

DOCUMENT RESUME

ED 396 747

IR 055 918

AUTHOR Wallis, Judith
 TITLE A Comparison of Two Methods of Teaching Library Information Skills to Fourth Graders.
 PUB DATE 96
 NOTE 79p.; Master's Research Project, Mercer University.
 PUB TYPE Dissertations/Theses - Masters Theses (042) -- Reports - Research/Technical (143) -- Tests/Evaluation Instruments (160)

EDRS PRICE MF01/PC04 Plus Postage.
 DESCRIPTORS Comparative Analysis; *Course Integrated Library Instruction; *Disadvantaged Youth; *Grade 4; Intermediate Grades; Learning Activities; *Library Skills; Skill Development; Social Studies; Socioeconomic Influences; *Student Attitudes; Student Motivation

ABSTRACT

The purpose of this study was to determine if there was a significant difference in low socioeconomic fourth graders' retention of library information skills who are taught these skills in isolation and those who are taught within the context of a Social Studies lesson. Two groups of fourth graders participated. Library information skills lessons were taught to the Control Group during three 30-minute Social Studies periods. Instruction was begun on aspects of pioneer and immigrant life, loosely based on the book "Meet Kirsten" by Connie Porter. Using sources from the library media center, students worked together to complete an activity worksheet. A library scavenger hunt was then assigned. As a final activity, students chose their own topic and completed a worksheet incorporating library information skills with research skills. The Experimental Group began the study with an introduction to pioneer and immigrant life, based on "Meet Kirsten." During the lesson, various reference sources and their appropriate use in finding information were discussed. From this point, the same procedure was followed as with the Control group. The Experimental Group appeared more attentive and enthusiastic about the lessons, whereas the Control Group appeared very bored and disinterested. Both groups enjoyed the scavenger hunt as well as the final research activity on a topic of their choice. The majority of the students felt that after the study, they knew how to find information for a report and could probably do so independently. Appendices include the pretest and posttests; library skills information and final activity worksheets; lesson plans; and worksheets for test analysis. (Contains 30 references.) (AEF)

 * Reproductions supplied by EDRS are the best that can be made *
 * from the original document. *

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION
CENTER (ERIC)

- This document has been reproduced as received from the person or organization originating it.
- Minor changes have been made to improve reproduction quality.
- Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

ED 396 747

A Comparison of Two Methods of Teaching Library Information Skills to Fourth Graders

by

Judith Wallis

A Research Project Report
School of Education
Mercer University, Atlanta

1996

"PERMISSION TO REPRODUCE THIS
MATERIAL HAS BEEN GRANTED BY

Judith C. Wallis

BEST COPY AVAILABLE

In presenting this research project report in fulfillment of the graduate degree requirements at Mercer University, I agree that Mercer University shall make it available for inspection and circulation in accordance with its regulations concerning materials of this type. I agree that permission to copy from this project report may be granted by the University when such copying is for scholarly purpose and does not involve potential financial gain. It is understood that any copying from this report which involves financial gain will not be allowed without written permission.

Judith C. Wallis

A Comparison of Two Methods of Teaching
Library Information Skills to Fourth Graders

by

Judith Wallis

ABSTRACT

PURPOSE

The purpose of this study was to determine if there was a significant difference in low socioeconomic fourth graders' retention of library information skills who are taught these skills in isolation and those who are taught within the context of a Social Studies lesson.

METHODOLOGY

Two groups of fourth graders participated in this study. A pretest on library information skills was given to both groups prior to beginning the study. Library information skills lessons were taught to the Control Group during three 30 minute Social Studies periods. After completing the worksheets, instruction was begun on aspects of pioneer and immigrant life, loosely based on the book Meet Kirsten by Connie Porter. This instruction took two Social Studies periods. Using sources from the library media center, students then worked together to complete an activity worksheet. A library scavenger hunt was then assigned. As a final activity, students chose their own topic and completed a worksheet incorporating library information skills with research skills. Following the completion of

the final activity, the post test was administered. Six weeks later a retention post test was given . The Experimental Group began the study with an introduction to aspects of pioneer and immigrant life, based loosely on the the book Meet Kirsten by Connie Porter. During the lesson various reference sources and their appropriate use in finding information were discussed. From this point, the same procedure was followed as with the Control Group.

Gain scores between the pre and post test, the pre and retention post test, and the post and retention post test were compared using a t test analysis at the .05 level for two-tailed tests. Researcher observation of students' search methods during the activities and their conversation while working was also considered.

RESULTS

The Control Group showed a mean gain score of 4.58 between the pre and post test, 4.83 between the pre and retention post test, and 0 between the post test and retention post test. A mean gain score of 4.84 was calculated for the Experimental Group between the pre and post test, 3.92 between the pre and retention post test, and 1.23 between the post and retention post test. The t test analysis found in all comparisons that there was no significant difference between the two groups. Therefore the null hypothesis was not rejected.

Through informal observations, the researcher noted that the Experimental Group seemed more attentive and enthusiastic about the lessons. The students asked what the activity was for the next day and made suggestions for future activities. After the study was completed, the Experimental Group wanted the researcher to continue the activities. The Control Group appeared very bored and disinterested especially when doing the worksheets. This group was slightly more interested when the lessons became hands-on and activity oriented.

Both groups enjoyed participating in the library scavenger hunt as well as the final research activity on a topic of their choice. The students were amazed by how many books were available in their library on their particular topic. Students were able to identify sources other than the computer catalog where information on their topic might be available. The majority of students in both groups felt that after the study they knew how to find information for a report and could probably do so independently.

TABLE OF CONTENTS

CHAPTER 1 - Introduction and Problem Statement

Introduction _____	1
Statement of Research Problem _____	2
Operational Definitions _____	3
Assumptions _____	4
Delimitations _____	4

CHAPTER 2 - Review of the Literature

Information Literacy _____	5
Definitions and Methods _____	7
Process Approach Method _____	11
DIE Method _____	13
Multi-Disciplinary Method _____	14
Integrated Approach _____	15
Pathfinder _____	16
Problem Solving Approach _____	16
Free Inquiry Method _____	18

CHAPTER 3 - Methodology

Overview _____	24
Hypothesis _____	24
Description of Sample _____	25
Instrumentation _____	27
Design _____	28
Procedures _____	30
Method of Data Analysis _____	31

CHAPTER 4 - Results and Conclusions

Purpose _____	32
Results _____	32
Conclusions _____	34
Summary of Findings _____	35
Limitations _____	38
Implications _____	39
Recommendations for Further Research _____	41
REFERENCES _____	43
APPENDICES _____	47
A Pretest _____	47
B Post test _____	50
C Post Test 2 _____	53
D Library Skills Information Worksheet _____	56
E Final Activity Worksheet _____	59
F Lesson Plans _____	62
G Worksheets for t test analysis _____	67

CHAPTER 1

INTRODUCTION AND PROBLEM STATEMENT

The amount of information available in the world today requires that students become information literate. Students must develop skills which allow them to access, interpret, evaluate, and use information for problem solving, critical thinking, and other information needs. Information must be skillfully and appropriately used. Teaching library information skills to students increases their awareness of the many aspects of information, thus encouraging the development of information literacy.

Much has been written about the teaching of library information skills to elementary school students. There appears to be a general consensus that teaching these skills within the curriculum is preferable to teaching these same skills in isolation. A review of the literature, however, revealed no specific research evidence to support either approach. The purpose of this research is to determine if there is a significant difference in students' understanding of library information skills when taught in isolation or when taught within the context of Social Studies lessons.

The concepts of library, reference, and research skills have been replaced by the broader term library information skills and has also been extended to include analyzing, interpreting, and evaluating information. Generally library information skills involve teaching students how to meet their information needs whether it is for a project, to solve a problem, or to satisfy their curiosity.

This instruction should be an important part of the educational program of the school. The literature does not always agree on a specific definition of library information skills. However, it is clear from the literature that these techniques are necessary tools for students to learn in order to acquire information to meet their specific needs.

STATEMENT OF RESEARCH PROBLEM

The following questions were investigated in this research:

Is there a significant difference in the application of library information skills by fourth grade students of low socioeconomic backgrounds who are taught these skills in isolation and those who are taught within the context of a Social Studies lesson?

