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# A STUDY OF THE IN-SERVICE EDUCATION PROGRAM OF ELEMENTARY SCHOOL TEACHERS IN KNOXVILLE CITY SCHOOLS

A Dissertation

Presented for the

Doctor of Education

Degree

The University of Tennessee, Knoxville

Jane Hawk Davis

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ABSTRACT

The purposes of this study were to determine how elementary school teachers in Knoxville City Schools view the effectiveness of their in-service programs, identify their professional growth needs, and to ascertain their preferences for various in-service education approaches.

Data were obtained from the staffs of 14 randomly selected elementary schools in the Knoxville City School system. Participants responded to a four part questionnaire developed by this writer. Data were obtained in November, 1976 concerning the in-service education program experienced by the respondents during the 1975-1976 school year.

The focus of the study was directed by the following questions: (1) What in-service activities were provided for elementary school teachers in the Knoxville City School system in 1975-1976?, (2) How effective did teachers consider these activities to be in helping them meet their professional needs?, (3) What professional needs do participants recognize?, (4) Do respondents prefer certain in-service approaches?, (5) Do K-3rd grade, 4th-6th grade, and special class teachers differ in their evaluations of their in-service education program?, (6) Do K-3rd grade, 4th-6th grade, and special class teachers have similar professional needs?, (7) Do beginning and more experienced teachers evaluate their in-service education activities alike?, and

(8) Do beginning and more experienced teachers have similar professional needs?

Frequencies, percentages, and rank orders were used to descriptively analyze the data. Chi-square designs were used to compare the responses of the three teaching assignment groups (K-3rd grade, 4th-6th grade, and special class teachers) and the two teaching experience groups (beginning and more experienced teachers).

It was found that the most commonly experienced in-service activities were: (a) city-wide meetings for all teachers, (b) building staff meetings, (c) grade level/subject area meetings--city-wide, and (d) workdays for planning and record keeping.

Respondents considered (a) workdays for planning and record keeping, (b) conferences with other teachers, (c) independent study, (d) observations in other classrooms, and (e) college and university course work to be the most helpful in-service activities experienced during the 1975-1976 school year.

The most frequently mentioned professional needs were to: (a) improve ability to provide for individual differences in children, (b) enhance discipline, (c) develop materials and learning center activities, and (d) improve ability to motivate children and build positive attitudes toward learning.

Mathematics, reading, and language arts were the three subject areas mentioned most frequently as needing improvement.

Approaches to in-service education most favorably mentioned were: (a) demonstrations by other teachers, (b) grade level discussion

groups, (c) workshops, and (d) conferences with principals.

All teaching assignment groups agreed that the least effective in-service activity was city-wide meetings for all teachers, but K-3rd grade teachers were more positive in their evaluation of this activity than were the other groups. Special class teachers were more positive toward conferences with supervisors than were the other two groups of teachers. No other important differences were found between the evaluations of in-service activities by the teaching assignment groups.

Statistically significant differences were found to exist between the three teaching assignment groups in two general professional areas and in six subject areas. Special class teachers were more interested in improving their skill in motivating children and developing positive attitudes toward learning, and in enhancing their skill in helping children with values clarification than were the other teaching assignment groups. Special class teachers were also more interested in improving their skills in the subject areas of music and library than were the other groups. Reading was of special concern to K-3rd grade and special class teachers. The instructional areas of social studies and science were of more concern to 4th-6th grade teachers than they were to K-3rd and special class teachers. Mathematics was of greater concern to 4th-6th grade and special class teachers than it was for K-3rd grade teachers.

No significant differences were found between the responses of beginning and more experienced teachers in their evaluation of their

1975-1976 in-service activities or in their professional growth needs.

The researcher made a number of recommendations for improving the in-service education program for elementary school teachers in the Knoxville City Schools.

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# CHAPTER I

# THE STUDY

## I. INTRODUCTION

Educators have attempted to improve the quality of education for students by experimenting with new methodologies, with innovative materials, and with various types of groupings for instruction. Research has shown that while these variables are important, the most significant variable determining the quality of classroom experiences of boys and girls is the teacher. If educators are serious in wanting to improve the quality of education for boys and girls, they must be concerned with improving the quality of instruction provided by teachers.

Basic teacher education provided by colleges and universities produce prospective teachers who vary greatly in their knowledge of subject matter, methodology, and of child growth and development. Their experience and expertise in classroom management vary. On the other hand, practicing teachers need experiences which will continue to update their professional skills. Development of beginning teachers and upgrading practicing teachers becomes a serious responsibility.

Who can best direct and plan in-service education programs is still unsettled. Traditionally, colleges and universities have provided the major part of the program through workshops and class credit. During the Sputnik Era, school systems began questioning the value of the traditional program and began experimenting with alternate means

of updating and assisting teachers. Recently, teacher groups are demanding that in-service programs become the responsibility of teachers themselves.

## II. STATEMENT OF THE PROBLEM

Surveys made by Paul Kelly (1971) in 1971 indicated that teachers in the Knoxville City Schools felt a high degree of dissatisfaction with the in-service program provided for them. A comprehensive survey of the Knoxville City Schools made in 1976 by Charles Trotter (1976) and others found that both administrators and teachers felt their in-service program was not helping them develop new teaching or administrative skills, get new ideas, or to change their behavior.

In-service education programs have been established to maintain and update professional skills of teachers. Studies report that teachers express great dissatisfaction with existing programs and are demanding changes.

The purposes of this study were: (a) to determine how elementary school teachers in Knoxville City School system view their in-service education programs, (b) to identify their professional growth needs, and (c) to ascertain their preferences for various in-service education approaches. The following questions serve to direct the focus of this study.

1. What in-service activities did elementary teachers of Knoxville City Schools experience during the 1975-1976 school year?

2. How effective did teachers consider these activities?

3. What do elementary teachers consider to be their greatest professional needs?

4. What activities do they consider would best help them meet their needs?

5. Do K-3rd grade, 4th-6th grade, and special class teachers evaluate their in-service activities differently?

6. Do K-3rd grade, 4th-6th grade, and special class teachers view their in-service needs differently?

7. Do beginning and more experienced teachers view their in-service experiences differently?

8. Do beginning and more experienced teachers view their in-service needs differently?

## III. METHODS AND PROCEDURES

Data were collected by questionnaire from a group of elementary school teachers employed by the Knoxville City School system during the 1975-1976 school year. Teachers in the sample group comprise the staffs of 14 elementary schools, selected for the study by applying a table of random numbers to an alphabetical listing of all Knoxville City Elementary Schools. The sample includes 302 teachers, constituting about 40 percent of the elementary teachers in the Knoxville City Schools during the 1975-1976 school year.

Sample teachers were grouped and regrouped according to two variables. These variables are: (a) teaching assignment and (b) teaching experience. Comparisons were made of responses made by

beginning and more experienced teachers, and of K-3rd grade, 4th-6th grade, and special class teachers. These comparisons were made because these teachers often experience different in-service activities and may have different in-service education needs.

Data were collected by questionnaire from teachers selected for the study. The questionnaire determined which in-service activities were experienced by the sample teachers during the 1975-1976 school year and obtained their evaluation of these experiences. It also obtained information about teachers' perceptions of their professional needs and which in-service activities would best help them meet these needs. A tally of responses on Part A determined which in-service activities were experienced and which were the most frequent. Teachers were asked to evaluate the effectiveness of their 1975-1976 in-service activities by responding on a Likert-type scale. Responses were Very Good, Good, Fair, Poor, and Very Poor.

Part B of the instrument asked teachers to rank their greatest general professional needs in order of importance.

Part C obtained information about the teachers' subject area needs.

Finally, Part D asked teachers to indicate on a Likert-type scale the activities they considered to be most effective in helping them meet their classroom needs.

Appropriate non-parametric statistical analysis compared the views of the teaching assignment groups and the teaching experience groups.

## IV. DEFINITION OF TERMS

Beginning Teacher. A teacher who has taught fewer than three years.

Experienced Teacher. A teacher who has three or more years' teaching experience.

In-service Education. A continuous educational program planned to assist teachers in developing their professional skills of planning, directing, and evaluating work they do with and for children.

Sample Schools. A group of 14 elementary schools in the Knoxville City School system selected for this study by applying a table of random numbers to an alphabetical listing of all Knoxville City Elementary schools.

Special Class Teachers. Teachers who teach subjects not taught by the regular classroom teacher, such as music, physical education, library, enrichment classes, and remedial classes.

## V. LIMITATIONS AND DELIMITATIONS

Research was delimited to a study of in-service experiences of elementary teachers employed by the Knoxville City School system during the 1975-1976 school year. The validity was limited by the extent to which the instrument used to collect data was valid for the purpose for which it was used. A final limitation was the extent to which the sample teachers thoughtfully considered their responses to the instrument items.

## VI. ORGANIZATION

This report consists of five chapters. The first chapter includes a statement of the problem, description of methods and procedures, definitions of terms used in the study, limitations and delimitations of the study, and an explanation of the organization of the report.

Chapter II contains a survey of literature relating to this study.

The third chapter presents the instrument and methods of analyzing the data.

Chapter IV presents the findings obtained in the study.

The final chapter contains a summary and discussion of the findings. Recommendations for improving the in-service program for elementary teachers in the Knoxville City School system is included in the concluding chapter.

## CHAPTER II

## REVIEW OF RELATED LITERATURE

The quality of the instructional program in any school system is determined largely by the quality of the instructional staff. Therefore, pre-service education of teachers should be a vital concern of all citizens, and in-service education should be an important part of the educational system.

In-service education is simply a continuation of pre-service education. It builds upon the professional and personal background of individual educators and is designed to assist them in further development of their instructional skills. Harris and Bessent (1969) defined in-service education as "planned activities for the instructional improvement of professional staff members." This definition of in-service education includes the total instructional staff--the teachers, administrators, and supervisors. It specifies programmatic efforts to improve instructional skills.

Wayne Otto and Lawrence Erickson (1973) identified five significant results which can be expected from in-service efforts. They state that in-service can:

1. unify and motivate educators to work toward common goals by providing an opportunity for teachers and administrators to air viewpoints which may result in identification of common interest.

2. identify problems and suggest solutions.

3. introduce and implement new ideas and procedures.

4. improve accountability procedures by enabling teachers to specifically diagnose pupil needs and prescribe for individual or small groups of students with common needs.

5. increase community support of education by involving parents in in-service activities.

In-service education programs can result in improved classroom instruction for boys and girls, and it can also increase community support of education when parents and community leaders are involved in in-service education activities.

Lawrence Moburg (1972) pointed out the importance of continuous teacher education to one specific aspect of the curriculum (the reading program) when he states that "regardless of the quality of pre-service programs, such programs are inadequate and insufficient to maintain the teacher on the job." Teachers must remain current and constantly renew themselves if adequate instructional programs are to be provided.

Decreasing school enrollment will increase the importance of in-service education during the next decade. From 1975 to 1984 enrollment in grades K-12 is expected to drop 9.3 percent. (Brown, 1972). One implication of this decrease in enrollment is that fewer teachers will be employed. Tenure systems will cause school systems to retain currently employed teachers--resulting in positions for fewer recently trained teachers and a predominance of older teachers. This will increase the need for in-service education programs to renew the more experienced teachers.

# I. HISTORIC DEVELOPMENT OF IN-SERVICE EDUCATION

During the early 1800's when our nation became committed to universal elementary education, teachers with inadequate preparation were employed, many having less than a high school education (Rubin, 1971). This circumstance led Chester Barnard to organize the first in-service education program. He planned a series of short courses, consisting of lectures and demonstrations, designed to fill the gap between what teachers were expected to know and do and what they were capable of doing. These early institutes were voluntary and were largely remedial in nature.

Summer Normal Schools became important in-service programs in the late 1800's and early 1900's. One purpose of Normal Schools continued to be to help teachers acquire knowledge and to develop instructional skills. As this gap between desired and actual abilities narrowed, concern for helping teachers examine their assumptions about education and to seek solutions to problems they faced as educators became a function of in-service education. This was the era in which teachers faced the problems of teaching children from immigrant families, who often spoke no English and had different values and customs. In-service education helped teachers seek solutions to problems about these children.

