge and Skills
5	No Response
3	Acquisition of both academic and practical knowledge
4	Neither or not applicable responses

(16) Principles of Good F.T.:

6	Related to the on-going school curriculum and has many educational benefits (process or Product)
7	Preplanned (goals, objectives, visit to the site, etc.)
4	Require a follow-up report or after-trip class activities
1	Non-Instructional (unrelated to school curriculum)
8	6 + 7
5	6 + 4 + 4
3	6 + 4
2	7 + 4
0	No Response

(17) Teacher Role In a Good F.T.:

3	Pre-Planning, Pre-visit to the site and get various permissions
2	Discuss the F.T. with principal, supervisor and students and ask for a follow-up report
1	Walk with the students in the field to explain, discuss, answer questions, ask for a follow-up report
6	1 + 2
5	1 + 3
4	2 + 3
7	1 + 2 + 3
0	No Response

(18) Student's Role on a Good F.T.:

5	Actively participate in the trip and ask questions or discussion
4	Look for evidence and write them down (and behavior principles)
3	Write a follow-up report
2	Understands the goals of the F.T.
1	Behavior Principles
6	4 + 5
7	3 + 5
8	3 + 4
9	3 + 4 + 5
0	No Response

(19) Examples of a Good F.T.:

5	A visit to a factory
4	A visit to a government agency (i.e., school, hospital, or establishment)
3	A visit to a farm or desert
2	A visit to a factory or desert
1	A visit to another school or training school
6	4 + 5
7	3 + 5
8	3 + 4
9	3 + 4 + 5
0	No Response

(20) Number of Field Trips:

1	1 - 3
2	4-6 trips
3	More than 6
0	No Response

(21) Problems of F.T.:

4	Managerial Concerns, including Teachers Principals, Students and Parents
3	Time and curriculum problems
2	Cost Constraints, including transportation
1	Resource Site Scarcity
5	2 + 3
6	1 + 2 + 4
7	1 + 3 + 4
8	2 + 3 + 4
9	1 + 2 + 3 + 4
0	No Response

(22) Solving the F.T. Problems:

4	Give more time for school activities especially F.T.
3	Provide budget and transportation
2	Explain the benefits of F.T. to educators including parents
1	Limit the students number who engage in the F.T.
5	4 + 2
6	3 + 4
7	1 + 2 + 3
8	2 + 3 + 4
0	No Response

APPENDIX H

TABLE 24: Chi Square Test of Responses to Items 30-35

Item #	Statement	Group	Strongly Agree Freq	%	Agree Freq	%	Undecided Freq	%	Disagree Freq	%	Strongly Disagree Freq	%	Total Agreement Freq	%	Total Disagreement Freq	%
30	Retain what was learned	S.T.	51	69.9	19	26.0	2	2.7	1	1.4	0	0.0	147	96.1	2	1.3
		S.P.	18	78.3	4	17.4	1	4.3	0	0.0	0	0.0				
		Su.	24	60.0	15	37.5	0	0.0	0	0.0	1	2.5				
		M.O.	13	76.5	3	17.6	1	5.9	0	0.0	0	0.0				
31	Appreciation of life	S.T.	39	53.4	29	39.7	3	4.1	2	2.7	0	0.0	146	95.4	4	2.6
		S.P.	10	43.5	13	56.5	0	0.0	0	0.0	0	0.0				
		Su.	17	42.5	22	56.4	0	0.0	0	0.0	1	2.6				
		M.O.	11	64.7	5	29.4	0	0.0	1	5.9	0	0.0				
32	Vocational Choices	S.T.	23	31.9	33	45.8	12	16.7	4	5.6	0	0.0	115	76.2	15	9.9
		S.P.	5	21.7	12	52.2	4	17.4	1	4.3	1	4.3				
		Su.	7	17.9	21	53.8	4	10.3	6	15.4	1	2.6				
		M.O.	10	58.8	4	23.5	1	5.9	2	11.8	0	0.0				
33	Supplement teacher's informa.	S.T.	21	29.2	44	61.1	4	5.6	1	1.4	2	2.8	136	90.1	8	5.3
		S.P.	7	30.4	16	69.6	0	0.0	0	0.0	0	0.0				
		Su.	7	17.9	26	66.7	1	2.6	4	10.3	1	2.6				
		M.O.	9	52.9	6	35.3	2	11.8	0	0.0	0	0.0				
34	Change from regular classes	S.T.	27	38.0	40	56.3	2	2.8	1	1.4	1	1.4	145	96.7	3	2.0
		S.P.	13	56.5	10	43.5	0	0.0	0	0.0	0	0.0				
		Su.	14	35.0	25	62.5	0	0.0	0	0.0	1	2.5				
		M.O.	11	68.8	5	31.2	0	0.0	0	0.0	0	0.0				
35	Understanding of the environ.	S.T.	52	72.2	19	26.4	1	1.4	0	0.0	1	1.4	150	98.0	2	1.3
		S.P.	18	78.3	5	21.7	0	0.0	0	0.0	0	0.0				
		Su.	26	65.0	13	32.5	0	0.0	1	2.5	0	0.0				
		M.O.	10	58.8	7	41.2	0	0.0	0	0.0	0	0.0				