Is there a significant difference in the retention of library information skills by fourth grade students of low socioeconomic backgrounds who are taught these skills in isolation and those who are taught within the context of a Social Studies lesson?

OPERATIONAL DEFINITIONS

The following definitions apply to terms used in this research project:

LIBRARY INFORMATION SKILLS - Skills concerned with understanding the need for information and with identifying the range of available sources of information and with knowing how to gain access to the source (Hawkins, 1987, p. 6). For purposes of this study the reference sources are encyclopedias, dictionaries, atlases, and the library catalog.

LOW SOCIO ECONOMIC - based on the percentage of student population on free or reduced lunch

SKILLS TAUGHT IN ISOLATION - reference and information skills taught separately using worksheets, not within the context of an academic subject

SKILLS TAUGHT IN CONTEXT - reference and information skills taught within an academic subject such as Social Studies

PRE TEST - a test consisting of 20 fill in the blank questions given to assess prior knowledge by students of library information skills

POST TEST - a test consisting of 20 fill in the blank questions given to test students recall of library information skills.

RETENTION POST TEST- a test consisting of 20 fill in the blank questions given after six weeks to test student retention of library information skills

LMS - Library Media Specialist

INFORMATION LITERACY - encompasses those skills that are employed as research skills, library skills, reference, and study skills

ASSUMPTIONS

The following assumptions were made in this research project:

1. All subjects have similar socioeconomic backgrounds based on the attendance area of the school and the number of students receiving free or reduced-price lunches.
2. The pre and post tests are valid measures of students' understanding of library information skills. This assumption is based on the opinion of the teachers involved in the study and the elementary library media specialist.
3. The students' attendance would be stable.
4. The groups were considered equivalent in ability based on teacher judgment.

DELIMITATIONS

The following delimitations were made in this research project:

1. The sample was limited to 13 students in one group and 12 students in another group from two fourth-grade classrooms.
2. The majority of students in the sample group spoke English as a second language.
3. The sample was taken from a school with a highly transient population.
4. Students were taught by the unit by the researcher in the library media center instead of their classroom.
5. The sample groups were chosen by the classroom teachers.
6. The researcher was unfamiliar to the students.

CHAPTER 2
REVIEW OF THE LITERATURE
INFORMATION LITERACY

Living in an information society necessitates dealing with a barrage of information on a daily basis. Success and survival are dependent on the ability to locate, analyze, and use information skillfully and appropriately (Hubbard, 1987). Information becomes available so rapidly that changes must be made in the way that students are taught to access information (California Media, 1994). Information literacy is vital to enable students to become functioning, successful members of society.

Information Power: Guidelines for School Library Media Programs (1988, p. 29) states that "The mission of the library media specialist is to ensure that students and staff are effective users of ideas and information." One possible interpretation of this statement is to help students and staff to become information literate. Information literacy has been defined as the ability to effectively access and evaluate information from a variety of sources (California Media, 1994, p. 2). In order to access information, an information literate person recognizes the need for information, identifies potential sources, develops successful search strategies, and realizes that accurate and complete information is the basis for intelligent decision making (California Media, 1994, p. 2). A person who demonstrates information literacy will evaluate information, establish authority, determine accuracy, and relevance, recognize fact and opinion,

and reject inaccurate and misleading information. Those who are information literate also use information: organizing it for practical application, integrating new information into an existing body of knowledge and applying it in critical thinking and problem solving (California Media, 1994, p. 3). Information literacy encompasses those skills that are commonly employed as research skills, library media skills, reference skills, and study skills (Montgomery, 1992, p. 530).

The library media specialist (LMS) must be knowledgeable about the requirements needed for students to become information literate. In this way a library program can be developed and implemented that will encourage this process. The LMS and the classroom teacher work together to determine the skills and teaching method appropriate for a specific grade level. The LMS will need to consider three areas when developing the instructional plan - the searcher's thinking process, the research process stages, and instructional strategies (California Media, 1994, p. 8). By focusing on creating information literate students, the LMS can produce a successful library information skills learning program.

DEFINITIONS AND METHODS

The broad term library information skills encompasses the concepts of research skills, reference skills, and library skills. Educators have devised various ways of interpreting the meaning of these skills. There are almost as many suggested methods to teach library information skills as there are definitions. Although educators do not agree on one single definition or one instructional method, they do agree that these skills are a necessary and important part of the educational program of the school and should be taught to ensure that students are information literate.

According to Hawkins (1987, p. 6) "information skills are those skills that are needed every day in making decisions, finding solutions to problems, and in any other activity that involves identifying, finding and using different kinds of information." Hawkins groups the skills into four broad categories. Skills for identifying and locating sources are those that involve understanding the need for information, and for locating and accessing sources available. Skills for information intake are those concerned with receiving information. Interaction between the individual and the information utilizes organization skills. Finally, the learner must develop skills for communicating the information, whether in an oral or written presentation.

Although he uses the term library media skills, Luskay (1983, p. 432) includes "the traditional skills such as using encyclopedias and

indexes along with newer skills relating to audio visual and computer technologies." According to Luskay, teaching library skills is the shared responsibility of the LMS and the classroom teacher. A systematic planning process must take place to make this a successful activity. Some of the objectives to be identified are: specific instructional objectives, specific content, specific library media skills to be introduced and specific resources (Luskay, 1983).

Shapiro (1981) believes that library information skills provide essentials that are useful to students: knowing how materials are arranged in any library, and how to find materials necessary to satisfy information needs. He also believes that library instruction is best when it involves the cooperation of the classroom teacher and the LMS and is coordinated with the needs of the curriculum. The advantage of teaching these skills in the library is the presence of the materials needed. The disadvantage is the possibility of distraction by other students and teachers entering and leaving.

Turner (1991, p. 14) states that "information skills are learning tools and that their best use is to facilitate the instructional design designated by the teacher. Students will use a variety of formats to obtain and process information." The following factors influence the information skills to be taught: the content to be studied, sources of information to be provided, the amount of guidance to be provided to the student, and finally, learner characteristics. The LMS and the classroom teacher determine the required information skills based on the four factors and whether or not the students possess the information processing tools needed for the instruction.

Information Power (1988, p. 29) states that library information skills include "assisting students to develop a systematic mode of inquiry to gain physical and intellectual access to information and ideas that reflect diversity of experiences, opinions, and social and cultural perspectives." The LMS is responsible for guiding and assisting learners through the world of information resources. In some cases the LMS is primarily responsible for the teaching of library information skills. At other times, the LMS expands and reinforces the concepts after the classroom teacher has laid the basic foundation. To be successful the LMS and the classroom teacher need to work together to assure that these skills are reinforced systematically.

Dishnow (1994, p.28) reports that a seven member committee representing the Wisconsin Association of School Librarians reexamined their 1987 edition of Wisconsin Library Media Skills Guide. In the updated edition this committee chose to divide library information skills into "four concept areas: locate information; select, evaluate, and synthesize information; organize and present information; and enjoy literature." Enjoyment of literature was added as a separate concept to encompass the whole language approach to reading. Activities were included to suggest ways in which literature could be integrated into library media activities.

Burgess (1987, p. 116) defines library information skills "to be those skills children need to locate media center resources that contain content about the topic at hand, to use those sources and to glean information they need to fulfill their own or their group's objective." Burgess also believes these skills should be taught at the point of need.

Emphasis in the Burgess approach is placed on meeting these needs through the language arts and reading curriculum. This approach supports the general concept adopted by many educators that students will learn something when it is relevant or when it is needed. Implementation involves the classroom teacher and the LMS planning together. A library skills guide may be used for assistance in determining which skills are appropriate for the grade level. Cooperation between the LMS and the teacher is necessary in planning activities that will enhance and expand the story being studied. Burgess suggests that this approach works best with small groups. While the LMS works with a group, the teacher plans an activity for the students remaining in the classroom. The LMS works with groups until all students have received instruction.