During this same period, scientists and philosophers such as Darwin, Dewey, and Parker were causing educators to re-examine their philosophy of education. Schools began changing from institutions that

"imprison men in cells of custom to those that free the human spirit." (Rubin, 1971). Frederick Burks and others were lecturing about and demonstrating the importance of individualization of instruction. (Rubin, 1971). In-service education programs helped teachers incorporate these philosophies into the instructional program.

Immediately following World War I and until the Great Depression, in-service education was primarily concerned with helping teachers fulfill degree requirements. Half of the practicing teachers of this period had less than two years of college work. (Rubin, 1971). In-service education programs were designed to help teachers complete degree and certification requirements.

The depression affected schools and brought new tasks to in-service education programs. Due to the high level of unemployment, youth were unable to drop out of school and find jobs. Enrollment in schools increased and included large numbers of students who did not plan to attend college. The curriculum lacked relevance for many students and required educators to reexamine the curriculum and instructional practices and to try out new ideas. (Rubin, 1971).

The Eight-Year Study, begun in 1933, examined the curriculum and instructional practices of that day and led to new instructional procedures, teaching materials, and a more relevant curriculum. A significant contribution of the Eight-Year Study was to in-service education. It led to the realization that by involving teachers in seeking solutions to their real problems, greater commitment of teachers to the aims of education were realized.

Following World War II, great enrollment increases again affected the in-service education programs. An acute teacher shortage returned the focus of in-service education to fulfilling certification and degree requirements.

School desegregation efforts during the 1960's caused in-service education programs to focus on helping teachers develop understandings and skills which would aid them in working toward the goal of school desegregation and quality education for all.

Today, less focus is being placed on filling gaps of pre-service education. Most beginning teachers have at least a bachelor's degree and meet state certification requirements. Trotter's study (1976) of the Knoxville City School System in 1976 reported that only 115 of the 1,761 teachers employed by the Knoxville City School system had less than a bachelor's degree. Similarly, Edlefelt (1974) reported that nearly 99 percent of all teachers currently in service in schools of the United States have at least a bachelor's degree and meet certification requirements. The teacher shortage is past. School systems are no longer forced to employ teachers who do not have appropriate pre-service programs to deal with the day to day problems being faced by teachers. Activities will be designed to help teachers identify problems, seek solutions for these problems, and to evaluate their own performance.

## II. TEACHER ATTITUDE TOWARD IN-SERVICE EDUCATION

Teachers are being asked to do a great number of things. They are responsible for helping children develop positive self images; they must deal with drug problems, sex problems, and often racism. At the same time they must develop professional skills which enable them to develop appropriate materials and to individualize instruction for children who come from varying social and economic backgrounds. This situation is well expressed in the report of The National Teachers' Task Force (Harper's Ferry Report), a group of classroom teachers from all sections of the nation who met at Harper's Ferry, West Virginia in 1972 to discuss a variety of issues facing educators. They stated:

> Teachers are most desirious of change, of leadership, of new and better ways to serve the children they teach. It is not change which disturbs them, it is expectations unfulfilled; it is being asked to deliver excellence in education without adequate training, support, time and money; and opportunities for personal growth and development.

Teachers recognize a need to improve their professional skills, but they are becoming dissatisfied with traditional in-service programs. Kenneth Howey (1976), after observing various in-service programs, noted:

> In-service teacher education in many respects resembles a patchwork quilt. As in the case with the quilt, it is not a first order of business but rather something which can be worked on at the end of the day in a more relaxed and restful setting. The time alloted and the frequency of the activity suggests that the "remnants," of larger ideas and ideals are dealt with. Rarely are institutional goals coordinated with personal needs in these activities but is not one of major reform as much as basic maintenance--a protective cover.

Teachers have begun to view traditional in-service programs as inadequate. They often view as suspect college and university personnel with regard to in-service activities. Supervisors and principals may be unpopular and are seldom thought of as people who know and understand teachers and their needs.

Paul Kelly (1971) surveyed teachers employed by Knoxville City Schools in 1971 to determine their attitude toward different aspects of their jobs. Fifty-four percent of the respondents indicated they were dissatisfied with the in-service education program provided them. They felt the activities gave little help for the grade level or subject they taught. Many felt the meetings were dull and repetitious. Kelly recommended that task forces of teachers and administrators be appointed to study the present program and recommend ways of improving in-service education programs. He also recommended that increased attention be given the orientation of new teachers.

A comprehensive survey of the Knoxville City Schools was conducted by The University of Tennessee personnel in 1976 (Trotter). A questionnaire used in the survey produced these findings. Fifty percent or more of the teachers questioned disagreed that their in-service education did the following things:

1. helped develop skills that improve teaching.
2. provided an important source of ideas.
3. provided an opportunity for identifying and solving problems in teaching.
4. facilitated the change process in teaching.

Over 53 percent of the respondents indicated that they did not participate in the planning and development of in-service education programs for teachers.

The same study questioned administrators and found that 69.7 percent were dissatisfied with the in-service program provided them. More than 50 percent disagreed that:

1. the program helped them develop skills that helped them improve their administrative skills.

2. the program inspired them to be better administrators.

3. the program provided an important source of ideas.

Sixty-three percent of the administrators said their in-service programs were not closely related to their needs as administrators.

Results of the Kelly and Trotter studies indicated that teachers and administrators in the Knoxville City School system are dissatisfied with their in-service education program.

Jack Brimm and Daniel Tollett (1974) surveyed teachers throughout the state of Tennessee concerning their attitudes about in-service education. A 34 item inventory was distributed to teachers in each of the 147 school districts in the state. Eighty-nine percent of the teachers in the sample agreed with the item, "The teacher should have opportunity to select the kind of in-service activity which he feels will strengthen his professional competence." Teachers consistently agreed concerning the desirability of individualization of in-service education. Ninty-six percent of the teachers surveyed agreed that: "In-service programs must include activities which allow for the different interest which exists

among individual teachers' (Brimm).

Teachers surveyed by Brimm and Tollett approved the following as being acceptable in-service education activities: university or college graduate course (77 percent), research (76 percent), travel (66 percent), professional reading (55 percent), and professional writing (54 percent).

Teachers want some group in-service activity. Seventy-six percent of Brimm's and Tollett's respondents felt system wide in-service activities should be provided and required of all teachers, but they indicated small group sessions are desirable. Fifty-five percent preferred in-service activities be conducted in individual school settings.

Ninty percent of the respondents felt the purpose of in-service education was to help teachers improve their classroom performance. Teachers felt strongly (87 percent) that in-service programs should provide activities which help teachers become acquainted with innovative programs and teaching techniques (Brimm).

Large numbers of sample teachers (73 percent) indicated they felt their in-service activities were not relevant to their needs. A large majority (93 percent) stated that teachers should be involved in developing purposes, activities, and methods of evaluation for in-service programs.

In a 1974 study, teachers in Prince George's County, Maryland were asked their feelings about their in-service education program (Ainsworth, 1976). Sixty percent of the respondents indicated greater concern for quality in-service activities than they did for receiving pay or credit

for their participation.

Ainsworth's investigation identified the following attributes of quality in-service activities: practicality (79.5 percent), support and encouragement (56 percent), systematic program (48 percent), variety (45 percent), and teacher sharing (42 percent). This group of teachers viewed quality in-service as being structured programs presented by other teachers about topics teachers consider helpful in their classrooms.

Despite all their expressed dissatisfaction, teachers want in-service education. In 1973-1974, a NEA assessment of teachers' needs in 20 different local associations, in-service education was one of the three needs that surfaced in every location (Edelfelt, 1974).

A 1976 NEA survey (Palmer) questioned teachers regarding their classroom instruction problems. The teachers questioned ranked in-service education among their top 10 concerns. The teachers ranked in-service education as a greater concern than financial support of education, diagnosing learning problems, disruption by students, and "mainstreaming" handicapped children into regular classes.

Studies indicate that teachers are dissatisfied with in-service education programs as they have traditionally existed, but want improved programs to help them meet the demands of their profession.

## III. IN-SERVICE EDUCATION ACTIVITIES

Traditionally, in-service education programs have attempted to update practicing teachers; orient pre-service teachers into schools and communities; fill gaps between existing and desired professional

knowledge and skills; and provide continuous professional development through activities such as workshops, conferences, lectures, demonstrations, discussion groups, buzz sessions, brainstorming sessions, and college course work. In-service education is in an evolving state, and many innovative programs are being implemented by school systems.

Job Embedded Approach

One approach currently receiving attention is the job embedded or on-site approach. Activities employed in these approaches involve teachers during their normal on-the-job activities. Examples of activities which could occur in the job embedded approach are self and collegial observations, experimentation with new teaching techniques, and exploration of new ways of diagnosing learning obstacles.

Several observation and analytical techniques have been developed to assist supervisors, administrators, and teachers in improving the instructional program. One of the better known is the interaction analysis technique developed by Ned Flanders (1970). This observational technique analyzes the interaction which occurs in classrooms. Based on the observations made by a trained observer, teachers learn to analyze their own behavior and make necessary changes so that improved interaction between teacher and students will occur.

Micro-teaching (Leonard) is another observation technique used in in-service education programs. This technique allows teachers to plan short lessons which concentrate on specific instructional skills. The lesson is recorded on video-tape so that the teacher may later view the

lesson, evaluate it, and plan further improvement.

The synergetic process (Bellon, 1974), developed by Jerry Bellon and associates, encourages teachers to look at their work analytically. This process includes a pre-observation conference in which the teacher discusses the goals and plan of the lesson with a supervisor, a careful observation of the lesson by a skilled observer, and a post-observation conference in which the lesson is analyzed using information obtained during the observation. A strong point of this technique is that teachers are encouraged to develop skill in analyzing instructional behavior. By developing this analytical skill, teachers may then evaluate and improve their own and other teachers' performances. It will no longer necessitate a visit from a supervisor or administrator to assist them in evaluating their own performance.

The advisory approach (Katz) is a job-embedded approach to in-service education. A characteristic of the approach is that persons familiar with classroom instruction work in the job situation with individual teachers. It is common for an advisor to spend one day each week in a building in order to assist requesting teachers. The advisor's role is nonjudgmental and nondirective in nature. Other characteristics of the approach are: (1) assistance is provided only when it is requested by teachers; (2) assistance is provided to help the requestor meet his own goals; (3) assistance occurs in a classroom situation rather than by lecture or seminar; and (4) assistance is provided in such a way that teachers become more independent in solving their own problems.

A pilot project, described by Lillian Katz (1974), involved seven elementary schools in Illinois. Advisors, who were experienced elementary school teachers, assisted the participating teachers in the following ways: (1) locating instructional materials to meet the needs of individual teachers, (2) assisting teachers in formulating plans, (3) helping teachers think through problems such as classroom management and individualization of instruction, (4) demonstration teaching, and (5) providing feedback from their classroom observations. This pilot project indicated that the advisory approach is well received by participants and is a feasible in-service training approach.

Teachers' Center Approach

Innovative approaches to teacher in-service education have been developing all over the world. Teachers' centers are one expression of teacher control over their own professional destiny. Vere DeVault (1974) described them as informal, non-evaluative environments which provide access to a variety of homemade materials and teaching tools.

The Teachers' Center movement in Britain was initiated by requirements of the Nuffield Foundation (DeVault, 1974). The Foundation, involved in curriculum development in mathematics, science, and modern languages, required teachers to meet to share their experiences with new instructional materials. The center concept was highly successful and has grown from a few centers in 1960 to over 600 in 1974.

British Centers are controlled by teachers and are largely voluntary. Executive committees are predominantly made up of teachers; but

headmasters, personnel from institutions of higher education, teacher unions, and boards of education are represented. Budgets for maintenance and operation of centers come from the chief school officer, who also appoints a full-time center director.

The focus of British Centers encompass one of three areas: service, workshop, or social. Service oriented centers provide teaching materials such as audio-visual equipment, reprographic equipment, and advisory help. The focus of workshop type centers is on obtaining consultants who provide short-term workshops, arrange course offerings by institutions of higher education, and on encouraging teachers themselves to serve as leaders of study groups. Centers having a social emphasis serve as meeting places where teachers can meet to discuss educational topics in pleasant surroundings. Teachers determine the focus of each center. They select a focus which will best help them meet their local professional needs.