TABLE 25: Chi Square Test of Responses to Items 36-41

Item #	State-ment	Group	Strongly Agree Freq.	%	Agree Freq.	%	Undecided Freq.	%	Disagree Freq.	%	Strongly Disagree Freq.	%	Total Agreement Freq.	%	Total Disagreement Freq.	%
36	First-hand ex-perience	S.T.	44	61.1	26	36.1	1	1.4	1	1.4	0	0.0	146	96.1	2	1.3
		S.P.	12	52.2	11	47.8	0	0.0	0	0.0	0	0.0				
		Su.	23	57.5	14	35.0	2	5.0	1	2.5	0	0.0				
		M.O.	10	58.8	6	35.3	1	5.9	0	0.0	0	0.0				
37	A day off from school	S.T.	5	7.2	7	10.1	7	10.1	31	44.9	19	27.5	20	13.7	114	78.1
		S.P.	2	8.7	3	13.0	0	0.0	12	52.2	6	26.1				
		Su.	0	0.0	1	2.6	3	7.7	15	38.5	20	51.3				
		M.O.	1	6.7	1	6.7	2	13.3	7	46.7	4	26.7				
38	Cultural issues	S.T.	19	26.4	45	62.5	7	9.7	1	1.4	0	0.0	138	91.4	4	.6
		S.P.	5	21.7	16	69.6	1	4.3	0	0.0	1	4.3				
		Su.	10	25.6	27	69.2	1	2.6	1	2.6	0	0.0				
		M.O.	8	47.1	8	47.1	0	0.0	1	5.9	0	0.0				
39	Economic issues	S.T.	14	19.7	41	57.7	11	15.5	5	7.0	0	0.0	125	83.9	10	6.7
		S.P.	5	21.7	16	69.6	1	4.3	1	4.3	0	0.0				
		Su.	11	28.2	25	64.1	1	2.6	1	2.6	1	2.6				
		M.O.	6	37.5	7	43.8	1	6.3	2	12.5	0	0.0				
40	Social Problems	S.T.	13	18.6	32	45.7	16	22.9	8	11.4	1	1.4	104	71.2	14	9.6
		S.P.	2	9.5	15	71.4	3	14.3	1	4.8	0	0.0				
		Su.	4	10.5	22	57.9	8	21.1	3	7.9	1	2.6				
		M.O.	6	35.3	10	58.8	1	5.9	0	0.0	0	0.0				
41	Self-directed learning	S.T.	19	27.5	40	58.0	10	14.5	3	4.1	1	1.7	134	87.6	4	2.6
		S.P.	9	40.9	12	54.5	1	4.5	1	1.7	0	0.0				
		Su.	6	15.0	31	77.5	3	7.5	0	0.0	0	0.0				
		M.O.	9	52.9	8	47.1	0	0.0	0	0.0	0	0.0				