Haycock 's (1985, p. 1) definition provides a method of summarizing the concept of library information skills. She believes that these skills are "necessary for purposeful inquiry, informed decision making, and lifelong learning." Haycock divides these skills into six broad categories. Resource center orientation includes locating the center, learning the physical layout, and becoming aware of the policies and procedures of the center. Research strategies are techniques used in searching for the information. Locating information involves using the library catalogs and other indexes. Determining what information is related specifically to the topic is acquiring and analyzing the information. Organizing and recording involves note taking. The final category is communicating and presenting the information either in oral or written form.

Haycock (1985) supports the use of the principles for effective skills development espoused by the National Council for the Social Studies. Each skill should be taught functionally in the context of a topic rather than as a separate exercise, and the meaning and purpose of the skill should be understood by the learner to provide motivation for developing it. Supervision and instruction should be given to the learner so that the skill is developed correctly during the first attempts to apply the skill. Instruction should be presented at increasing levels of difficulty, from the simple to the complex. Students should be helped at each stage to generalize the skill by applying it in a variety of situations. The instructional program should be flexible enough to allow skills to be taught as they are needed. Haycock states that "if we accept these basic principles, then the planned sequential development of information skills and their integration with all aspects of the program become essential" (1985, p. 12).

PROCESS APPROACH METHOD

The process approach method is advocated by Kuhlthau (1985). This approach introduces students to various library resources and access points and also includes the process of developing an understanding of a topic through library research. Kuhlthau believes students need guidance in learning strategies to apply at various levels of the research process. These strategies should match the students' levels of information needs.

Kuhlthau (1985) has divided the research process into six stages with strategies for each. Stage one initiates a research assignment. The first task is to make a decision on a topic. The LMS and classroom teacher offer specific directions in how to begin. Visualization of the entire research

process provides students with focus and an understanding of the time frame needed to complete the research. Kuhlthau believes a genuine need for information motivates and stimulates an interest in library research. It may be necessary to have students participate in a brainstorming session to produce ideas for topics. Students select the topic for their research in stage two.

Exploring available information to find a focal area for the topic constitutes stage three. Students begin to study information available on the general topic with the intent to identify specific areas of interest. The LMS and classroom teacher should encourage students to explore a variety of materials to aid in forming a specific focus for their research. In stage four students determine their specific focal area. The students may need to consider four questions by the students when choosing their focus: Does the topic have personal interest? Does the topic meet the requirements of the assignment? Has it generated enough interest for research in available materials? Can the research be accomplished in the time frame set by the teacher (Kuhlthau, 1985)?

Students begin to collect information in stage five. This information must define, extend, and support their focus. The LMS and the classroom teacher aid the students in finding information pertinent to their topics. Students must learn to sift through the many sources available to locate information for their topics. Detailed notes need to be taken at this stage. The final stage in Kuhlthau's process is preparing to present. Students conclude their search for information and begin work on the final product.

The LMS and teacher give guidance to students in preparing the required elements of the project: the outline, rough draft, and final copy. Kuhlthau (1989, p. 226) states "that a shift to a process approach is needed to promote search strategies which capture the holistic experience of information seekers."

DIE METHOD

The library media integrated classroom approach is another method of teaching library information skills. Bhalla (1987) presents a three phase model called DIE - Design, Implementation, and Evaluation. In the Design phase, the teacher and LMS plan the project cooperatively. They identify skills necessary for students to complete the projects, in order that instructional activities may be planned by the LMS to teach the skills. The Implementation phase involves students utilizing the various reference materials to find information for their project. The LMS helps students with information processing skills: locating, organizing, analyzing, synthesizing, and evaluating information. During the Evaluation phase the teacher and LMS together perform the initial and final evaluation of the finished product.

The most common methods of teaching library information skills are divided into four main approaches by Hawkins (1987, p. 9). In the formal-unrelated approach skills are taught in isolation, as in library lessons or contrived activities for the library. Hawkins states that "skills taught through this approach tend not to be transferred to other situations." Skills taught when the need for them occurs in curriculum areas is referred to as the formal-related approach. The LMS may teach lessons on specific skills

needed for a particular curriculum area or unit of study. The functional- incidental approach teaches skills when particular needs arise. This approach when used alone may result in uneven coverage of skills. Skills built into an existing curriculum area are a function of the integrated approach. The teacher and the LMS cooperate in planning the lesson so that the skills become an integral part of the curriculum.

MULTI-DISCIPLINARY METHOD

The multidisciplinary method is supported by Maushay and Spirt (1988). This approach means that a topic is addressed from more than one curriculum perspective. More than one subject area teacher is involved in developing and implementing the instruction. Activities are planned to develop and view the topic from the perspective of each subject area. The LMS plans instruction to teach the students library information skills needed to complete research assignments on the topic.

Bhalla (1987) provides two methods in which DIE can be implemented. In the single-facet approach the LMS and the classroom teacher work together to team teach a specific curriculum unit. The LMS concentrates on process while the teacher emphasizes content. The LMS teaches reference skills, information processing skills, and communication skills. The multi-faceted, interdisciplinary theme-oriented approach identifies specific library media skills objectives and integrates them with classroom instruction. More than one classroom teacher is involved in the project. A theme is selected for the unit and the LMS becomes the

instructional leader. When using Bhalla's DIE model, library information skills can be integrated with the classroom curriculum, thus reinforcing reference and information processing skills.

INTEGRATED APPROACH

Lundin (1983) supports what is referred to as the integrated approach to teaching library information skills. He indicates that the key process for skills instruction is cooperative planning between the LMS and the classroom teacher. This leads to a coordinated program in which the skills are integrated sequentially with all aspects of the curriculum. Teachers can contribute to integrated programs by selecting resources in cooperation with LMS and by involving the LMS in all stages of planning the units. The LMS contributes to the process by cooperating with the teacher in planning and teaching some of the agreed upon skills, and by providing any service which will enhance the quality of experience which teachers and students have in the school. Lundin also agrees with Haycock (1985) in supporting the principles for effective teaching of skills by the National Council of Social Studies.

Hodges (1981, p. 177) views library skills as process skills which are learned, reinforced, and extended when the learner has a real need for them. He stresses that the optimum time for instruction is at the point of need - when the learner needs a skill to complete an assignment, meet a personal information need, or satisfy personal curiosity. Cooperative planning between the LMS and the classroom teacher will ensure that the

learner 's needs are met. The challenge to instructors is to make all tasks appear relevant and provide a reason for learning each new skill. Various learning styles can be accommodated by using a variety of instructional methods. Immediate practical opportunities to practice the skills should be provided.

PATHFINDER APPROACH

Another approach to developing library information skills is the pathfinder. This technique is designed to lead students through a sequence of sources from general to specific. A model search on a preselected topic is presented. This activity helps students understand the relationships among sources in the library. The disadvantage of this approach is that it appears to have little transference to other situations of information seeking. Source use and location skills are emphasized but the reasoning process that underlies independent research is not developed (Kuhlthau, 1987).

PROBLEM SOLVING APPROACH

The problem-solving approach involves thinking about information and using, interpreting, and finding meaning in information from a problem-solving perspective (Kuhlthau, 1987, p. 24). Since problem solving is a critical component of successful library research, teaching these skills is fully as important as utilizing conceptual frameworks or learning to use specific reference titles in the creation of self-reliant library users (Tuckett & Stoffle, 1984, p. 61). The main idea behind problem solving is teaching library resources as information to shape a topic rather

than as a quick answer to a question (Kuhlthau, 1987). A three-step approach to problem solving is described by Krapp (1988, p.3 5): What is the topic? Where do I find the information? How do I find and record the information?

Walisser (1985, p. 19) believes that the "overall goal of a research strategy in the elementary school is to enable students to select and narrow a topic, plan the scope and direction of research, locate sources, identify and record significant information, and prepare and make a presentation based on standard formats appropriate to the levels." At this level total independence is not expected, therefore guidance and instruction should be provided. Walisser divides the research strategy into three developmental stages consisting of nine steps which roughly correspond to grades K-3, 3-5, and 5-7. This strategy may be modified to meet the needs of any school, therefore specifics within each stage may vary. Walisser states that the developmental nature of a research strategy ensures consistency in student approaches to information gathering, recording and reporting, while tailoring activities and expectations to individual needs and abilities" (1985, p.19).