Teachers' Center concept is popular with Japanese educators (DeVault, 1974). These centers are housed in large, million-dollar structures built specifically for the purpose of improving the quality of education. Originally, Japanese teachers met in voluntary, informal study circles to investigate topics of science. Recently these study circles have turned to other areas of the curriculum. Social studies, special education, counseling, and guidance are now among the more frequent topics of study.

One feature of Japanese Teachers' Centers is that frequently teachers come to the center for one to four years to do research, to teach

in-service courses, or provide other services at the center. After completing training at the center, the teacher returns to his school where he serves as an in-service education resource person as well as a classroom teacher.

The director of Japanese Teachers' Centers is frequently a university professor who serves part-time in both capacities. Other administrative staff members are full-time employees.

Teachers' Center approach is being actively pursued in this country and exists in a variety of forms. Schnieder and Yarger (1974) noted that most centering efforts in the United States deal with the following questions:

> 1. How can pre-service and in-service education personnel development be successfully linked?
> 2. How can curriculum development and staff development be effectively integrated?
> 3. How can generally uncommunicative (sometimes unfriendly) educational constituencies (students, teachers, administrators, supervisors, college and university staff, interested community leaders) best share experiences and resources?
> 4. How can educational personnel be continually renewed in their ability and vigor?

As in Britain, Teachers' Centers in America are controlled by teachers, but they are evolving to include other professional groups.

Two characteristics of American Teachers' Centers are that they are designed to meet immediate needs of teachers, and they utilize other constituencies in the field of education. Some educators argue that stimulation from institutions of higher education, minority groups, and the young are valuable ingredients in educational reform; and their input should be included in Teachers' Centers via participation in advisory boards.

Others contend that principals and other administrators should be excluded. David Shelton (Crosby) stated that principals "are too assertive, too used to exercising authority and have too much spare time to carry out their purposes to be assimulated easily." Crosby (1974) pointed out that Teachers' Center success in effecting change in schools will be limited if all personnel are not involved in center activities. Unless administrators are involved and have an understanding of problems facing teachers, there is little chance of change occuring in schools.

Teacher Center Approach

Teacher, Teaching, or Developmental Center Approach has evolved from the Teachers' Center concept. This approach is usually a partnership or a consortium between teachers, boards of education, and institutions of higher education. The focus of Teacher Centers extends beyond the needs of teachers to programmatic emphasis. Teacher Centers often attempt to link pre-service and in-service education. Teachers have greater input into the educational programs of pre-service teachers.

This concept has been evolving in America for the past 25 years. Professional organizations such as the American Association of Colleges for Teacher Education and the National Council for Accreditation of Teacher Education have explored new and more effective means of cooperative staff development. A group of centers was established by Task Force '72 of the United States Office of Education. Several states have passed legislation relating to the development of Teacher Centers. Teacher centering is well received by teachers, administrators, professional organizations, legislativ

and political bodies.

Schnieder (1974) describes seven organizational types of Teacher Centers existing in America.

Independent Teaching Centers are voluntary and are concerned with teacher needs rather than institutional concerns. These centers are independent of any affiliation. They frequently are located in store front buildings and serve very small groups of teachers.

Almost Independent Teaching Centers are linked with an educational institution such as a school system or institution of higher education. As with the Independent Teaching Center, participation is voluntary, and emphasis is on needs of the participant rather than on institutional goals.

Professional Organization Teaching Centers are of two types. The "negotiated" teacher center tends to focus on professional as well as educational problems. "Subject area" centers emphasize classroom subjects such as social studies or science. Professional Organization Teaching Centers are rare.

The Single Unit Teaching Center is probably the most common type of American center. It is associated with an educational institution. Programs focus upon institutional goals.

The Free Partnership Teaching Center is based on the consortium concept. It usually involves a school system and an institution of higher education. The Free Partnership is entered into willingly; no legislation requires the partnership. Goals of the center attempt to meet the needs of both partners. An example of the Free Partnership Consortium

can be found in the Syracuse University--West Genesee Teaching Center Council (Collins). The council, composed of equal numbers of representatives from the university and the school system, develops the operational policy of the center. Thus, the governance is shared by the two institutions.

Free Consortium Teaching Centers involve three or more institutions in a teaching center relationship. Organization and commitments are more formal and complex than in the Free Partnership Teaching Center. Programs are more general since needs of all partners must be considered. The Dallas Teaching Education Center (Collins) is an example of this type center. It is governed by a board which is composed of representatives from the Dallas Independent School District, each of the seven participating universities, professional organizations, and selected community organizations. A second example, the Appalachian Training Complex, developed in cooperation with Task Force '72 of the United States Office of Education is designed to share regional training and staff development resources. The complex is governed by representatives from each of the educational institutions including nine school districts, Appalachian State University, North Carolina Department of Education, and regional junior colleges and technical institutions. The complex operates wherever it is needed, developing programs to meet unique needs. In 1973, Baruch College and City University of New York faculty members initiated teacher center concept into two New York City public schools (Julius). This effort coordinates pre-service and in-service education courses. Experiences and resources of the institutions of higher education,

classroom teachers, administrators, teacher unions, and the community are shared to produce more effective teacher education programs. This type organization will cease to exist when participants find the program is not rewarding.

Legislative/Political Consortiums are prescribed by legislative mandate or by political influences. Often the State Department of Education oversees and influences the goals of this type center. Four states, Texas, California, Florida, and Vermont, have legislation concerning the development of Teacher Centers (Collins). Fourteen other states provide financial support for the development of these centers.

President Ford signed into law the Education Amendments of 1976 on October 12, 1976 (AACTE). These amendments allow local education agencies to plan, establish, and operate teacher centers which will: (a) develop and produce curricula, (b) provide training to improve the skills of teachers, and (c) familiarize teachers with developments in curriculum development and educational research. Governance of each teacher center is to be under the supervision of a policy board composed of K-12 teachers. The governing board must include vocational and special education teachers and at least one representative of an institution of higher education. State Departments of Education will serve to review each application and pass on to the Commissioner of Education those applications that they approve. State Departments of Education, therefore, will be influential in the implementation of this legislation.

Legislative/Political Consortium type Teacher Centers will become common due to recent legislation. Educators have been directed to assume

responsibility for developing appropriate in-service programs by the federal government.

## IV. EFFECTIVENESS OF IN-SERVICE EDUCATION

A significant factor to the success of any in-service program is staff involvement. This practice, however, is more often the exception than the rule. Most in-service projects are planned according to administrators' perceptions of the systems' in-service needs and by the available resources.

The success of an in-service program depends upon the commitment of the total staff to the goals and objectives of the program. The total staff (teachers, administrators, and other staff members) must be involved in the planning and implementation stages if this commitment is to be obtained. Fischer (Rubin) proposes that individual teachers assess their own professional strengths and weaknesses and plan their direction of growth.

The Ohio University Teacher Corps Project (Mangieri) utilizes a tri-level needs assessment procedure to determine its in-service program. First, a teacher needs assessment survey is sent to each teacher to discover those areas of greatest professional need. Second, instructional leaders are asked to make recommendations for in-service programs which would be beneficial to the teaching staffs. Finally, university staff members, after conducting a series of classroom observations, assist teachers and administrators in defining more specifically the in-service education needs of the system. After goals are established, in-service

activities are designed around a competency based teacher education format. Teachers then have the opportunity to progress through in-service modules at a rate and degree commensurate with their entry level of professional competence.

A determination of the effectiveness of in-service education programs can be made by observing the degree to which classroom instruction improves. The Ohio University Teacher Corp (Mangiere) Project In-service Model was jointly planned and developed by public school and university personnel to improve reading instruction. After eight months of participation in the program, a comparison of pre and post test scores revealed an average increase in reading scores of 1.4 years in primary grades and 1.3 years in the intermediate level. Students did more free reading, and their attitude toward reading became more positive. Teachers developed a more professional attitude and became more proficient in their ability to teach reading. In this instance, in-service education was considered effective in improving instruction.

Researchers have determined that in-service activities can change teacher attitude. James Sacco (1976) found that as a result of two different treatments, teacher attitude toward accountability was changed. One group of teachers received in-service instruction on teaching with learning hierarcy, while a second group did not. As a result of the program, teacher attitude about accountability became more positive.

Alan Kazan (1974) reports that as a result of an in-service program designed to improve teachers' use of reinforcing techniques, teacher behavior was changed. Six teachers received instruction on operant

conditioning principles. Additional activities were provided in classroom settings. Observers provided the teachers feedback on their performance each day. As a result of the activities, teacher behavior was altered in the desired direction.

Baker (Rubin) suggested the following reinforcers as successful approaches for changing teacher behavior:

1. Reduction in class size.
2. Increased pay.
3. Clerical assistance.
4. Released time.

An additional reinforcer for teachers was suggested by Louis Fischer (Rubin). He recommended that significant models or examples of teacher growth be publicized.

These examples suggest that in-service instruction, rewards, and peer recognition serve to change teacher behavior and improve instruction.

Leadership influences the success of in-service education programs. Carl Rogers (Hielfiker, 1973) stressed that leadership is an important factor in determining whether or not group members function effectively. He described conditions which foster effective and harmonious interpersonal relationships. The group whose leaders are accepting, permit and encourage free discussions, and place responsibility with the group function with greater effectiveness.

Abramowitz (1974) reported that the school principal has an important role in the in-service education program. Pre-service education, she stated, has provided inspiration and knowledge necessary for helping

teachers work with pupils, parents, colleagues, and administrators. She believed the building principal is in position to assist teachers in applying pre-service education to such problems as finding out "where the child is" and "individualizing instruction to take him to the next step."

Vaughn Phillips (Otto) viewed in-service education as being the responsibility of Superintendents and Boards of Education. Phillips stated, "If we're really going to improve the quality of education for students, it's going to be through improving the effectiveness of staff members who work with them. This means the Superintendent and the boards have to commit themselves through overt actions--budgetary considerations specifically for staff development, human resources, and time where necessary."

Betty Dillon (1974) emphasized collaborative arrangements between school districts and colleges and universities. She suggested that a council from the public schools and a council from an institution of higher education should jointly plan pre-service and in-service education programs for the public schools in their area. By this cooperative arrangement, all interested parties would become familiar with the teacher education programs, and the result would be more relevant pre-service and in-service education programs. Dillon considered that great benefit is to be derived from combining services related to staff development. She noted that school districts are in a position to "analyze data and identify areas where improvement is needed, determine direction, establish objectives, and develop implementation plans for meeting those objectives."

Institutions of higher education are in position to report on "research pertinant to the goals and objectives established . . . provide expertise in specialized areas such as needs assessment, evaluation, diagnosis, and prescription." Representatives of teacher organizations can help plan the staff development program. They can "assist in monitoring and encouraging teacher participation in the program and in regular critiquing to determine its value to individual members of the teaching staff . . . ." Dillon believed that by combining the forces available in the school district, institutions of higher education, and in teacher organizations, more effective professional growth activities can be developed.

When teachers have entirely dominated their training programs, the programs have become repetitious and impotent, according to E. Brooks Smith (Kaplan). He finds that once the initial excitement of sharing ideas has run out, teacher dominated programs become ineffectual. He recommends a partnership approach--one which includes school administrators, personnel from institutions of higher education, and teachers.

Time allotted for in-service activities is a factor which influences the effectiveness of the program. Typically, in-service activities are planned for after school hours when teachers are less effecient. Teachers often request a released time arrangement for in-service activities. Fischer (Rubin) proposed that school districts overhire by 10 percent so that at any time 10 percent of the faculty can pursue professional growth activities. He also suggested summer programs and sabbatical leaves as two other possible arrangements which would provide more effective in-service time.

Helen Hart (Kaplan) suggested a similar release time arrangement for in-service activities. She proposed that school systems have a cadre of trained substitute teachers who would release teachers for in-service activities by moving into their classrooms for one or two weeks.

Teacher perception of the effectiveness of in-service education activities was investigated by Alan J. Borgealt (1969). He compared teachers of differing professional backgrounds and experience to determine the degree to which they agreed on the effectiveness of their in-service activities in improving their professional skills. The following conclusions were based on his research:

1. In-service activities were ranked in this decending order of effectiveness, interclassroom visitations, conferences and clinics, individual conferences with specialist, directed professional reading, county and state workshops, local workshops, and faculty meetings.