TABLE 26: Chi Square Test of Responses to Items #42-47

Item #	State-ment	Group	Strongly Agree Freq	%	Agree Freq	%	Undecided Freq	%	Disagree Freq	%	Strongly Disagree Freq	%	Total Agreement Freq	%	Total Agreement Freq	%
42	Synthes-ize Know-ledge	S.T.	26	35.6	45	61.6	2	2.7	0	0.0	0	0.0	150	98.0	1	0.7
		S.P.	11	47.8	11	47.8	0	0.0	1	4.4	0	0.0				
		Su.	25	62.5	15	37.5	0	0.0	0	0.0	0	0.0				
		M.O.	11	64.7	6	35.3	0	0.0	0	0.0	0	0.0				
43	Other Activi-ties	S.T.	22	31.4	33	47.1	2	2.9	12	17.1	1	1.4	115	78.8	25	17.1
		S.P.	8	36.4	10	45.5	1	4.5	2	9.1	1	4.5				
		Su.	6	15.8	20	52.6	3	7.9	6	15.8	3	7.9				
		M.O.	9	56.3	7	43.7	0	0.0	0	0.0	0	0.0				
44	Personal Goals	S.T.	13	18.3	36	50.7	19	26.8	3	4.2	0	0.0	112	77.2	5	3.4
		S.P.	4	19.0	14	66.7	2	9.5	0	0.0	1	4.8				
		Su.	4	10.8	28	75.7	4	10.8	1	2.7	0	0.0				
		M.O.	7	43.8	6	37.5	3	18.8	0	0.0	0	0.0				
45	Resources in the community	S.T.	34	46.6	36	49.3	3	4.1	0	0.0	0	0.0	145	94.8	2	1.3
		S.P.	12	54.5	9	40.9	1	4.5	0	0.0	1	4.3				
		Su.	18	46.2	20	51.3	1	2.6	1	2.5	0	0.0				
		M.O.	11	64.7	5	29.4	1	5.9	0	0.0	0	0.0				
46	Positive attitude toward science	S.T.	39	56.5	24	34.8	5	7.2	1	1.4	0	0.0	138	95.8	1	0.7
		S.P.	8	38.1	13	61.9	0	0.0	0	0.0	0	0.0				
		Su.	17	44.7	21	55.3	0	0.0	0	0.0	0	0.0				
		M.O.	10	62.5	6	37.5	0	0.0	0	0.0	0	0.0				
47	Inquiry Learning	S.T.	33	46.5	31	43.7	5	7.0	2	2.8	0	0.0	133	91.1	3	2.1
		S.P.	12	57.1	8	38.1	0	0.0	0	0.0	1	4.8				
		Su.	17	43.6	18	46.2	4	10.3	0	0.0	0	0.0				
		M.O.	7	46.7	7	46.7	1	6.7	0	0.0	0	0.0				