Stage one introduces the nine steps in the process in very basic form. Emphasis is placed on instruction, direction, and practice. A complete research project is not usually a part of this introduction stage. Skills are developed and refined in stage two, the development stage. More independent work at this level is expected, with guidance and instruction. Many opportunities to apply the strategy are provided at this stage. Stage three, application, allows students frequent opportunities to practice the

strategy as independently as possible. Less direction is needed at this stage (Walisser, 1985). Evaluation emphasizes the application of the strategy as well as the final product.

The Department of Education in Alberta, Canada developed a guide for teachers and library media specialists to use in instructing students in library information skills. The Department states its belief that "a systematic approach to the development of these skills will yield students ready for independent problem solving and lifelong learning. The key idea is to teach a process that can be transferred to any research situation" (Alberta Department of Education, 1990, p. 9). Cooperation between the LMS and the teacher is essential to effectively teach students the research skills and subject content.

FREE INQUIRY METHOD

The free inquiry method allows the teacher and LMS to move into a role of observation, guidance, and consultation. Inquiry lessons are carefully planned to make certain that sufficient resources are available for student use. The lesson plan must be tailored to the resources available in the media center. Brainstorming to assess the potential of the student experience and the possible outcomes is essential. Inquiry lessons follow a general pattern and the student must document the steps taken in the process. Teaching and learning are question oriented. Students experiment by formulating questions, then determining a method for finding the answers. The teacher acts as the director of learning by observing and

monitoring to ascertain that the student has reached a specific level of ability and is ready to move to a more challenging experience. The inquiry lesson end product is shared with students, teachers, and parents. The key to measuring the success of the free inquiry method through the media program is observation of students who formulate their own questions. Students demonstrate their ability to know where and how to pursue answers (Callison, 1986).

Information skills instruction is essential if students are to have control over school-related and lifetime information needs. Instruction should be information centered rather than library centered. Information skills programs must consider levels of cognitive development and attend to the process skills. Students need to plan and evaluate all aspects of information access and use. Mancall, Aaron, and Walker state that "focus must go beyond locational skills and correct answers and move to strategies that will help students to develop insight and facility in structuring successful approaches to solving their information needs" (1986, p. 2). Students need to know what information is available in their information universe in order to access it and know how to use it effectively. The LMS must demonstrate appropriate research strategies whenever information needs are being discussed. The ability to find and use information effectively is necessary for success in our rapidly changing information-oriented society (Mancall et al. 1986).

Lifelong learning is a goal that educators encourage students to adopt. In order for students to become information users, opportunities must be provided for them to think about the information itself. Cleaver believes that "we cannot teach students to be effective information seekers and users until they have formulated for themselves some concept of information." The LMS can be a catalyst, encouraging others to think about information in the teaching and learning situation (1987, p. 30).

Lamb, Kennedy, Chezem, Hopf, and Vaughn (1993, p. 2) state that "research skills represent a functional application of the basic skills of reading, composition, and mathematics." Acquisition of research skills helps students become more independent learners. Skills should be taught as soon as there is a need for them. Students can learn to select from a variety of sources to meet their information needs. Young children can learn to identify a problem, gather information, organize it, and share it either in oral or written form. Lamb et al. (1993) believe that classroom research does not exist as an isolated entity, but as an integral part of an ongoing theme or unit.

The all too common isolation of the LMS through the teaching of library skills lessons in separate library periods serves to provide a spare period for classroom teachers and to delay the integration of research skills into the curriculum (Lundin, 1983). The LMS may integrate skills into the classroom lessons unobtrusively in a way that makes the lessons interesting

and contributes to the interest and content of the unit (Instructional Development 1986). Library instruction that guides students through the skills process enables students to use information for learning. Instruction that helps develop a realistic perception of an information system prepares them to be successful searchers (Kuhlthau, 1987 p. 26).

In her information skills curriculum philosophy, Chow (1987, p. iii) states "information skills help the learner to acquire, organize, and use an existing body of knowledge to internalize the meaning of any subject area. What is required is a structuring of student learning activities so that students are given repeated opportunities in all curriculum areas to develop information skills." She also believes that an information skills curriculum teaches the individual the means for processing information. According to Chow, the keys to developing information skills are integrated instruction and attitudes which encourage the use of these methods. Skills to be developed are: gathering relevant information, interpreting and evaluating information, and applying that information. Cooperation between the teacher and LMS will foster students' success in learning and using the appropriate skills to meet their information needs.

Current trends encourage classroom teachers to provide interdisciplinary learning experiences. When the LMS and the classroom teacher plan together these needs can be met. Jay and Jay believe that when working with elementary school students good research skills should be taught from the start. In this way students can begin to discover answers to their own information questions. (Jay & Jay, 1994, p. 69).

The phrase "integrated approach", according to Eisenberg (1992, p. 105), refers to teaching library skills in the context of subject area curriculum and classroom instruction. The integrated approach focuses more on accomplishing the task than on the tools needed for that task. Teaching isolated skills without providing opportunities to practice them is meaningless for students.

The integrated approach to teaching these library information skills is a current theme in the literature for library media specialists. Ideas and activities for teaching the skills through this approach are provided in the literature. However, according to Eisenberg (1992, p. 105), "while the desirability of integrating skills instruction in the subject area is widely accepted among library media professionals and educators, there is little documentation to support this view." While there are various approaches that do meet with success in practice, as determined through local school evaluation, there are no formal research studies assessing the effectiveness or impact of an integrated approach with elementary and secondary students (Eisenberg, 1992, p. 107). Eisenberg also states that "obviously there is a need for more research on the integrated approach." Integration of library media skills instruction with subject area curriculum is seen as an essential component of an effective library media program. To make certain that this occurs, research is needed to establish criteria and methods for assessing degrees of integration, full understanding of the positive impact, and essential actions to ensure integration (Eisenberg, 1992, p. 107).

SUMMARY

Library information skills are an important and integral part of the elementary school curriculum. The teaching of these skills provides students with the ability to access, evaluate, and use information for their personal and their academic needs. The professional literature for library media specialists offers varied definitions of library information skills and a multitude of methods to teach them. Educators do not agree on definition or method, however all concur that it is necessary to begin teaching these skills as early in the students' educational careers as possible.

The literature indicates that no formal studies of the integrated approach have been done. This researcher chose to investigate an aspect of one of Eisenberg's suggested research questions (Eisenberg, 1992, p. 107) "What is gained in terms of increased student information skills and subject area performance from an integrated approach versus out of context instruction?" The researcher has chosen to concentrate on the gain in information skills. This research will provide a more formal evaluation regarding an integrated library information skills approach than has been previously supported but not formally studied.

CHAPTER 3
METHODOLOGY
OVERVIEW

The purpose of this study was to determine if there was a significant difference in fourth grade students' application and retention of library information skills when taught in isolation compared to teaching the skills within the context of Social Studies lessons.

HYPOTHESIS

The following hypothesis was tested in this study:

There is no significant difference in low socioeconomic fourth graders' application and retention of library information skills who are taught these skills in isolation and those who are taught within the context of Social Studies lessons.

There is no significant difference in low socioeconomic fourth graders' retention of library information skills who are taught these skills in isolation and those who are taught within the context of a Social Studies lesson.

DESCRIPTION OF SAMPLE

Two fourth-grade groups participated in the study. Most of the students spoke English as a second language. Twelve students, nine boys and three girls, formed the Control Group. The racial make up of this group was two white, three African-American, four Hispanic, and three Asian. Nine students received free lunch, two reduced, and two students paid the full lunch price. The Experimental Group included thirteen students; eight girls and four boys. There were two white students, four African-American, two Hispanic, and five Asian. Six students received free lunch, two reduced, and four paid the full lunch price. In both groups, students' ages ranged from nine to eleven years and reading levels from first to fifth grade. (See Tables 1 and 2)

The elementary school is located in a suburban neighborhood adjacent to a major highway. However the majority of the student population comes from surrounding apartment complexes. The school primarily serves a low socioeconomic, transient, multicultural population. The student population is 36% Asian, 34% Hispanic, 15% African American, 12% white, and 3% other. Ninety per cent of the students receive free or reduced lunch.