2. Beginning and experienced teachers agree on the degree of effectiveness of the above in-service activities.

3. Teachers with two to five years' experience in their present situation view local workshops and conferences and clinics as being less effective than did teachers with six through 11 years in their present district.

4. Teachers from elementary and secondary grade levels from large, medium, and small school districts agree on the degree of effectiveness of the activity except directed professional reading.

5. Elementary and secondary teachers agree on the degree of effectiveness of only two activities: interclassroom visits and individual

conferences with specialists. Beginning teachers view in-service activities as more effective than do teachers with eight or more years' experience.

6. Teachers with one to seven years' experience view in-service as less effective than do teachers with eight or more years' experience.

7. Teacher involvement in the planning stage is preferred by teachers at all levels of teaching experience.

8. Elementary and secondary teachers prefer teacher planned activities to administrator planned activities.

9. Teachers with less than a bachelor's degree consider faculty meetings, local workshops, county and state workshops to be more effective than do teachers with a bachelor's degree.

Borgealt's research indicated that teachers tend to agree concerning the effectiveness of in-service activities, but teaching assignment, professional preparation, and teaching experience influence how they view various activities. All groups agree that they want to be involved at the planning stage of in-service programs.

Harris and Bessent (Otto) identified the following areas in which effectiveness is frequently reduced when in-service programs are planned and implemented:

1. Failure to relate the in-service program to the needs of the participants. Even when the true needs are identified, programs are designed for uniform presentation rather than to meet individual differences. Seldom is there any evaluation to determine the degree to which needs have been met and the extent to which other needs have been identified.

2. Failure to select appropriate activities to meet in-service goals. Too often in-service activities take a lecture format.

3. Failure to implement in-service programs with sufficient staff and resources in order to assure effectiveness. Budgets must provide time, resource people, and materials if goals are to be met.

## V. SUMMARY

The survey of literature on in-service education indicates that: (1) teachers want and need improved in-service education programs; (2) in-service education must center upon the needs of individual teachers as well as upon system needs; (3) teachers must be involved in both planning and implementation stages if in-service education is to be effective; (4) the leadership role is important to the success of in-service education; and (5) well planned in-service activities can change teacher behavior, attitude, and improve the instructional program of a school system.

# CHAPTER III

## METHODS AND PROCEDURES

This chapter contains a description of the design of the study, instrumentation, data collection procedures, sample selection, and methods of analyzing data obtained in the study.

## I. DESIGN

The study was designed to ascertain the attitude of teachers toward their in-service education program and to obtain data about what constitutes productive in-service education programs from elementary school teachers (K-6) in Knoxville City Schools. The focus of the study was determined by the following questions:

1. What in-service activities did elementary teachers of Knoxville City Schools experience during the 1975-1976 school year?

2. How effective did teachers consider these activities?

3. What do elementary teachers consider to be their greatest professional needs?

4. What activities do they consider would best help them meet their expressed needs?

5. Do K-3rd grade, 4th-6th grade, and special class teachers evaluate their in-service activities differently?

6. Do K-3rd grade, 4th-6th grade, and special class teachers view their in-service needs differently?

7. Do beginning and more experienced teachers evaluate their in-service activities differently?

8. Do beginning and more experienced teachers view their in-service needs differently?

## II. INSTRUMENTATION

Data were collected by an original questionnaire developed by this researcher. Items included in the questionnaire were suggested by personal knowledge of the writer concerning the in-service education program in the Knoxville City School system, by a survey of related literature, by suggestions of her doctoral committee, subject area specialists from The University of Tennessee, supervisors in the Knoxville City School system, and from Knoxville City School teachers. Revisions of the original questionnaire were made following evaluations made by subject area specialists from the College of Education of The University of Tennessee, by subject area supervisors from the Knoxville City Schools, and by Knoxville City School administrators. Following administration of the instrument to the faculty of a school not selected for the study, additional revisions were made.

Part A asked teachers to identify in-service activities in which they participated during the 1975-1976 school year and to evaluate the effectiveness of these activities on a Likert-type scale. Part B asked teachers to rank the three general professional skills for which they felt the greatest need. Part C collected data about subject area needs. The final section, Part D, concerned teachers' perceptions of effective

in-service activities. Opportunities for expressing additional needs and comments were provided. Personal and professional information was requested to allow the data to be analyzed by several sub-groups. Respondents were instructed not to sign their names to the instrument. A copy of the questionnaire is included in the Appendix.

## III. PROCEDURES

Approval for the study was obtained from Dr. Paul Kelly, Assistant Superintendent for Instruction in the Knoxville City School system. Principals were contacted to obtain their cooperation.

The questionnaire was distributed to 302 teachers in the 14 schools selected for the study. The first collection of forms was made one week after distribution. Second and third follow-up contacts were made by contact with building principals and by a letter thanking respondents for their cooperation and requesting a response from others.

## IV. SAMPLE

The sample was composed of approximately 40 percent of the elementary school teachers employed by Knoxville City Schools during the 1975-1976 school year. The total staff (K-6) of 14 elementary schools, selected by applying a table of random numbers to an alphabetical listing of the elementary schools in the Knoxville City School system, comprised the study sample.

## V. ANALYSIS OF THE DATA

The University of Tennessee Computer Center was used to descriptively analyze data, using frequency and percentage distribution, rank order, and the appropriate nonparametric statistical test. Findings are presented in Chapter IV.

## VI. SUMMARY

The study was designed to ascertain what in-service activities Knoxville City elementary school teachers experienced during 1975-1976 and to obtain their evaluations of these activities. The study also sought to determine professional needs of the respondents and to obtain their opinions about types of activities which constitute effective in-service programs.

A questionnaire was used to obtain data from a clustered random sample of teachers (K-6) in the Knoxville City Schools.

Descriptive analysis using frequency and percentage distributions, rank order, and the appropriate nonparametric statistical test were used to resolve eight questions. Statistical data were processed and analyzed by The University of Tennessee Computer Center.

# CHAPTER IV

## PRESENTATION OF DATA

This chapter presents data relating to the eight research questions presented in Chapter I.

## I. RESULTS

The questionnaire was distributed to 302 teachers in 14 randomly selected elementary schools (K-6) in the Knoxville City School system. The sample represented 40 percent of the elementary teachers in the system. Of these, 189 (61 percent) responded to the questionnaire.

Ninty-five respondents (50 percent) taught in grades K-3. Sixty-one (32 percent) taught in grades 4-6. Special classroom assignments were held by 32 (16 percent) of the respondents. One respondent did not indicate a teaching assignment (see Table I).

Only 19 (10 percent) of the respondents had less than two years' teaching experience. One hundred sixty-six (88 percent) had more than two years of teaching experience. Three respondents failed to provide information concerning their teaching experience (see Table II).

### Question 1

Question 1 asked in what in-service activities did elementary teachers in the Knoxville City School system participate during the 1975-1976 school year. Percentages of teachers experiencing the various in-service

TABLE I

TEACHING ASSIGNMENTS OF RESPONDENTS

| Assignment | Number | Percent |
|---|---|---|
| Kindergarten-third grade | 95 | 50 |
| Fourth-sixth grade | 61 | 32 |
| Special class | 32 | 16 |
| Missing | 1 | |

TABLE II

TEACHING EXPERIENCE OF RESPONDENTS

| Experience | Number | Percent |
|---|---|---|
| Two years or less | 19 | 10 |
| More than two years | 166 | 88 |
| Missing | 3 | |

activities and rank order of the frequencies of occurance are presented in Table III.

The most common in-service activity experienced by the respondents was "system-wide meetings for all teachers." Ninty-two percent of the respondents reported participating in this activity. Building staff meetings, city-wide grade level meetings, and grade level meetings for area schools were activities experienced by more than 70 percent of the respondents. College/university course work, observations in other classrooms, interactions with consultants from manufacturing companies, and with consultants from colleges and universities were activities least frequently experienced.

Question 2

Question 2 asked how effective the 1975-1976 in-service education activities were in helping respondents meet their professional needs. Respondents were asked to evaluate each of the activities in which they participated on a Likert-type scale. Ratings of Very Good received a weight of three, ratings of Good--a weight of two, Satisfactory--a weight of one, Poor--a weight of negative one, and Very Poor--a weight of negative two. Means were computed for the weighted totals. A rank order of the evaluants produced the following findings: (1) work day for planning and record keeping, (2) conferences with other teachers, (3) independent study, and (4) college or university course work were considered to be the most helpful activities. City-wide grade level meetings, orientation sessions, interactions with consultants from manufacturing companies, and

TABLE III

IN-SERVICE ACTIVITIES EXPERIENCED BY ELEMENTARY TEACHERS IN KNOXVILLE CITY SCHOOLS DURING 1975-1976

| Activity | Percent | Rank |
|---|---|---|
| City-wide meetings for all teachers | 92.1 | 1 |
| Building staff meetings | 78.8 | 2 |
| Grade level meetings--city-wide | 74.6 | 3 |
| Grade level meetings--area schools | 72.0 | 4 |
| Conference with another teacher | 69.3 | 5 |
| Work day for planning and record keeping | 64.6 | 6 |
| Conference with principal | 60.3 | 7 |
| Independent study | 50.8 | 8 |
| Grade level meetings--individual schools | 43.4 | 9 |
| Conference with supervisor | 40.7 | 10 |
| Orientation | 40.2 | 11 |
| TV in-service programs | 38.1 | 12 |
| Consultants from publishing companies | 37.0 | 13 |
| College/university course work | 33.3 | 14 |
| Observe another classroom | 27.0 | 15 |
| Consultants from manufacturing companies | 17.5 | 16 |
| Consultants from colleges/universities | 14.3 | 17 |

city-wide meetings for all teachers were considered to be the least helpful activities (see Table IV).

Question 3

Question 3 asked what respondents considered to be their greatest professional needs. Respondents were asked to indicate their three most important general professional needs on Part B of the questionnaire. By assigning a value of three to the greatest need, a value of two to the second greatest need, and a value of one to the third greatest need, the following needs were identified as being of greatest concern to respondents: (1) providing for individual differences, (2) improving discipline, (3) developing materials and learning centers, and (4) building motivation and positive attitudes toward school. Respondents expressed less concern for questioning techniques, using library and audio-visual resources, articulation between K--first grade and first--second grades, and understanding different cultures (see Table V).

Respondents were also asked to rank the three instructional areas for which they felt greatest need to improve. Weights were assigned these needs by placing a value of three to the first mentioned, a value of two to the second, and a value of one to the third subject area mentioned. The rank order of the subject area needs is mathematics, reading, language arts, and art (see Table VI).

After selecting three subject areas, respondents were asked to indicate specific skills associated with each selected subject area for which they had an interest or need. Tallies of these responses are presented

TABLE IV

EVALUATIONS OF 1975-1976 IN-SERVICE EDUCATION ACTIVITIES

| Activity | Mean | Rank |
|---|---|---|
| Conference with another teacher | 1.60 | 1.0 |
| Work day for planning and record keeping | 2.30 | 2.0 |
| Independent study | 2.20 | 3.0 |
| College/university course work | 2.00 | 4.5 |
| Observe another classroom | 2.00 | 4.5 |
| Consultants from colleges/universities | 1.90 | 6.5 |
| Grade level meetings--individual schools | 1.90 | 6.5 |
| Building staff meetings | 1.60 | 9.0 |
| Grade level meetings--area schools | 1.60 | 9.0 |
| Conference with principal | 1.60 | 9.0 |
| TV in-service programs | 1.40 | 11.0 |
| Conference with supervisor | 1.30 | 12.0 |
| Grade level meetings--city-wide | 1.00 | 13.0 |
| Orientation | .90 | 14.0 |
| Consultants from publishing companies | .09 | 15.5 |
| Consultants from manufacturing companies | .09 | 15.5 |
| City-wide meetings for all teachers | - .05 | 17.0 |

TABLE V

RANK OF GENERAL PROFESSIONAL SKILLS EXPRESSED AS NEEDED BY ELEMENTARY SCHOOL TEACHERS OF KNOXVILLE CITY SCHOOLS

| Skill | Mean | Rank |
|---|---|---|
| Providing for individual differences | 1.04 | 1.0 |
| Improving discipline | .91 | 2.0 |
| Developing materials/centers | .71 | 3.0 |
| Building motivation/positive attitudes | .68 | 4.0 |
| Evaluating children's work | .45 | 5.0 |
| Providing for continuous progress | .41 | 6.0 |
| Using basal text | .20 | 7.5 |
| Parent/teacher conferencing | .20 | 7.5 |
| Using supplementary materials | .17 | 9.0 |
| Values clarification | .16 | 10.0 |
| Questioning techniques | .15 | 11.0 |
| Using library/audio-visual resources | .14 | 12.0 |
| Articulation (K-1st, 1st-2nd, etc.) | .12 | 13.0 |
| Understanding different cultures | .07 | 14.0 |

TABLE VI

RANK OF SUBJECT AREA NEEDS AS EXPRESSED BY ELEMENTARY SCHOOL TEACHERS IN KNOXVILLE CITY SCHOOLS

| Subject | Mean | Rank |
|---|---|---|
| Math | 1.13 | 1 |
| Reading | 1.12 | 2 |
| Language arts | 1.07 | 3 |
| Art | .49 | 4 |
| Social studies | .48 | 5 |
| Library | .49 | 6 |
| Physical education | .26 | 7 |
| Science | .15 | 8 |
| Music | .14 | 9 |

in Table VII. Greatest interest was expressed for diagnosing needs and correcting difficulties in language arts, teaching listening skills, teaching problem solving in mathematics, and diagnosing and correcting reading difficulties.