TABLE 27 : Chi Square Test of Items #48-51

Item #	State-ment	Group	Strongly Agree Freq	%	Agree Freq	%	Undecided Freq	%	Disagree Freq	%	Strongly Disagree Freq	%	Total Agreement Freq	%	Total Disagreement Freq	%
48	Scienti-fic research	S.T.	32	45.1	32	45.1	4	5.6	2	2.8	1	1.4	136	92.5	5	3.4
		S.P.	9	42.9	12	57.1	0	0.0	0	0.0	0	0.0				
		Su.	14	35.9	23	59.0	0	0.0	2	5.1	0	0.0				
		M.O.	9	56.3	5	31.3	2	12.5	0	0.0	0	0.0				
49	Problem Solving	S.T.	15	21.1	39	54.9	14	19.7	2	2.8	1	1.4	121	82.3	7	4.8
		S.P.	7	33.3	13	61.9	1	4.8	0	0.0	0	0.0				
		Su.	9	23.1	23	59.0	3	7.7	4	10.3	0	0.0				
		M.O.	6	37.5	9	56.3	1	6.3	0	0.0	0	0.0				
50	Process of Science	S.T.	21	29.6	36	50.7	13	18.3	1	1.4	0	0.0	130	87.2	3	2.0
		S.P.	7	31.8	15	68.2	0	0.0	0	0.0	0	0.0				
		Su.	12	30.0	23	70.0	3	7.5	2	5.0	0	0.0				
		M.O.	8	50.0	8	50.0	0	0.0	0	0.0	0	0.0				
51	Design experi-ments	S.T.	24	33.3	37	51.4	9	12.5	2	2.8	0	0.0	131	87.9	4	2.7
		S.P.	9	40.9	11	50.1	1	4.5	1	4.5	0	0.0				
		Su.	5	12.8	31	79.5	2	5.1	1	2.6	0	0.0				
		M.O.	7	43.8	7	43.8	2	12.5	0	0.0	0	0.0				

BIBLIOGRAPHY

Bibliography

Al-Anny, Abdul-Rauoff. "New Directions in Teaching Science". Third Edition. Dar-Aluloom for Publishing and Distribution, Riyadh, Saudi Arabia, 1982 (In Arabic).

Al-Ismaeel, Abd-Wahab. "Selected Social Studies Teaching Strategies in Saudi Arabian Secondary Schools. (Ph.D. Dissertation, University of Kansas, 1981).

Al-Jazeerah daily newspaper, No. 4451, 5/12/84.

Allen, Rodney F. "Environmental Field Trips: The Broader Context," The American Biology Teacher 37, 2 (Feb. 1975).

Al-Saif, Saleh A. "Recommended Guidelines for the Science Education Program in the Public Secondary Schools of Saudi Arabia." Ph.D. Dissertation, the University of Wyoming, December, 1981.

Babbie, Earl R. Survey Research Methods Belmont, Calif.: Wadsworth Printing Co., 1973.

Biggs, Alton L. "An Interdisciplinary Course in Big Bend National Park, Texas, The American Biology Teacher 44, 4 (April 1982).

Biswas, A. and J.C. Aggarwal. Encyclopedia Dictionary and Directory of Education (The Academic Publishers (India), Karol Bagh, New Delhi-5, July 1971).

Bolen, Virgil A. "Science Teaching Facilities and Practices in Oregon Public Elementary Schools," (Ed.D. Dissertation, University of Oregon, 1952).

Borg, Walter and Meredith Gall. "Sampling Techniques", Educational Research (New York: Longman, Inc., 1979).

Borgeson, F.C. "Excursions in School Life." in The Principal and His Community. (Washington, D.C.: Department of Elementary School Principals, National Education Association, 1932).

Brehm, Shirley A. "Investigation Afield." Science and Children, iv (September 1966).

_____. The Teacher's Handbook for Study Outside the Classroom (Columbus: Charles E. Merrill, 1969).

Bryan, C. "Pupil Rating of Secondary School Teachers," in Teacher's College Contributions to Education, No. 708 (New York: Teacher's College, Columbia University, 1937).

Bryan, H. Eloise. "Out of the Classroom into Life," in Aids to Teaching in the Elementary School (Washington, D.C.: NEA, 1934).

Butzow, John W. and Others, "Have You Been to the Shore Before?" A Marine Education Infusion Unit on Seashore and Aquarium Life, (1981).

Bye, Edgar C. "How to Conduct a Field Trip," How To Do It Series, No. 12 (Washington, D.C.: National Council for the Social Studies, 1967).

Cay, Donald F. Curriculum: Design for Learning (Indianapolis: The Bobbs-Merrill Co., Inc., 1966).

Chittenden, David. "Improving Informal Science Education in Museums," Redesigning Science and Technology Education, (NSTA Yearbook, 1984).