Table 1: Description of Sample

Control Group

Student	Sex	Ethnic Origin	Reading Level
1	M	Hispanic	first grade
2	M	Asian	third grade
3	F	African-Am.	third grade
4	M	Caucasian	fifth grade
5	M	Asian	third grade
6	M	Asian	second
7	F	Hispanic	third grade
8	M	Caucasian	fifth grade
9	M	African-Am.	second grade
10	M	Hispanic	second grade
11	M	Hispanic	third grade
12	F	African-Am.	second grade

Table 2: Description of Sample

Experimental Group

Student	Sex	Ethnic Origin	Reading Level
1	M	Hispanic	third grade
2	M	Caucasian	second grade
3	F	African-Am.	fourth grade
4	F	African-Am.	third grade
5	F	African-Am.	fourth grade
6	F	Caucasian	fourth grade
7	F	Asian	second grade
8	F	Asian	third grade
9	F	African-Am.	third grade
10	F	Asian	third grade
11	F	Asian	fourth grade
12	M	Asian	fourth grade
13	M	Hispanic	third grade

INSTRUMENTATION

A researcher-developed pretest, post test and retention post test consisting of 20 fill in the blank questions was used (see Appendixes A, B, and C). Questions on the tests asked students to identify types of books in the library such as nonfiction, fiction, atlas, encyclopedia, and biography. They were also asked to identify the part of the book in which the table of contents, title page, and an index was most likely to be located and to recognize the purpose for each. The pre test was administered the day before the unit began. The researcher read aloud each question so that reading ability was not a limitation. The questions were not discussed. At the conclusion of the unit, the post test was given. A second post test was administered six weeks later to test student retention of the skills learned during the study. As with the pre and post test, the researcher read each question aloud.

Students completed a worksheet for each of two researcher-developed library information skills research activities (see Appendix D and E). These worksheets involved students in actually using the materials in the library to look for specific information on a topic. Students were also asked to identify certain information on the title page, as well as use a table of contents and an index. A third activity, a library scavenger hunt, required students to use the automated catalog to locate and name books on a specific topic.

DESIGN

The Experimental Group consisted of 13 students, the Control Group, 12 students. Each group was given a library information skills pretest on January 22, 1996. Due to an error in administration by the library media specialist, a second pretest was administered by the researcher on January 25, 1996. The Experimental Group began the Social Studies lesson on January 26, 1996. The Control Group began the library skills lesson on January 26, 1996. Both groups were given the library information skills post test after the completion of the Final Activity. The Experimental Group took the test on February 14, 1996; the Control Group on February 15, 1996. A retention post test was administered to both groups on March 29, 1996, (see Table 3).

Table 3: Design

Group	Pretest	Treatment	Post Test	Final Activity	Retention Post Test
Experimental	Y ₁	X	Y ₂	Z	Y ₃
Control	Y ₁	W	Y ₂	Z	Y ₃

KEY

EXPERIMENTAL - experimental group, non random sample

CONTROL - group non random sample

W- skills taught in isolation

X - library information skills taught within the context of Social Studies unit

Y₁ - pretest

Y₂ - post test

Y₃ - retention post test

Z - final activity using references sources

PROCEDURES

Students in both groups participating in this study were given a pretest (see Appendix A). The Control Group began the lesson with skills sheets focusing on specific library skills areas. These worksheets were from the black line masters book, Reference Skills a 1994 Frank Schaffer publication. Skills areas included: using a title page, an index, and a table of contents page, identifying fiction and nonfiction books, and how to use an encyclopedia. The lessons were taught during three 30-minute Social Studies periods. After the skills worksheets were completed, the Social Studies lessons loosely based on the book Meet Kirsten, by Connie Porter, a story about an immigrant family, was begun (see Appendix F for lesson plans). After discussing aspects of pioneer and immigrant life for two Social Studies periods, students worked together to complete a worksheet using sources in the library (see Appendix D). A library scavenger hunt, a worksheet included in Reference Skills was then assigned. As a final activity, students chose their own topic and completed a worksheet incorporating library skills with library research (see Appendix E). Following completion of the final activity, the post test was administered (see Appendix B). Six weeks later a second post test was given (see Appendix C).

The Experimental Group began the study with an introduction to aspects of pioneer and immigrant life, based loosely on the book Meet Kirsten. During the discussion various reference sources and their appropriate use were mentioned. From this point, the same procedure was followed as with the Control Group.

METHOD OF DATA ANALYSIS

Gain scores were collected for pre, post, and retention post tests. These were compared using a t test analysis at the .05 level for two-tailed tests. Researcher observation of students' search methods during the activities and their conversation while working was also considered.

CHAPTER 4

RESULTS AND CONCLUSIONS

PURPOSE

A large portion of the professional literature read by library media specialists encourages teaching library information skills through the integrated curriculum approach. Although there is little formal research documenting this method as best, it is still widely promoted. This researcher chose to test the integrated approach to teaching library information skills in a more formal way in order to answer the question: Is there a significant difference in the retention of library information skills between low socioeconomic fourth graders who are taught these skills in isolation and those students who are taught with the context of a Social Studies lesson?

RESULTS

A comparison was made between the gain scores of the pretest and post test, the pre test and retention post test, and the post test and retention post test. The Control Group showed a mean gain score of 4.58 between the pre and post test, 4.83 between the pre and retention post test, and 0 between the post and retention post test. A mean gain score of 4.84 was calculated for the Experimental Group between the pre and post test, 3.92 between the pre and retention post test, and 1.23 between the post test and the retention post test (see Appendix G). The t test analysis found in all comparisons that there was no significant difference between the two groups. The results are summarized in Tables 4, 5, and 6.

Table 4

Summary of gain scores between the pre test and post test.

Group	n	\bar{x}	s
Experimental	13	4.85	2.76
Control	12	4.58	2.3

t = .20 p > .05

Table 5

Summary of gain scores between pre test and retention post test.

Group	n	\bar{x}	s
Experimental	13	3.92	3.83
Control	12	4.83	1.85

t = .74 p > .05

Table 6

Summary of gain scores between the post test and retention post test.

Group	n	\bar{x}	s
Experimental	13	1.23	4.72
Control	12	0	3.015

t = .77 p > .05

CONCLUSIONS

The results of the study showed that there was no significant difference in the retention of library information skills between low socioeconomic 4th grade students taught within the context of a Social Studies lesson and those who were not. Therefore the null hypothesis was not rejected. The study was inconclusive as to whether socioeconomic status made a difference in the gain scores. Even though many of the students who spoke English as a second language scored lower, the researcher cannot conclude that it was because of language difficulties. The lowest score was not made by a student who spoke English as a second language. It was also inconclusive as to whether reading level had a contributing effect on the gain scores. The researcher read all questions aloud, and repeated them as needed. Students were free to ask that questions on the worksheets be repeated or clarified to prevent misunderstandings.

After considering the data gathered, the researcher concluded that library media specialists could use either teaching method to teach library information skills to low socioeconomic fourth graders. Both methods showed gains between the pre and post tests as well as losses on the retention post test.

SUMMARY OF THE FINDINGS

Working with students in both groups went smoothly. The students had never met the researcher before the study began. The majority of students in both groups were cooperative and eager to help the researcher with the project. Students were told that no one would see or evaluate their work except the researcher and that no grade would be given. It was made clear that the study was separate from their regular class work and nothing they did would be reflected in a school grade. The teachers for both groups were very cooperative with the researcher, as was the school library media specialist.

The researcher met in the library media center with the Experimental Group from 10:30AM until 11:00AM, and the Control Group from 11:00AM until 11:30AM for 12 non-consecutive days. The study was interrupted by an assembly, a field trip, and two days missed because of snow. The library media center provided many opportunities for distraction, the most annoying being two small kindergarten groups who were loud and noisy. Students in the two research groups seemed to be able to ignore many of the distractions. The Experimental Group always appeared eager to come and wanted to know "What are we doing today?" They quickly grasped concepts being taught and were able to follow directions well. This group was able to work more independently and stay on task much better

The Control Group worked cooperatively with the researcher, but without the enthusiasm of the Experimental Group. By the second day

this group was tired of worksheets and wanted to know how many more they would have to do. They were relieved to learn that there was only one more day of worksheets. When this group began the actual lessons, they appeared more interested and enthusiastic. They enjoyed working together, however it was still more difficult to keep this group task oriented.