Question 4

Question 4 asked which in-service activities teachers considered effective in helping them meet their professional growth needs. Teachers were asked to evaluate the effectiveness of 17 common in-service activities on a Likert-type scale. Responses of Very Good were assigned a value of three, Good--a value of two, Fair--a value of one, Poor--a value negative two, and Very Poor--a value of negative three. Evaluations were totaled, means computed, and activities ranked in order of effectiveness. Most effective activities were demonstrations by other teachers, grade level discussion groups, and workshops. Least effective activities included professional research, buzz sessions, brainstorming, micro-teaching, professional writing, and lectures (see Table VIII).

Question 5

Question 5 asked if K-3rd grade teachers, 4th-6th grade teachers, and special class teachers differ significantly in how they view the effectiveness of their 1975-1976 in-service education activities. Respondents indicated on a Likert-type scale the degree of effectiveness of their in-service education activities. Table IX presents the evaluations of K-3rd grade teachers. These teachers indicated that conferences with other teachers, work day, and independent study were the most beneficial

TABLE VII

SPECIFIC SUBJECT AREA SKILLS PERCEIVED AS NEEDED BY RESPONDENTS

| Skill | Frequency |
|---|---|
| Art | |
| Displaying children's art work | 17 |
| Evaluating children's art work | 24 |
| Integrating art activities with other subject areas | 35 |
| Resources for art instruction | 32 |
| Teaching art appreciation/history | 8 |
| Teaching design/composition | 10 |
| Teaching drawing/painting | 23 |
| Teaching three dimensional studies | 11 |
| Language Arts | |
| Diagnosing needs/correcting difficulties | 70 |
| Early language arts experiences (foundations) | 33 |
| Integrating language arts with other subjects | 34 |
| Linguistics | 16 |
| Teaching creative writing | 49 |
| Teaching functional writing | 30 |
| Teaching handwriting | 27 |
| Teaching listening skills | 77 |
| Teaching literature (prose/poetry) | 22 |
| Teaching oral expression | 38 |
| Teaching sentence structure | 33 |
| Teaching spelling | 27 |
| Library | |
| Building materials collections to meet the needs of children | 20 |
| Integrating the library with classroom activities | 26 |
| Story telling/reading to children | 24 |
| Using media to improve instruction | 23 |
| Mathematics | |
| Early mathmatics experiences | 46 |
| Laboratory approach | 39 |
| Teaching decimals, percent, and ratio | 14 |
| Teaching measurement | 28 |
| Teaching problem solving | 58 |
| Teaching whole numbers and their computation | 22 |

TABLE VII (continued)

| Skill | Frequency |
|---|---|
| Music | |
| Kodoly concept and its use | 7 |
| Programmed instructional materials | 6 |
| Teaching beginning concepts to kindergarten children | 8 |
| Teaching and using Oroff instruments | 4 |
| Using and playing recorders | 6 |
| Using games to teach musical concepts/skills | 6 |
| Physical Education | |
| Integrating P.E. activities with other subject areas | 5 |
| Making P.E. equipment | 14 |
| Movement education | 21 |
| Physical fitness activities | 13 |
| Teaching folk dance/rhythms | 18 |
| Teaching and using hoola hoops | 9 |
| Teaching jump rope activities | 10 |
| Teaching tumbling activities | 10 |
| Teaching track and field events | 6 |
| Reading | |
| Content area reading | 15 |
| Diagnosing/correcting reading difficulties | 57 |
| Early reading experiences | 32 |
| Language experience approach | 30 |
| Teaching comprehension skills | 37 |
| Teaching word analysis skills | 2 |
| Science | |
| Development of a science materials center | 9 |
| Integrating science with other subjects | 7 |
| Process vs. content orientation in science instruction | 3 |
| Sources of inexpensive science equipment | 11 |
| Using discovery techniques to teach science | 9 |
| Social Studies | |
| Helping children develop values | 29 |
| Integrating social studies with other classroom activities | 30 |
| Resources available for social studies instruction | 34 |
| Role of current and special events in the social studies curriculum | 18 |
| Skills to be stressed in social studies (maps, graphs, etc.) | 25 |
| Strategies, methods, and activities for teaching social studies | 20 |

TABLE VIII

PERCEIVED EFFECTIVENESS OF TYPES OF IN-SERVICE ACTIVITIES

| Activity | Mean | Rank |
|---|---|---|
| Demonstrations by other teachers | 1.96 | 1.0 |
| Grade level discussion groups | 1.93 | 2.0 |
| Workshops | 1.87 | 3.0 |
| Conference with principal | 1.74 | 4.0 |
| Demonstrations by supervisors/specialists | 1.72 | 5.0 |
| Conference with another teacher | 1.70 | 6.0 |
| Observe another classroom | 1.67 | 7.5 |
| Travel | 1.67 | 7.5 |
| College/university course work | 1.58 | 9.0 |
| Independent study | 1.56 | 10.0 |
| Conference with supervisor | 1.42 | 11.0 |
| Professional research | 1.06 | 12.0 |
| Buzz sessions | .90 | 13.0 |
| Brainstorming | .64 | 14.0 |
| Micro-teaching | .42 | 15.0 |
| Professional writing | .35 | 16.0 |
| Lecture | .27 | 17.0 |

TABLE IX

EVALUATIONS OF 1975-1976 IN-SERVICE ACTIVITIES BY K-3RD GRADE TEACHERS

| Activity | Mean | Rank |
|---|---|---|
| Conference with another teacher | 2.40 | 1.0 |
| Work day for planning and record keeping | 2.20 | 2.0 |
| Independent study | 2.10 | 3.0 |
| Grade level meetings--individual schools | 2.00 | 4.0 |
| Building staff meetings | 1.80 | 5.5 |
| Conference with principal | 1.80 | 5.5 |
| Observe another classroom | 1.70 | 7.0 |
| TV in-service programs | 1.40 | 8.0 |
| Grade level meetings--area schools | 1.30 | 9.0 |
| Grade level meetings--city-wide | 1.20 | 10.0 |
| College/university course work | 1.16 | 11.0 |
| Orientation | .83 | 12.0 |
| Conference with supervisor | .80 | 13.0 |
| Consultants from publishing companies | .63 | 14.0 |
| Consultants from colleges/universities | .57 | 15.0 |
| City-wide meetings for all teachers | .11 | 16.0 |
| Consultants from manufacuring companies | - .14 | 17.0 |

activities. Evaluations of 4th-6th grade teachers indicate the most effective activities for this group of teachers were work day for planning and record keeping, course work, and observation in other classrooms. Evaluations of 4th-6th grade teachers are presented in Table X. Special teachers' responses, presented in Table XI, agreed that observations in other classrooms, work days for planning and record keeping, and course work were the most effective in-service activities. Chi-square tests were computed for each activity, comparing the responses of the three teaching assignment groups (see Table XII). Significant differences were found for two activities: city-wide meetings for all teachers (significant at the .03 level), and conferences with supervisors (significant at the .04 level). The group of K-3rd grade teachers were more positive in their evaluation of city-wide meetings for all teachers than were the other two groups. All groups, however, ranked this activity as the least effective in-service activity experienced. The group of special class teachers were more positive in their evaluation of conferences with supervisors than were the other two groups. Conferences with supervisors ranked sixth in effectiveness with special class teachers and thirteenth with the other two groups. There were no significant differences between the groups in their evaluations of the remaining 1975-1976 in-service education activities.

Question 6

Question 6 asked if teachers with two or fewer years' teaching experience differ from teachers having more than two years' teaching

TABLE X

EVALUATIONS OF 1975-1976 IN-SERVICE ACTIVITIES
BY 4TH-6TH GRADE TEACHERS

| Activity | Mean | Rank |
|---|---|---|
| Work day for planning and record keeping | 2.50 | 1 |
| College/university course work | 2.40 | 2 |
| Observe another classroom | 2.30 | 3 |
| Independent study | 2.20 | 4 |
| Conference with another teacher | 2.08 | 5 |
| Conference with principal | 2.06 | 6 |
| Grade level meetings--individual schools | 1.96 | 7 |
| Building staff meetings | 1.60 | 8 |
| Consultants from colleges/universities | 1.50 | 9 |
| Grade level meetings--area schools | 1.40 | 10 |
| TV in-service programs | 1.30 | 11 |
| Conference with supervisor | 1.10 | 12 |
| Consultants from publishing companies | 1.00 | 13 |
| Consultants from manufacturing companies | .88 | 14 |
| Orientation | .77 | 15 |
| Grade level meetings--city-wide | .50 | 16 |
| City-wide meetings for all teachers | - .36 | 17 |

TABLE XI

EVALUATIONS OF 1975-1976 IN-SERVICE ACTIVITIES
BY SPECIAL CLASS TEACHERS

| Activity | Mean | Rank |
|---|---|---|
| Observe another classroom | 2.60 | 1.0 |
| Work day for planning and record keeping | 2.50 | 2.0 |
| College/university course work | 2.50 | 3.5 |
| Grade level meetings--individual schools | 2.50 | 3.5 |
| Independent study | 2.40 | 5.0 |
| Conference with supervisor | 2.30 | 6.0 |
| TV in-service programs | 2.28 | 7.0 |
| Conference with another teacher | 2.22 | 8.0 |
| Conference with principal | 2.09 | 9.0 |
| Grade level meetings--area schools | 1.71 | 10.0 |
| Consultants from publishing companies | 1.70 | 11.0 |
| Orientation | 1.60 | 12.0 |
| Building staff meetings | 1.50 | 13.0 |
| Grade level meetings--city-wide | 1.40 | 14.0 |
| Consultants from colleges/universities | 1.30 | 15.0 |
| Consultants from manufacturing companies | - .66 | 16.0 |
| City-wide meetings for all teachers | -1.03 | 17.0 |

TABLE XII

COMPARISONS OF EVALUATIONS OF 1975-1976 IN-SERVICE ACTIVITIES BY K-3RD GRADE, 4TH-6TH GRADE TEACHERS, AND SPECIAL CLASS TEACHERS

| Activity | Chi-square | Level of Significance |
|---|---|---|
| Building staff meetings | 4.12369 | .8458 |
| City-wide meetings for all teachers | 17.46104 | .0257* |
| College/university course work | 5.09481 | .5381 |
| Conference with another teacher | 10.78250 | .0953 |
| Conference with principal | 5.17422 | .7388 |
| Conference with supervisor | 15.85405 | .0445* |
| Consultants from colleges/universities | 6.42856 | .5993 |
| Consultants from manufacturing companies | 4.52221 | .8072 |
| Consultants from publishing companies | 11.64693 | .1677 |
| Grade level meetings--area schools | 3.81344 | .7019 |
| Grade level meetings--city-wide | 14.17066 | .0774 |
| Grade level meetings--individual schools | 4.23064 | .8357 |
| Independent study | 5.52673 | .7001 |
| Observe another classroom | 8.22020 | .4123 |
| Orientation | 5.47859 | .7054 |
| TV in-service programs | 6.56289 | .4123 |
| Work day for planning and record keeping | 4.91405 | .7667 |

*Significant at the .05 level.

experience in their evaluations of the 1975-1976 in-service education activities. The rank order of beginning teachers' evaluations is presented in Table XIII. Beginning teachers rated independent study, college/university course work, and conferences with other teachers as the most effective in-service activities of their 1975-1976 program. Evaluations of the more experienced group of teachers, presented in Table XIV, indicated they considered these same activities the most effective. Chi-square tests were computed, comparing the responses of the two experience groups (see Table XV). No significant differences were found between the responses of the two experience groups.