Coleman, Laurence V. "Aid From Museums in Elementary Teaching." Aids to Teaching in the Elementary School, (Washington, D.C.: NEA, 1934).

Conrad, Hallis M. "Some Practices Used by Selected Elementary Teachers," (M.A. Thesis, Ball State Teacher's College, 1953).

Cordier, Mary H. "Let's Take a Field Trip to the Woods," Science and Children (Sept. 1966).

Daniels, Dybil L. "A School Journey to the Beach." in Aids to Teaching in the Elementary School (Washington, D.C.: NEA, 1934).

Dibella, Robert L. and George E. Steele, "The Inquiry Process and Museum Field Trips," from an NCSS National Conference report (Washington, D.C.: National Institute of Education, November, 1981).

Duvall, Charles R. and Wayne J. Krepel, "School Board Policies Related to Field Trips." Education vol. 95, no. 4 (Summer 1975).

El-Dib, Fathy, "The Instructional Activities Used by Biology Teachers in Ten Selected Michigan High Schools and the Value Attached to Them by Students," (Ph.D. Dissertation, University of Michigan, 1961).

Elliot, Blanche. "Excursions in Appreciation in the Small Town School," in Aids to Teaching in the Elementary School (Washington, D.C.: NEA, 1934).

Fairbanks, Jonathan. "The Elastic Classroom," Journal of Environmental Education 11, 3 (Spring 1980).

Falk, John H. and John D. Balling, "The School Field Trip: Where You Go Makes the Difference," Science and Children (March 1980).

Good, Carter. The Dictionary of Education (N.Y.: McGraw-Hill Book Company, 1959), p. 291.

Gordon, Raymond L. "Styles and Objectives of Interviewing." Interviewing Strategy, Techniques and Tactics The Dorsey Press, 1980.

Heffernan, Helen. "They Grow Nine Feet Tall." Journal of Outdoor Education 1, 2 (Winter 1967).

High, James. Teaching Secondary School Social Studies, New York: John Wiley and Sons, Inc., 1962), p. 133.

Hoover, Kenneth H. and Paul M. Hollingsworth, "Teaching Outside the Classroom on Field Trips," A Handbook for Elementary School Teachers, (Boston: Allyn and Bacon, 1982).

Jarolimek, John. Social Studies Competency and Skills: Learning to Teach as an Intern. (N.Y.: Macmillan, 1977).

Johnson, Earl S. "Field Trips and the Development of Intellectual Skills," Social Education xx (March 1956).

Kingdom of Saudi Arabia, Ministry of Education, Center for Statistical Data and Educational Documentation, Educational Statistics in the Kingdom of Saudi Arabia, 15th issue, Riyadh, S.A., 1981/82.

Kingdom of Saudi Arabia, Ministry of Education, Center for Statistical Data and Educational Documentation, Summary Statistics on Education provided in Ministry of Education Schools (Preliminary figures). Riyadh, S.A., 1983/84.

_____, Center for Statistical Data and Educational Documentation, Statistical Agenda for the Ministry of Education Schools, vol. 4, Riyadh, Saudi Arabia, 1984.

Kingsley, Howard L. The Nature and Conditions of Learning (Englewood Cliffs, N.J.: Prentice-Hall, 1957).

Krepel, Wayne J. "Planning Makes the Difference," Clearing House 53 (February 1980).

Lee, Ernest W. and Christine F. Myers, "The Field Trip as Aesthetic Experience," Science Teacher 47, 4 (April 1980).

Lobeck, Armin K. "The Organization of Field Excursions." Aids to Teaching in the Elementary Schools (Washington, D.C.: NEA, 1934).

Martuza, V.R. Applying Norm-Referenced and Criterion-Referenced Measurement in Education. Boston: Allyn & Bacon, 1977, Chapters 16 and 17.

Medina Board of Education. Educational Guidance, "Statistical Report of Medina Schools and Classrooms," Medina, S.A., 1983/84.