The researcher believes that some of the difference in attitude could be related to reading level. Although the groups were to be equivalent in reading ability, they were not. The Control Group's mean reading level was lower, thus making for less ability to work independently. The Control Group also appeared more immature for their age level. Possibly the fact that the Control Group was primarily boys and the Experimental Group was primarily girls could have made a difference in behavior and attitude.

By the second week, the researcher heard comments in both groups such as: "This is easy," or "I get it now," or "This is kind of fun." There was a more positive attitude developing in the Control Group as they began to understand the concepts. The Control Group, possibly due to their immaturity, still had difficulty staying on task.

The students in both groups enjoyed the scavenger hunt. They showed increased understanding of the steps involved in searching for information for a report. The Final Activity worksheet also seemed to be interesting to both groups. They enjoyed choosing their own topic. Many students were amazed at the number of books and amount of information available on their topic. Most felt that should a report be assigned by their

teacher, they could now find information fairly independently. At the conclusion of the study, both groups wanted to know why they couldn't continue to work with the researcher or when the researcher was coming back. All students could tell something new they had learned from participating in the study. The students felt, as did the researcher, that participation in this study had been a positive learning experience for both groups.

The researcher believes that even though there was no significant difference found in the teaching methods, a difference in student attitudes toward library information skills was apparent. Those in the Experimental Group began their research with a more positive attitude and more confidence in their ability to locate materials. The Control Group, on the other hand, had a more negative reaction to the idea of searching for information. This could be due to the lack of hands-on experience by the group. This group also associated library information skills with worksheets rather than with the library itself.

LIMITATIONS

The following could be considered limitations to the research:

1. The Experimental and Control Groups were not on equivalent reading levels.
2. The researcher was unfamiliar to the students.
3. Due to a mixup in communications with the school library media specialist, the pretest had to be readministered. A different form was used.
4. Students met in the library media center at the same time as two kindergarten groups who were very noisy.
5. Students and teachers were constantly in and out of the library media center.
6. The groups could not meet on consecutive days due to an assembly, a field trip, and days missed because of snow.
7. The Control Group was predominantly boys, the Experimental Group, predominantly girls.
8. The study took place over a short period of time - 12 days.

IMPLICATIONS

As has been previously stated, most of the professional literature for library media specialists promotes the integrated curriculum approach to teaching library information skills. Eisenberg (1992), states that "there is little documentation to prove the significance of this method." This researcher's study indicated that there was no significant difference in the worksheet method and in the integrated curriculum approach to teaching library information skills. Eisenberg (1992), concludes that there is still a need for more research on this subject. This researcher's study supports Eisenberg's conclusion.

Library media specialists may consider the researcher's results as an indication that it is acceptable for them to choose the teaching method they prefer. Although the actual results showed no significant difference in teaching methods, the students' attitudes did. The students responded better to interactive lessons on a topic of interest. Boredom and disinterest were apparent when the skills worksheets were discussed. These students found it more difficult to apply the skills in an actual research situation. The researcher believes that the more positive attitudes demonstrated that the integrated curriculum approach is better. In some groups a combination of methods may be needed to ensure that students retain library information skills.

Library information skills must be taught early in a student's academic career. Different learning styles can be addressed by using a combination of teaching methods. Instruction in kindergarten and first grade should begin with an introduction to the library media center itself. Students can learn to identify the purpose and location of specific areas of the library such as reference, nonfiction, biography, and fiction. Students are introduced to the purpose of a table of contents and an index. Students at this age may not be able to read well, but they should understand that a library is a place that can provide them with information on a variety of topics as well as books for pleasure reading.

In second through fourth grade, library information skills focus is placed on the actual use of the materials in the library media center. Students are introduced to the research process and the specific reference sources available in their library media center. Worksheets may be used at this time but should be kept to a minimum and used with a follow-up activity. For example, after completing a worksheet demonstrating how to use an encyclopedia, students should actually use the encyclopedia to locate information on a specific topic. Later grade levels should extend and practice these skills by providing ample opportunity for students to use the library media center for research.

The researcher believes that students perform better when an activity can be related to a specific information need and a purpose for learning. The multi-disciplinary approach or the integrated approach to teaching library information skills provides an opportunity for students to

practice these skills in the context of their curriculum. The classroom teacher is primarily responsible for suggesting the subject matter, The LMS and the teacher collaborate to determine research activities that will use available resources in the library media center. Activities should focus on extending the content lesson that the students are in the process of studying. Social Studies and Science are excellent curriculum areas to integrate into the library information skills format. By working together, the LMS and the classroom teacher can ensure many successful learning experiences for their students.

RECOMMENDATIONS FOR FURTHER RESEARCH

After completing this study, the researcher felt that there were ways in which this study could be improved:

1. If at all possible, students from the researcher's own school should be used. This would make access to students and scheduling time easier.
2. To make the results more accurate, equivalently matched groups should be used. Possible areas of matching are: grade level, age, sex, and reading level. Equivalently matched groups on reading levels would assure increased reliability of results. Even though in this study the researcher read the questions aloud, it could not be determined how much effect difficulty in reading had on the gain scores. It may also increase reliability to use only those students who speak English as a first language or only those who speak English as a second language.
3. The study should start at the beginning of the school year and last for a longer period of time. Students may be at more equivalent reading

levels and interest and cooperation may be at their peak at the beginning of the school year. Extending the length of the study and including more hands on activities for the Experimental Group and more worksheets for the Control Group may show a significant difference in one of the groups. Increasing the time spent on the unit of study for the Experimental Group may change the results of the study.

4. Several grade levels could be used. This study considered only fourth grade. A significant difference in retention of library skills may be found at other grade levels. Students beginning to learn library information skills may show a more significant difference in retention than those students who already have been introduced to those skills.

5. Larger student groups may be needed. Using larger groups may provide a wider range of scores, possibly increasing the chance of a significant difference.

6. Several socioeconomic groups could be used. This study proved inconclusive as to the influence of the socioeconomic group on gain scores. Comparison of two or more groups of differing socioeconomic levels may provide more information

The researcher feels that even though the t test analysis showed no significant difference in teaching methods at this time, following the above recommendations may increase the chances of determining a significant difference. In duplicating this study another researcher may want to use another subject for the lesson. Possibly a more interesting topic may increase awareness and retention of library information skills.

REFERENCES

- American Library Association. (1988). Information Power: guidelines for school library programs. Chicago: American Library Association.
- Bhalla, P. (1987). Modeling a library-media classroom integrated instructional process. School Library Media Activities Monthly. 4, 26-27.
- Burgess, B. (1987). Researching skills: they need them when they need them. Catholic Library World. 59(3). 116-117.
- California Media and Library Educators Association. (1994). From library skills to information literacy: a handbook for the 21st century. Castle Rock, Colorado: Hi Willow Research and Publishing.
- Callison, D. (1986). School library media programs and free inquiry learning. School Library Journal. 32(6). 20-24.
- Chow, C. (1987) Information skills curriculum guide: process, scope, and sequence. Seattle, Washington: Washington Office of the State Superintendent of Public Instruction. (ERIC Document Reproduction Service No. ED 288 554)
- Cleaver, B. (1987). Thinking about information: skills for lifelong learning. School Library Media Quarterly. 29-31.
- Dishnow, R. (1994). Updating a library and information skills guide. School Library Media Activities Monthly. 10 (6). 27-28, 47.

Eisenberg, M. (1992). Current theme regarding library and information skills instruction: research supporting and research lacking. School Library Media Quarterly. 20 (2). 103-110.

Focus on research, a guide to developing students' research skills. (1990). Alberta, Canada: Alberta Department of Education, Edmonton Curriculum Support Branch. (ERIC Document Reproduction Service No. 325 135)

Hawkins, N. (1987). Teaching information skills. Victoria, Australia: Victoria Education Department. (ERIC Document Reproduction Service No. ED 130 35)

Hubbard, S. (1987). Information skills for an information society: a review of research. Washington, DC: Office of Educational Research and Improvement. (ERIC Document Reproduction Service No. ED 327 216)

Haycock, C. (1985). Information skills in the curriculum: Developing a school-based continuum. Emergency Librarian. 13. 11-17.