Question 7

Question 7 asked if K-3rd grade teachers, 4th-6th grade teachers, and special class teachers differ significantly in how they view their professional needs. Respondents indicated on Part B of the questionnaire the three general professional skills they felt greatest need to improve. Rank orders were determined for each of the three teaching assignment groups. Responses of K-3rd grade teachers, presented in Table XVI, indicated their greatest needs to be to improve their skill in providing for individual differences in children, to develop materials and learning centers, and to improve discipline. Fourth-sixth grade teachers indicated greatest need to improve the same three general professional skills. Rank order of the 4th-6th grade teachers' responses is presented in Table XVII. Building motivation skills and positive attitudes toward school, improving

TABLE XIII

EVALUATION OF THE 1975-1976 IN-SERVICE ACTIVITIES BY TEACHERS HAVING LESS THAN TWO YEARS' TEACHING EXPERIENCE

| Activity | Mean | Rank |
|---|---|---|
| Independent study | 2.40 | 1.0 |
| College/university course work | 2.29 | 2.0 |
| Conference with another teacher | 2.27 | 3.0 |
| Building staff meetings | 1.80 | 4.0 |
| Grade level meetings--area schools | 1.70 | 5.0 |
| Grade level meetings--city-wide | 1.60 | 6.5 |
| Conference with principal | 1.60 | 6.5 |
| TV in-service programs | 1.50 | 8.5 |
| Work day for planning and record keeping | 1.50 | 8.5 |
| Grade level meetings--individual schools | 1.40 | 10.0 |
| Observe another classroom | 1.25 | 11.0 |
| Orientation | 1.20 | 12.0 |
| Conference with supervisor | 1.10 | 13.0 |
| Consultants from publishing companies | 1.00 | 14.0 |
| City-wide meetings for all teachers | .06 | 15.0 |
| Consultants from colleges/universities | -2.00 | 16.5 |
| Consultants from manufacturing companies | -2.00 | 16.5 |

TABLE XIV

EVALUATION OF THE 1975-1976 IN-SERVICE ACTIVITIES BY TEACHERS HAVING MORE THAN TWO YEARS' TEACHING EXPERIENCE

| Activity | Mean | Rank |
|---|---|---|
| Conference with another teacher | 2.30 | 1.0 |
| Independent study | 2.20 | 2.0 |
| College/university course work | 2.05 | 3.0 |
| Observe another classroom | 2.00 | 4.0 |
| Grade level meetings--individual schools | 1.90 | 5.5 |
| Conference with principal | 1.90 | 5.5 |
| Building staff meetings | 1.70 | 7.0 |
| TV in-service programs | 1.40 | 8.0 |
| Grade level meetings--area schools | 1.30 | 10.0 |
| Work day for planning and record keeping | 1.30 | 10.0 |
| Conference with supervisor | 1.30 | 10.0 |
| Consultants from colleges/universities | 1.04 | 12.0 |
| Grade level meetings--city-wide | 1.03 | 13.0 |
| Consultants from publishing companies | .89 | 14.0 |
| City-wide meetings for all teachers | .31 | 15.0 |
| Consultants from manufacturing companies | .09 | 16.5 |
| Orientation | .09 | 16.5 |

TABLE XV

A COMPARISON OF THE EVALUATIONS OF 1975-1976 IN-SERVICE ACTIVITIES BY TEACHERS HAVING TWO OR LESS YEARS' EXPERIENCE WITH TEACHERS HAVING MORE THAN TWO YEARS' EXPERIENCE

| Activity | Chi-square | Level of Significance |
|---|---|---|
| Building staff meetings | 1.703080 | .79 |
| City-wide meetings for all teachers | 2.779700 | .59 |
| College/university course work | .417800 | .93 |
| Conference with another teacher | 1.110680 | .77 |
| Conference with principal | 6.079920 | .19 |
| Conference with supervisor | 5.672080 | .22 |
| Consultants from colleges/universities | 4.368000 | .35 |
| Consultants from manufacuring companies | 2.270972 | .68 |
| Consultants from publishing companies | 1.492520 | .84 |
| Grade level meetings--area schools | 2.333240 | .50 |
| Grade level meetings--city-wide | 4.283720 | .36 |
| Grade level meetings--individual schools | 7.487590 | .11 |
| Independent study | 1.492520 | .82 |
| Observe another classroom | 5.335740 | .25 |
| Orientation | 5.171530 | .27 |
| TV in-service programs | 4.772720 | .31 |
| Work day for planning and record keeping | 4.222730 | .37 |

TABLE XVI

RANK OF GENERAL PROFESSIONAL SKILLS NEEDED BY K-3RD GRADE TEACHERS OF KNOXVILLE CITY ELEMENTARY SCHOOLS

| Skill | Percent | Rank |
|---|---|---|
| Providing for individual differences | 55 | 1.0 |
| Developing materials/centers | 41 | 2.0 |
| Improving discipline | 37 | 3.0 |
| Building motivation/positive attitudes | 32 | 4.0 |
| Providing for continuous progress | 20 | 5.0 |
| Evaluating children's work | 19 | 6.0 |
| Parent/teacher conferencing | 16 | 7.0 |
| Using basal text | 12 | 8.5 |
| Using supplementary materials | 12 | 8.5 |
| Using library/audio-visual resources | 8 | 10.0 |
| Articulation (K-1st, 1st-2nd, etc.) | 7 | 11.0 |
| Values clarification | 6 | 12.0 |
| Understanding different cultures | 4 | 13.0 |
| Questioning techniques | 2 | 14.0 |

TABLE XVII

RANK OF GENERAL PROFESSIONAL SKILLS NEEDED BY 4TH-6TH GRADE TEACHERS OF KNOXVILLE CITY ELEMENTARY SCHOOLS

| Skill | Percent | Rank |
|---|---|---|
| Providing for individual differences | 47 | 1.0 |
| Improving discipline | 46 | 2.0 |
| Developing materials/centers | 33 | 3.0 |
| Building motivation/positive attitudes | 28 | 5.0 |
| Evaluating children's work | 28 | 5.0 |
| Providing for continuous progress | 28 | 5.0 |
| Using supplementary materials | 13 | 7.0 |
| Using library/audio-visual resources | 11 | 8.0 |
| Using basal text | 10 | 9.5 |
| Questioning techniques | 10 | 9.5 |
| Parent/teacher conferencing | 8 | 11.0 |
| Understanding different cultures | 5 | 12.5 |
| Values clarification | 5 | 12.5 |
| Articulation (K-1st, 1st-2nd, etc.) | 2 | 14.0 |

discipline, and developing materials and learning centers were the three greatest general professional skill needs of special class teachers. The rank order of general professional needs of special class teachers is presented in Table XVIII. Chi-square tests were computed comparing the responses of the three teaching assignment groups (see Table XIX). One skill, developing motivation and positive attitudes toward school, produced a chi-square of 6.42182, significant at the .03 level. Fifty-three percent of the special class teacher group expressed need to improve this skill. Fewer K-3rd grade teachers (31 percent) and 4th-6th grade teachers (23 percent) expressed a need to improve this skill. A chi-square of 6.19276, significant at the .04 level, was obtained for the skill of values clarification. Again, the group of special class teachers expressed greater need for this skill than did the other two groups. Values clarification ranked seventh with the special class teachers and eleventh with the other two teaching assignment groups. No other significant differences were found between the three groups of teachers in their general professional skill needs.

Subject areas in which respondents felt need or interest in improving instructional skills were obtained from Part C of the questionnaire. Percentages of respondents indicating need for each subject area were computed. Seventy-five percent of K-3rd grade teachers expressed greatest need to improve their instructional skills in the area of language arts. Responses of the group of K-3rd grade teachers are presented in Table XX. Fourth-sixth grade teachers (see Table XXI)

TABLE XVIII

RANK OF GENERAL PROFESSIONAL SKILLS NEEDED BY SPECIAL CLASS TEACHERS OF KNOXVILLE CITY ELEMENTARY SCHOOLS

| Skill | Percent | Rank |
|---|---|---|
| Building motivation/positive attitudes | 53 | 1.0 |
| Improving discipline | 50 | 2.0 |
| Developing materials/centers | 34 | 3.0 |
| Providing for individual differences | 31 | 4.0 |
| Evaluating children's work | 25 | 5.5 |
| Providing for continuous progress | 25 | 5.5 |
| Values clarification | 19 | 7.0 |
| Parent/teacher conferencing | 9 | 8.5 |
| Questioning techniques | 9 | 8.5 |
| Using basal text | 6 | 11.0 |
| Using library/audio-visual resources | 6 | 11.0 |
| Using supplementary materials | 6 | 11.0 |
| Articulation (K-1st, 1st-2nd, etc.) | 3 | 13.0 |
| Understanding different cultures | 0 | 14.0 |

TABLE XIX

DIFFERENCES BETWEEN K-3RD GRADE, 4TH-6TH GRADE, AND SPECIAL CLASS TEACHERS IN GENERAL PROFESSIONAL NEEDS

| Skill | Chi-square | Level of Significance |
|---|---|---|
| Articulation (K-1st, 1st-2nd, etc.) | 2.90873 | .2335 |
| Building motivation/positive attitudes | 6.48172 | .0390* |
| Developing materials/centers | 1.22088 | .5431 |
| Evaluating children's work | 1.77499 | .4117 |
| Improving discipline | 2.25907 | .3232 |
| Parent/teacher conferencing | 2.28807 | .3185 |
| Providing for continuous progress | 1.33785 | .5123 |
| Providing for individual differences | 5.31409 | .0702 |
| Questioning techniques | 4.89955 | .0863 |
| Understanding different cultures | 1.54330 | .4622 |
| Using basal text | .75548 | .6854 |
| Using library/audio-visual resources | .78699 | .6747 |
| Using supplementary materials | 1.02918 | .5977 |
| Values clarification | 6.19276 | .0452* |

*Significant at the .05 level.

TABLE XX

SUBJECT AREA NEEDS EXPRESSED BY
K-3RD GRADE TEACHERS

| Subject Area | Percent | Rank |
|---|---|---|
| Language Arts | 75 | 1 |
| Mathematics | 59 | 2 |
| Reading | 58 | 3 |
| Art | 30 | 4 |
| Social Studies | 22 | 5 |
| Physical Education | 21 | 6 |
| Library | 18 | 7 |
| Science | 9 | 8 |
| Music | 3 | 9 |

TABLE XXI

SUBJECT AREA NEEDS EXPRESSED BY
4TH-6TH GRADE TEACHERS

| Subject Area | Percent | Rank |
|---|---|---|
| Language | 75 | 1 |
| Mathematics | 64 | 2 |
| Social Studies | 54 | 3 |
| Art | 33 | 4 |
| Science | 20 | 5 |
| Reading | 18 | 6 |
| Library | 16 | 7 |
| Physical Education | 13 | 8 |
| Music | 0 | 9 |

and special class teachers (see Table XXII) also expressed greatest need to improve their instructional skills in the area of language arts. Chi-square tests were computed comparing the responses of the three teaching assignment groups (see Table XXIII). Significant differences were found between the groups in the areas of library (significant at the .01 level), mathematics (significant at the .007 level), music (significant at the .001 level), reading (significant at the .001 level), science (significant at the .01 level), and social studies (significant at the .001 level). Forty-one percent of the special class teachers expressed need to improve their skill in using the library and audio-visual resources. Only 16 percent of the 4th-6th grade group and 18 percent of the K-3rd grade group expressed need for this subject area.

Fewer special class teachers (31 percent) expressed need to improve their instructional skills in the area of mathematics than did K-3rd grade teachers (59 percent) and 4th-6th grade teachers (64 percent).