Mewha, Alan P. "Making Use of the Community," Social Education xvi, 1 (Feb. 1952).

Ministry of Education. Educational Documentation, No. 24, 1983.

_____. Educational Policy in Saudi Arabia, Riyadh, S.A., 1970.

_____. Educational Statistics in Saudi Arabia, 14th Issue, 1980/1981.

_____. "Field Trip Objectives: A General Report from the School Activity Department in the Ministry of Education to all Educational Districts," Unpublished Report, Kingdom of Saudi Arabia, 1984-85.

Ministry of Education, The Department of School Activities. General Announcements to all Boards of Education, Riyadh, Saudi Arabia, 1984-85.

Morehead, Philip D. The New American Roget's College Thesaurus, A Signet Book, New American Library, Inc., New York, 1978.

Nash, Roderick. "Wilderness Education Principles and Practices," Journal of Environmental Education 11, 3 (Spring 1980).

National Society for the Study of Education. Rethinking Science Education, Fifty-Ninth Yearbook, (Chicago: The University of Chicago Press, 1960).

_____. Science Education in American High Schools, Forty-Sixth Yearbook (Chicago: The University of Chicago Press, 1947).

Omearah, E. and F. El-Dib. Teaching Science and Educational Practices (Dar, Al-Maareff, Egypt, 1977).

Pamsey, Grace F. "Preparation of Habitat Groups for Science and the Social Studies," in Aids to Teaching in the Elementary School (Washington, D.C.: NEA, 1934).

Penderedd, Norman C. "Field Trips--Vicariously?" Man/Society/Technology (Sept./Oct. 1975).

"Planning a Field Trip," Forecast for Home Economics (September 1975).

Price, R.H., "A Study of the Values of Field Trips," in Aids to Teaaching in the Elementary School (Washington, D.C.: NEA, 1934).

Richardson, M.W. and G.F. Kuder. "The Calculation of Test Reliability Coefficients Based on the Method of Rational Equivalence." Journal of Educational Psychology, 30 (1939).

Ritsema, Louise. "The Principal's Role in Supervising Field Trips," Science and Children (Sept. 1966).

Rumrill, Gene. "Academic Horizons in Wilderness," Journal of Environmental Education 11, 3 (Spring 1980).

Siegel, Signey. Nonparametric Statistics for the Behavioral Sciences (New York, Toronto, London: McGraw-Hill Book Company, 1956).

Smith, James R. "A Study of the Methods of Teaching Laboratory Biology in the High Schools of Delaware County," (M.A. Thesis, Ball State Teachers College, 1952).

Smith, Julian W. "A Decade of Progress in Outdoor Education," Journal of Outdoor Education 1, (Fall 1966).

Smith, Julian W., R.E. Carlson, G.W. Donaldson, and H.B. Masters, Outdoor Education (Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1963).

Stronck, David R. "The Comparative Effects of Different Museum Tours on Children's Attitudes and Learning," Journal of Research in Science Teaching, v. 20, no. 4, (1983).

Swenson, Leonard E. "The Schoolyard as a Center for Learning," Childhood Education 43 (Feb. 1967).

Thomas, D. and others. "Excursions and Field Trips" in Aids to Teaching in the Elementary School. (Washington, D.C.: National Education Association, 1934.

VanDeman, Barry A. "Developing Informal Learning in Science: Curriculum, Collaboration, and Curiosity," in Redesigning Science and Technology Education (NSTA Yearbook, 1984).

Walldroff, Bessie. "Supermarket Science," Science and Children (Sept. 1966).

Weaver, David A. "Excursions in a Metropolitan Center," in Aids to Teaching in the Elementary School (Washington, D.C.: NEA, 1934).

Williams, George. "Beyond the Classroom: Life Experiences in the Field," Clearing House 45, 2 (October 1970).

Wood, John H. "Nuffield Biology at Withypool, England," The American Biology Teacher 41, 2 (Feb. 1979).