Hodges, G. (1981). Library-use instruction: the librarian's challenge and responsibility. Catholic Library World. 53 (4). 176-179.

Instructional development and teaching library media skills: two sides of the same coin. School Library Media Activities Monthly. 3 (4). 44-45.

Jay, M. E. & Jay, H. (1994). The changed role of the elementary library media teacher. Reference Librarian. 44. 61-69.

Krapp, J. (1988). Teaching research skills: a critical-thinking approach. School Library Journal. 34 (5). 32-35.

Kuhlthau, C. (1993). Implementing a process approach to information skills: a study identifying indicators of success in library media programs. Journal of the American Association of School Librarians . 22 (1). 11-18.

Kuhlthau, C. (1989). The information search process of high-, middle-, and low-achieving high school seniors. School Library Media Quarterly. 224-227.

Kuhlthau, C. (1987). Information skills: tools for learning. School Library Media Quarterly. 16. 23-28.

Kuhlthau, C. (1985). A process approach to library skills instruction. School Library Media Quarterly. 35-40.

Lamb, P., Kennedy, D., Chezem, J., Hopf, S., & Vaughn, V. (1993). Research skills for gifted elementary school pupils. Gifted Child Today. 16 (4). 2-7.

Lundin, R. (1983, September). The teacher-librarian and information skills - an across the curriculum approach. Emergency Librarian. 11(1). 8-12.

Luskay, J. (1983). Current trends in school library media centers. Library Trends 31 (3). 429-446.

Mancall, J., Aaron, S. & Walker, S. (1986). Educating students to think: the role of the school library media program. School Library Media Quarterly. 18-27.

Maushay, J. & Spirt, D. (1988). Take a multidisciplinary approach to library skills. School Library Media Activities Monthly. 24-27.

Montgomery, P. (1992). Integrating Library, media, research, and information skills. Phi Delta Kappan. 73 (7). 529-532.

Shapiro, L. (1981). Library instructions: a difficult dilemma. Catholic Library World. 53 (4). 185-188.

Tuckett, H. W. & Stoffle, C. (1984). Learning and the self-reliant library user. Reference Quarterly. 29. 58-66.

Turner, P. (1991). information skills and instructional consulting: a synergy? School Library Media Quarterly. 20 (1). 13-18.

APPENDIX A

PRETEST FOR LIBRARY INFORMATION SKILLS .

LIBRARY/INFORMATION SKILLS PRETEST

Fill in the blanks by choosing from the words below. almanac

dictionary atlas encyclopedia fiction title nonfiction
reference author index
table of contents call number copyright
biography catalog publisher Dewey Decimal title page
illustrator periodical

1. Books that are not true are called _____.
2. A _____ is a book about someone's life.
3. The _____ is the name of a book.
4. The date that tells when a book was published is called the _____ date.
5. A book that defines a word is called a _____.
6. An _____ is a book of maps.
7. A factual book is called _____.
8. The _____ is located in the front of a book to tell the reader what chapters are in the book.
9. To find books on a specific subject in the library, the reader can use the _____ for help.

10. An _____ is the person who wrote a book.
11. This is usually located in the back of a book to tell the reader where to find a certain subject. _____
12. In the library, nonfiction books are arranged by number according to their subjects. This system is called the _____ system.
13. Another name for a magazine is _____.
14. The section of the library where dictionaries, almanacs, atlases, and encyclopedias can be found is called the _____ section.
15. The number on the spine of the book that tells where the book can be found is its _____.
16. The _____ is a set of books arranged alphabetically on different subjects.
17. A book containing calendars, weather charts, interesting facts, and trivia is called an _____.
18. The person who drew the pictures for a book is called the _____.
19. The place in the front of a book where the reader can find author, title, and publisher is the _____.
20. The _____ is the company that prints the book.

APPENDIX B

POST TEST FOR LIBRARY INFORMATION SKILLS

50

58

LIBRARY/INFORMATION SKILLS POST TEST

Fill in the blanks by choosing from the words below.

fiction almanac dictionary atlas encyclopedia

index title nonfiction reference author

biography table of contents call number copyright

 catalog publisher Dewey Decimal title page

 illustrator periodical

1. The place in the front of a book where the reader can find author, title, and publisher is the _____.
2. A book containing calendars, weather charts, interesting facts, and trivia _____.
3. The number on the spine of the book that tells where the book can be located is its _____.
4. Another name for a magazine is _____.
5. This is usually located in the back of a book to tell the reader where to find a certain subject _____.
6. To find books on a specific subject in the library, the reader can use the _____ for help.
7. A factual book is called _____.

8. A book that defines a word is called a _____.
9. The _____ is the name of a book.
10. Books that are not true are called _____.
11. The _____ is the company that prints the book.
12. The person who drew the pictures for the book is called the _____.
13. The _____ is a set of books arranged alphabetically on different subjects.
14. The section of the library where dictionaries, almanacs, atlases, and encyclopedias can be found is called the _____ section.
15. In the library, nonfiction books are arranged by numbers according to their subjects. This system is called the _____ System.
16. An _____ is the person who wrote the book.
17. The _____ is located in the front of the book to tell the reader what chapters are in the book.
18. An _____ is a book of maps.
19. The date that tells when a book was published is called the _____ date.
20. A _____ is a book about someone's life.

APPENDIX C

RETENTION POST TEST FOR LIBRARY INFORMATION SKILLS

LIBRARY/INFORMATION SKILLS POST TEST 2

Fill in the blanks by choosing from the words below.

almanac dictionary atlas encyclopedia fiction
title nonfiction reference author index
table of contents call number copyright biography
catalog publisher Dewey Decimal title page
illustrator periodical

1. A _____ is a book about someone's life.
2. The date that tells when a book was published is called the _____ date.
3. An _____ is a book of maps.
4. The _____ is located in the front of a book to tell the reader what chapters are in the book.
5. An _____ is the person who wrote the book.
6. In the library, nonfiction books are arranged by numbers according to their subjects. This system is called the _____ System.
7. The section of the library where dictionaries, almanacs, atlases, and encyclopedias can be found is called the _____ section.
8. The _____ is a set of books arranged alphabetically on different subjects .

9. The person who drew the pictures for a book is called the _____.
10. The _____ is the company that prints the book.
11. Books that are not true are called _____.
12. The _____ is the name of a book.
13. A book that defines a word is a _____.
14. A factual book is called _____.
15. To find books on a specific subject in the library, the reader can use the _____ for help.
16. This is usually located in the back of a book to tell the reader where to find a certain subject. _____
17. Another name for a magazine is _____.
18. The number on the spine of the book that tells where the book can be located is its _____.
19. A book containing calendars, weather charts, interesting facts, and trivia is called an _____.
20. The place in the front of a book where the reader can find the author, title, and publisher is the _____.

APPENDIX D

LIBRARY INFORMATION SKILLS WORKSHEET

56

64

LIBRARY INFORMATION SKILLS WORKSHEET

1. Define pioneer and immigrant. What source did you use?
2. Was Kirsten a pioneer, an immigrant or both? Explain your answer.
3. Kirsten moved to Minnesota. Name 2 states that are next to Minnesota. What reference did you use to find out?
4. Use the book Meet Kirsten . What chapter tells about Kirsten's life on the ship?
5. Write 3 things that happened on the ship.
6. Why did most immigrants come to America?
7. Describe how a pioneer's or immigrant's first house might have been made. What source did you use for the information?
8. Does your school have any books on pioneers or immigrants? How did you find out?
9. Write the name of one book about pioneers and one book about immigrants.
10. Use any of the Kirsten books. What is the title and copyright date of the book you chose?

11. Do the Kirsten books have indexes?
12. Who is the publisher for the Kirsten books?
13. Write 3 things about the schools during pioneer days.
14. What did the pioneers eat for food? How did they have to cook their food?
15. Describe the clothes the girls and boys wore during pioneer days.
16. If you wanted to find a story about pioneers or immigrants, in what section or sections of the library would you look ?
17. How did the pioneers travel from one place to another?
18. If you wanted facts about pioneers and immigrants, in what section or sections of the library would you look?
19. How does your life today differ from Kirsten's life?
20. If you wanted a book about a real pioneer or immigrant's life, in what section of the library would you look.?