Special class teachers expressed more interest in improving their instructional skills in the area of music than did the other two groups. Three percent of the K-3rd grade teachers and none of the 4th-6th grade teachers expressed interest in the instructional area.

Fourth-sixth grade teachers (18 percent) expressed less interest in improving their instructional skills in the area of reading than did the groups of K-3rd grade (58 percent) and special class teachers (65 percent).

TABLE XXII

SUBJECT AREA NEEDS EXPRESSED BY
SPECIAL CLASS TEACHERS

| Subject Area | Percent | Rank |
|---|---|---|
| Language Arts | 56 | 1.5 |
| Reading | 56 | 1.5 |
| Library | 41 | 3.0 |
| Mathematics | 31 | 4.0 |
| Music | 25 | 5.0 |
| Art | 22 | 6.0 |
| Social Studies | 16 | 7.0 |
| Physical Education | 12 | 8.0 |
| Science | 0 | 9.0 |

TABLE XXIII

DIFFERENCES BETWEEN K-3RD GRADE, 4TH-6TH GRADE, AND
SPECIAL CLASS TEACHERS IN SUBJECT AREA NEEDS

| Subject Area | Chi-square | Level of Significance |
|---|---|---|
| Art | 1.21196 | .5455 |
| Language Arts | 6.18230 | .1860 |
| Library | 8.66919 | .0131* |
| Mathematics | 9.84009 | .0073* |
| Music | 26.34224 | .0001* |
| Physical Education | 2.21536 | .3303 |
| Reading | 25.96904 | .0001* |
| Science | 8.74320 | .0126* |
| Social Studies | 22.10382 | .0001* |

*Significant at the .05 level.

Considerably more 4th-6th grade teachers (20 percent) expressed interest in improving their instruction skills in the area of science than did teachers in the K-3rd grade group (10 percent) or special class group (0 percent).

Similarly, 4th-6th grade teachers (54 percent) were more interested than were K-3rd grade (22 percent) and special class teachers (16 percent) in improving their instructional skills in the area of social studies.

Question 8

Question 8 asked if teachers with two or fewer years' experience differ from more experienced teachers in their view of their professional needs. Chi-square tests for significance were applied to the responses of the two groups of teachers. No significant differences were found in either general professional needs (see Table XXIV) or in subject area needs (see Table XXV).

## II. SUMMARY

The study sought to answer eight questions: (1) What in-service activities did elementary school teachers in Knoxville City Schools experience in 1975-1976?, (2) How effective were the activities in helping teachers improve their professional skills?, (3) What professional skills do teachers feel they need to improve?, (4) What in-service activities are most appropriate for promoting professional growth?, (5) Do teachers of differing teaching assignments view their

TABLE XXIV

COMPARISONS OF GENERAL PROFESSIONAL SKILL NEEDS
OF BEGINNING AND MORE EXPERIENCED TEACHERS

| Skill | Chi-square | Level of Significance |
|---|---|---|
| Articulation (K-1st, 1st-2nd, etc.) | .42000 | .5169 |
| Building motivation/positive attitudes | .27695 | .5987 |
| Developing materials/centers | 3.06239 | .0801 |
| Evaluating children's work | 1.78185 | .1819 |
| Improving discipline | .61174 | .4341 |
| Parent/teacher conferencing | .69754 | .4036 |
| Providing for continuous progress | .00012 | .9914 |
| Providing for individual differences | 1.76692 | .1838 |
| Questioning techniques | .25662 | .7811 |
| Understanding different cultures | .07722 | .7811 |
| Using basal text | .12966 | .7188 |
| Using library/audio-visual resources | 1.09117 | .2969 |
| Using supplementary materials | .25142 | .6161 |
| Values clarification | .85238 | .3559 |

TABLE XXV

COMPARISONS OF SUBJECT AREA NEEDS OF BEGINNING AND MORE EXPERIENCED TEACHERS

| Subject Area | Chi-square | Level of Significance |
|---|---|---|
| Art | .32044 | .5713 |
| Language Arts | .45745 | .7955 |
| Library | .05828 | .8092 |
| Mathematics | .01925 | .8897 |
| Music | .14380 | .7045 |
| Physical Education | .01869 | .8913 |
| Reading | 1.02672 | .3109 |
| Science | .25142 | .6161 |
| Social Studies | .05686 | .8115 |

1975-1976 in-service activities alike?, (6) Do beginning and more experienced teachers evaluate their in-service activities alike?, (7) Do teachers of differing teaching assignments have different professional growth needs?, and (8) Do beginning and more experienced teachers have different professional growth needs?

Descriptive analysis using frequencies and percentage distributions and the chi-square test for significance were used to analyze the data. Data were processed and analyzed by the Computer Center of The University of Tennessee.

Findings describe the frequency of and the perceived effectiveness of the 1975-1976 in-service education program for elementary school teachers in the Knoxville City School system. The most common but least effective activity was city-wide meetings for all teachers. A work day for planning and record keeping activities wer considered the most effective activity.

General professional needs most frequently mentioned were providing for individual differences, improving discipline, developing materials and learning centers, and building motivation and positive attitudes toward school.

Subject area needs most frequently mentioned were mathematics, reading, and language arts.

Teaching assignment groups differed significantly in their evaluations of two 1975-1976 in-service activities. K-3rd grade teachers were more positive in their evaluations of city-wide meetings for all teachers than were the other two teaching assignment

groups. Special class teachers evaluated conferences with supervisors as being more effective than did K-3rd grade and 4th-6th grade teachers. No other significant differences were found between the teaching experience groups in their evaluations of 1975-1976 in-service education activities.

Teaching assignment groups differed in their needs to improve subject area instructional skills in library, mathematics, music, reading, science, and social studies. Special class teachers expressed greater need to improve their instructional skills in the areas of music and in using library and audio-visual resources and less need to improve instructional skills in the area of mathematics than did the other two teaching assignment groups. The group of 4th-6th grade teachers expressed less need to improve their instructional skills in the area of reading and more need in the areas of science and social studies than did K-3rd grade and special class teachers.

No significant differences were found between the general professional or subject area needs of beginning and more experienced teachers.

# CHAPTER V

## SUMMARY, FINDINGS AND CONCLUSIONS, IMPLICATIONS AND RECOMMENDATIONS

This chapter presents a summary of the study, a report of the findings and conclusions, and the implications and recommendations for the in-service education program of the elementary schools in the Knoxville City School system.

## I. SUMMARY

The purposes of this study were: (a) to determine how elementary school teachers in the Knoxville City School system viewed their in-service education, (b) to identify their professional growth needs, and (c) to ascertain their preferences for various in-service education approaches.

The total staffs of 14 randomly selected elementary schools in the Knoxville City School system were asked to participate in the study. The sample represented 40 percent of the elementary teachers in the school system. Sixty-one percent of the teachers asked to participate responded.

Data were collected by a four part questionnaire developed by the researcher. A copy of the instrument can be found in the Appendix. Part A of the questionnaire sought to determine the in-service activities experienced by elementary teachers in the Knoxville City School system in 1975-1976 and to elicit their evaluations of these activities.

General professional and subject area needs were obtained in Parts B and C, respectively. The final section, Part D, ascertained the respondent's preferences for various in-service education approaches.

Data served to answer the following eight questions: (1) What in-service education activities were provided for elementary school teachers in the Knoxville City School system during 1975-1976?, (2) How effective did teachers consider these activities to be in helping them meet their professional needs?, (3) What professional needs do participants recognize?, (4) Do respondents prefer certain in-service education approaches?, (5) Do K-3rd grade, 4th-6th grade, and special class teachers differ in their evaluations of their in-service education?, (6) Do K-3rd grade, 4th-6th grade, and special class teachers have similar professional needs?, (7) Do beginning and more experienced teachers evaluate their in-service education activities alike?, and (8) Do beginning and more experienced teachers have similar professional needs?

Descriptive analysis using frequencies, percentages, and rank orders were used to answer the first four questions. Chi-square designs were applied to the responses of the three teaching assignment groups (K-3rd grade, 4th-6th grade, and special class teachers) and the two teaching experience groups (beginning and more experienced teachers) in order to compare respondents' evaluations of their 1975-1976 activities and their perceptions of their professional needs.

The University of Tennessee Computer Center was used to process and analyze the data. The .05 level of significance was used to analyze the data.

## II. FINDINGS AND CONCLUSIONS

The first question of the study sought to determine which in-service education activities elementary teachers in the Knoxville City School system experienced during 1975-1976. Data identified the most frequently experienced activities: (a) city-wide meetings for all teachers, (b) building staff meetings, (c) grade level/subject area meetings--city-wide, and (d) workdays for planning and record keeping. The activities experienced least frequently were: (a) orientation sessions, (b) observations in other classrooms, (c) contacts with consultants from manufacturing companies, and (d) interactions with consultants from colleges and universities.

The second question asked how teachers evaluated their in-service activities. Findings indicated that respondents considered (a) workdays for planning and record keeping activities, (b) conferences with other teachers, (c) independent study, (d) observations in other classrooms, and (e) college and university course work to be the most effective in helping them meet their professional goals. The activities judged to be least effective were: (a) orientation sessions, (b) interactions with consultants from publishing and manufacturing companies, and (c) city-wide meetings for all teachers.

The third question asked what professional needs the participants recognized. Data indicated the most common general professional needs of the respondents were: (a) to improve ability to provide for individual differences in children, (b) to enhance discipline, (c) to develop materials and learning center activities, and (d) to improve ability to motivate children and to build positive attitudes toward learning. Subject areas most frequently mentioned were: (a) language arts, (b) mathematics, and (c) reading. Specific areas of interest were identified in each of the subject areas. Greatest interest was expressed for: (a) teaching problem solving, (b) early mathematics experiences, (c) diagnosing and correcting reading difficulties, (d) teaching listening skills, (e) diagnosing and correcting difficulties in the area of language arts, and (f) teaching creative writing.

Question four sought to determine which types of in-service activities teachers preferred. Demonstrations by other teachers, grade level discussion groups, workshops, conferences with principals, and demonstrations by supervisors or specialists were the most positively mentioned activities. Buzz sessions, brainstorming, micro-teaching, professional writing, and lectures were considered least effective.

The fifth question inquired if teachers of the three teaching assignment groups differed in how they evaluated their in-service activities. Chi-square tests identified two activities in which teaching assignment groups differed (significant at the .05 level) in their evaluations. K-3rd grade teachers were more positive than the other two groups in their evaluation of city-wide meetings for all teachers.

They, however, like the 4th-6th grade and special class teachers, ranked it as one of the least effective activities. Special class teachers were more positive than were K-3rd grade and 4th-6th grade teachers in their perceptions of the effectiveness of conferencing with supervisors.

Question six inquired if teachers of the three different teaching assignment groups differed significantly in their perceptions of their professional needs. Special class teachers were more interested in improving their skill in motivating children and developing positive attitudes toward learning than were the other two groups of teachers. Similarly, special class teachers expressed greater interest in improving their skill in helping children with values clarification than did the other two groups. Significant differences were found to exist between the three teaching assignment groups in six subject areas.

Special class teachers expressed a greater need for in-service programs in the areas of library and music than did the other two teaching assignment groups. Reading was of more concern to the groups of K-3rd grade and special class teachers than it was to the group of 4th-6th grade teachers. The group of 4th-6th grade teachers expressed greater need for developing their professional skills in the areas of social studies and science. Mathematics in-service programs were of greater interest to K-3rd grade and 4th-6th grade teachers than they were to special class teachers.

Question seven asked if beginning and more experienced teachers differed in their evaluations of their in-service activities. Chi-square tests identified no significant differences between the evaluations

of 1975-1976 in-service education experiences by these two groups.

Question eight asked if teachers of the two teaching experience groups differed in their professional growth needs. No significant differences were found to exist between the two groups in either general professional needs or subject area needs.

The following general conclusions can be identified from the study:

1. The most frequently experienced in-service activities were large group activities (such as city-wide meetings for all teachers and city-wide grade level meetings).

2. The activity rated as being least effective (city-wide meetings) was the most commonly experienced activity.

3. The in-service activities of 1975-1976 considered most effective (independent study, conferences with other teachers, and course work) were individual in nature and closely related to classroom needs.