APPENDIX E

FINAL ACTIVITY WORKSHEET

FINAL ACTIVITY

Pretend that you have to do a report on a subject of your choice.

1. What subject would you write about?

2. If you wanted to find factual information on your topic, you could look in what sections of the library?

3. If your subject was a real person, where could you look?

4. To see if the information is up to date, you need to check the copyright date. Where would you find the copyright date in a book?

5. Use the computer catalog, find 2 or 3 nonfiction books about your subject. Write the title and call number.

6. Is there a fiction book about your subject? If so, write the title and author.

7. Do you need to use the reference section for information on your subject?
If so, what sources do you need to use?

8. Locate one of the books in question 5. Using that book answer the following questions:

9. Write the title _____.

10. Write the Dewey Decimal number _____.

11. What is the copyright date? _____

12. Does your book have a table of contents? _____ index? _____

13. What is the name of the publisher? _____

14. Does your book have an illustrator? If so write the person's name.

15. If you need a definition for your subject, what source would you use to find one? _____

APPENDIX F

LESSON PLANS

62

70

LESSON PLANS

SOCIAL STUDIES OBJECTIVES:

- * Students will develop an understanding of how the lifestyle of the early American pioneers differs from that of today.
- * Students will learn about the main activities of the household- jobs, crafts, schooling, food
- * Students will describe aspects of traditions everyday life of the early pioneer and immigrant families.

LIBRARY SKILLS OBJECTIVES:

- * Students will identify resources to help find information on a specific topic related to pioneer life.
- * Students will demonstrate the ability to use an encyclopedia to find historical information.
- * Students will use the automated catalog to locate books with pertinent information for their topic of choice.
- * Students will choose a topic and demonstrate their understanding of library sources to locate information for their topic.

DAILY LESSON PLANS

DAY 1 - Both groups are given the pretest.

DAY 2 - CONTROL GROUP

Worksheets from the reproducible book Reference Skills by Frank Schaffer were used. Topics: What's in a Library? Discover a Book Cover (included information on author, title, illustrator, publisher) Each worksheet was read aloud by the researcher. Questions were discussed and students wrote their answers in the correct blanks.

DAY 2, 3 - EXPERIMENTAL GROUP

Students and the researcher discussed aspects of pioneer and immigrant life based on the book Meet Kirsten by Connie Porter. Students examined the Kirsten books (Other books in the series were available for students to use.) to locate the title page, contents page, copyright date, etc.). Discussion continued with students suggesting other ways to find more information on pioneers and immigrants. Reference sources such as the dictionary, encyclopedia, and computer catalog were discussed as were several types of non reference sources (fiction, nonfiction, and biography) and the kind of information found in each.

DAY 3 - CONTROL GROUP

Students continued with worksheets on: Facts from a title page, table of contents, and an index worksheet. The same procedure was followed as on Day 2.

DAY 4 - CONTROL GROUP

Worksheets on reading maps, identifying fiction and nonfiction books. The same procedure was used as in Day 2 and 3.

DAY 4, 5, 6 - EXPERIMENTAL GROUP

Students began working together to answer questions on the pioneer and immigrant worksheet (see Appendix D). The researcher read the questions aloud so all would understand. Students were given the opportunity to ask questions.

DAY 5 - CONTROL GROUP

The researcher led a discussion about pioneers and immigrants, loosely based on the book Meet Kirsten by Connie Porter. Places to locate more information were discussed.

DAY 6 - CONTROL GROUP

Students were given the worksheet about pioneers and immigrants. The researcher read all questions aloud. Students were given the chance to ask questions. Students begin working together to answer the questions.

DAY 7, 8, 9 - CONTROL GROUP

Students continue to complete worksheet.

DAY 7 - EXPERIMENTAL GROUP

Final completion of worksheets.

DAY 8 - EXPERIMENTAL

Students complete a Library Scavenger Hunt from Reference Skills by Frank Schaffer.

DAY 9, 10 - EXPERIMENTAL GROUP

Students were asked to choose any topic they wanted and pretend a research report has been assigned. Students were asked to work alone. Students completed the Final Activity worksheet (see Appendix E).

DAY 10 - CONTROL GROUP

same as Day 8 for Experimental Group

DAY 11, 12 - CONTROL GROUP

same as Day 9, 10 for Experimental Group

DAY 11 - EXPERIMENTAL GROUP

Students were given the post test.

DAY 12 - CONTROL GROUP

Students were given the post test.

Six weeks after completion of the post test, both groups were given the retention post test (see Appendix C).

APPENDIX G

WORKSHEETS FOR T TEST ANALYSIS

WORKSHEET FOR PRE TEST AND POST TEST

$$\sqrt{\frac{4.6 - 4.8}{(12-1)5.4 + (13-1)7.6} \left(\frac{1}{12} + \frac{1}{13}\right)}$$

$$\frac{12 + 13 - 2}{23}$$

$$\sqrt{\frac{4.6 - 4.8}{59.4 + 91.2} (.159)}$$

$$\frac{23}{23}$$

$$\sqrt{\frac{.2}{150.6} (.159)}$$

$$\frac{23}{23}$$

$$\sqrt{\frac{.2}{6.547} (.159)} \quad \sqrt{\frac{.2}{1.041}} = \frac{.2}{1.020} = .196 = .20$$

t = .20 .05 probability p > .05

WORKSHEET FOR PRE TEST AND RETENTION POST TEST

$$\sqrt{\frac{4.8 - 3.9}{\frac{(12-1)3.4 + (13-1)14.7}{12 + 13 - 2}}} \left(\frac{1}{12} + \frac{1}{13} \right)$$

$$\sqrt{\frac{4.8 - 3.9}{\frac{37.4 + 176.4}{23}}} (.159)$$

$$\sqrt{\frac{.9}{\frac{213.8}{23}}} (.159)$$

$$\sqrt{\frac{.9}{9.295}} (.159)$$

$$\sqrt{\frac{.9}{1.477}}$$

$$= \frac{.9}{1.215} = .7407$$

t = .74 .05 probability p > .05

WORKSHEET FOR POST TEST AND RETENTION POST TEST

$$\sqrt{\frac{0 - 1.23}{\frac{(12-1)9.09 + (13-1)22.3}{12 + 13 - 2}} \left(\frac{1}{12} + \frac{1}{13} \right)}$$

$$\sqrt{\frac{0 - 1.23}{\frac{100 + 267.6}{23}}} \quad (.159)$$

$$\sqrt{\frac{0 - 1.23}{\frac{367.6}{23}}} \quad (.159)$$

$$\sqrt{\frac{0 - 1.23}{15.98}} \quad (.159) \quad \sqrt{\frac{1.23}{2.5408}} \quad \frac{1.23}{1.593} = .772$$

t = .772

.05 probability

p > .05

GAIN SCORE WORKSHEET

CONTROL GROUP

student	pretest	post test	gain score	retention post test	gain, pre & retention	gain, post & retention
1	8	14	6	12	4	-2
2	7	16	9	13	6	3
3	10	16	6	17	7	-1
4	11	15	4	15	4	0
5	9	11	2	16	7	5
6	14	16	2	16	2	0
7	11	14	33	18	7	4
8	11	18	7	16	5	-2
9	4	9	5	9	5	0
10	6	11	5	9	3	-2
11	15	16	1	17	2	1
12	9	14	5	3	6	-11
mean	9.5	12.9	4.58	13.18	4.833	0
sd	2.314				1.8504	3.015
sd2	5.356				3.42	9.09

EXPERIMENTAL GROUP

student	pretest	post test	gain score	retention post test	gain, pre & retention	gain, post & retention
1	6	8	2	12	6	4
2	6	11	5	12	6	1
3	12	17	5	6	-6	11
4	11	15	4	9	2	-6
5	16	20	4	17	1	-3
6	15	18	3	17	2	-1
7	9	9	0	12	3	3
8	7	18	11	16	9	-2
9	13	19	6	17	4	2
10	7	15	8	14	7	-1
11	12	18	6	20	8	2
12	12	15	3	16	4	1
13	7	3	4	12	5	9
mean	10.23	15.07	4.846	13.846	3.92	1.23
sd	2.76				3.839	4.728
sd2	7.641				14.743	22.35