4. The three teaching assignment groups differed somewhat in their professional growth needs.

5. Special class teachers, who have a lower teacher--supervisor ratio than do K-3rd grade and 4th-6th grade teachers, were more positive in their evaluation of their supervisory related activities.

6. Teachers viewed in-service activities in collaboration with personnel from institutions of higher education positively.

7. Teachers expressed a preference for teacher oriented activities such as demonstrations by other teachers, grade level or subject area discussion groups, and workshops.

# III. IMPLICATIONS AND RECOMMENDATIONS

Since the quality of the instructional program provided for boys and girls is closely related to the quality of the instructional staff, school systems should make in-service education an important part of the school program-providing time and resources to make the program effective.

Through its delimitations, the present study concerned only perceptions and opinions of teachers. Future study should include input from supervisors and administrators. They are in a position to analyze system-wide and individual school needs from a perspective different from individual teachers. In-service programs should provide for individual teacher needs but also must be concerned with broader needs of the school system.

Based on the findings of the study, the following implications and recommendations are made:

1. Professional growth activities provided for Knoxville City elementary school teachers in 1975-1976 were not perceived to be appropriate for their needs. For example, the most commonly experienced activity (city-wide meetings for all teachers) was rated as being the least effective. The more positively viewed activities (independent study, conferences with other teachers, and course work) were experienced less frequently. Respondents viewed teacher dominated activities (demonstrations by other teachers, grade level discussion groups, and workshops) as being helpful. Planners of development programs should

react to the needs of teachers and give priority to activities they perceive to be effective in helping them improve their professional skills.

2. A staff development team, composed primarily of teachers, but including administrators and supervisors, should be formed. The team should be given the responsibility of assessing system-wide and individual needs. Questionnaires, such as the one used in this study, are efficient tools for assessing needs. System goals, determined from input of teachers, administrators, supervisors, students, minority groups, parents, and other interested citizens, should be concerned with changes occuring in the community and in the school system (such as the increasing poverty level of many schools, decreasing enrollments resulting in the closing of some neighborhood schools, and the introduction of the middle-school concept) as well as curriculum and instructional needs of the system.

3. Those responsible for planning and implementing the staff development program should be provided a budget adequate to provide: (a) staff (for example, instructional specialists, media specialists, and psychologists) to help teachers solve their instructional problems, (b) published and teacher-made materials (to provide teachers with ideas for making instructional and center activities), (c) supplies necessary for the production of instructional materials, (d) audio-visual media (for example, video-tape recorders, audio-tape recorders, and photographic equipment) which could be checked out for classroom use or used at the center to produce learning materials, and (e) storage,

work, and meeting space.

4. Teacher centers should be established in each of the four geographic areas of the city, providing space for individual, small group, and larger group (20-30) activities. Existing empty classrooms and buildings could be used for this purpose. Materials necessary for the construction of teaching/learning materials should be provided at these centers. Subject area specialists, media experts, and psychologists should be available at these centers at designated times to assist teachers with ideas and discuss instructional problems.

5. Arrangements should be made to allow more effecient use of teacher time and energy. A possible plan would be to release children before lunch time on staff development days in order that teachers could have lunch and report to activity sites by 1:00 p.m. This would provide a two and one-half hour work period without responsibility for children and at a time teachers are not exhausted from a day in the classroom. This arrangement is a more effecient use of teacher time than full day activities, where much of the time may be used for "coffee breaks" and visiting.

6. Respondents rated course work and activities involving personnel from institutions of higher education among the six most effective in-service education activities. These results, which disagree with results of other studies of teacher attitude toward programs involving college and university personnel, indicated the activities provided by institutions of higher education for Knoxville City elementary school teachers are more adequately meeting the needs of the respondents than

are some of the other programs. The staff development team should consider taking greater advantage of activities involving personnel from institutions of higher education. They should, however, participate in determining the focus of the activities--gearing them to the needs and interests of classroom teachers. Activities should be scheduled to meet in locations (for example, teacher centers) and at times (for example, immediately after school and on days other than Monday and Friday) convenient for teachers.

Further study of the experiences of Knoxville City elementary teachers involving personnel from institutions of higher education should be made in order to identify and further develop the strengths of the activities.

7. Observation of other classrooms, an activity teachers consider beneficial, should be encouraged. Time for this activity could be provided by scheduling release time for staff development purposes at different times for the various geographic areas of the city. Teachers who were released for professional growth activities could then visit classrooms in different areas of the city or in other school systems. Classroom visitation time could also be provided by establishing a corp of substitute teachers who, upon request from a teacher and approval of the building principal, could assume responsibility for a class or several classes--thus allowing the regular teachers to observe in other classrooms or to participate in professional growth activities.

8. Teacher centered and job related activities were viewed positively. Opportunities for activities such as grade level discussion

groups and workshops should be provided in order that teachers may share ideas and techniques they have found to be effective in their instructional programs. These activities should be planned and led by teachers.

9. Staff development programs should include activities designed to develop self analysis (such as micro-teaching and interaction analysis techniques) in order that teachers can better determine their own strengths and weaknesses.

10. The staff development team should designate a wide variety of acceptable professional growth activities, assigning credit hour values for each activity. A portion of the credit hour requirement should be reserved for specified activities viewed as necessary to meet system or individual school needs. Teachers should be permitted to design individual professional development programs by selecting activities which meet their individual growth needs and satisfy the requirements of the school system. They should be permitted to satisfy some of their professional growth requirement during summer months and on weekends. Activities may include: demonstrations by other teachers; demonstrations by supervisors and other specialists; workshops; independent study; classroom observations; grade level discussion groups; course work; professional research; attendance of local, state, and national professional meetings; travel; and professional leadership roles, such as serving in elected and appointed offices of professional organizations.

11. Staff development activities designed to initiate participatory evaluation techniques should be provided for administrators and

supervisors. For example, sessions dealing with goal setting, observational techniques, and evaluative skills would be appropriate.

12. Special class teachers, who have a lower teacher--supervisor ratio than do K-3rd grade and 4th-6th grade teachers, viewed their supervisory related activities more positively than do teachers of the other two teaching assignment groups. This suggest that more frequent contacts and closer working relationships between teachers and supervisors result in more effective supervisory related activities. It is recommended that supervisory personnel for grades K-6th be increased so those teachers may benefit from improved supervisory contacts.

13. Staff development should be a cyclical process. Evaluations should follow each activity; and based on these evaluations, an annual evaluation of the total staff development program should be made. This annual evaluation and the continuous needs assessment of the staff and school system should guide the planning and implementation of future staff development programs.

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# APPENDIX

Teachers:

This questionnaire is intended to determine which in-service activities elementary school teachers (K-6) in the Knoxville City Schools experienced during the 1975-1976 school year and to obtain teachers' evaluations of these activities. The instrument also asks what you consider to be your greatest professional needs and which activities you feel would best help you meet those needs.

It is hoped your responses will assist me in making recommendations for improving the in-service program of Knoxville City Elementary Schools and provide data for my doctoral dissertation.

Your school was selected at random for the study. A total of 14 elementary schools are included. No effort will be made to identify you or your school. Please DO NOT SIGN YOUR NAME.

Please check the appropriate blanks in order that the data can be analyzed by groups.

Teaching Assignment:
_____K-3rd Grades
_____Special Education
_____Library
_____4th-6th Grades
_____Music
_____Physical Education

Teaching Experience:
_____Two years or less
_____More than two years

I appreciate the time and effort you give to this instrument. I shall be happy to share the results with you after analysis has been completed.

Sincerely,

Jane H. Davis

IN-SERVICE EDUCATION
QUESTIONNAIRE

## A. 1975-1976 IN-SERVICE ACTIVITIES

Instructions: Indicate with a cross (X) the in-service activities in which you participated during the 1975-1976 school year. Evaluate their effectiveness in helping you meet your classroom responsibilities by circling the appropriate response.
Very Good--5, Good--4, Fair--3, Poor--2, Very Poor--1.

| | VG | G | F | P | VP |
|---|---|---|---|---|---|
| ___Building staff meetings---------- | 5 | 4 | 3 | 2 | 1 |
| ___City-wide meetings for all teachers---------- | 5 | 4 | 3 | 2 | 1 |
| ___College/university course work---------- | 5 | 4 | 3 | 2 | 1 |
| ___Grade level meetings (area schools)---------- | 5 | 4 | 3 | 2 | 1 |
| ___Grade level meetings (city-wide)---------- | 5 | 4 | 3 | 2 | 1 |
| ___Grade level meetings (individual schools)-------- | 5 | 4 | 3 | 2 | 1 |
| ___Conference with another teacher---------- | 5 | 4 | 3 | 2 | 1 |
| ___Conference with a principal---------- | 5 | 4 | 3 | 2 | 1 |
| ___Conference with a supervisor---------- | 5 | 4 | 3 | 2 | 1 |
| ___Consultant from a college---------- | 5 | 4 | 3 | 2 | 1 |
| ___Consultant from a manufacturing firm---------- | 5 | 4 | 3 | 2 | 1 |
| ___Consultant from a publishing firm---------- | 5 | 4 | 3 | 2 | 1 |
| ___Independent study---------- | 5 | 4 | 3 | 2 | 1 |
| ___Orientation sessions---------- | 5 | 4 | 3 | 2 | 1 |
| ___Obserce in other classrooms---------- | 5 | 4 | 3 | 2 | 1 |
| ___TV in-service programs (Channel 2)---------- | 5 | 4 | 3 | 2 | 1 |
| ___Work day for planning/record keeping---------- | 5 | 4 | 3 | 2 | 1 |
| ___Other (list and rate) _____ | 5 | 4 | 3 | 2 | 1 |

## B. GENERAL PROFESSIONAL NEEDS

Instructions: Following is a group of general professional skills which many teachers recognize to be important. Please select and rank (1, 2, and 3) the three skills for which you feel the greatest need to improve.

___Articulation for day care/head start, kindergarten/grade one
___Appropriate use of basal textbooks
___Building motivation/positive attitudes toward school
___Developing instructional materials and centers
___Evaluation of children's work/learning
___Improving discipline
___Parent/teacher conferencing
___Providing for continuous progress
___Providing for individual differences

___Questioning techniques
___Understanding different cultures
___Using library and audio-visual resources
___Utilizing supplementary materials
___Values clarification

C. SUBJECT AREA IN-SERVICE NEEDS

Instructions: Select and rank the three subject areas to which you would most likely devote your in-service time. Label your most important, your second most important, and your third most important need of interest as 1, 2, and 3, respectively. Place a cross (X) before sub-headings under your selected subject areas for which you have an interest.

___Art
  ___Displaying children's art work
  ___Evaluating children's art work
  ___Integrating art activities with other subject areas
  ___Resources for art instruction
  ___Teaching art appreciation/history
  ___Teaching design/composition
  ___Teaching drawing/painting
  ___Teaching three dimensional studies
  ___Other (list) _____

___Language Arts
  ___Diagnosing needs/correcting difficulties
  ___Early language arts experiences (foundations)
  ___Integrating language arts with other subjects
  ___Linguistics
  ___Teaching creative writing
  ___Teaching functional writing
  ___Teaching handwriting
  ___Teaching listening skills
  ___Teaching literature (prose/poetry)
  ___Teaching oral expression
  ___Teaching sentence structure
  ___Teaching spelling
  ___Other (list) _____

___Library
  ___Building materials collections to meet the needs of children
  ___Integrating the library with classroom activities
  ___Story telling/reading to children
  ___Using media to improve instruction
  ___Other (list) _____

___Mathematics
- ___Early mathematics experiences
- ___Laboratory approach
- ___Teaching decimals, percent, and ratio
- ___Teaching fractional numbers and their computation
- ___Teaching measurement
- ___Teaching problem solving
- ___Teaching whole numbers and their computation
- ___Other (list) _____

___Music
- ___Kodoly concept and its use
- ___Programmed instructional materials
- ___Teaching beginning concepts to kindergarten children
- ___Teaching and using Orff instruments
- ___Using and playing recorders
- ___Using games to teach musical concepts/skills
- ___Other (list) _____

___Physical Education
- ___Integrating P.E. activities with other subject areas
- ___Making P.E. equipment
- ___Movement education
- ___Physical fitness activities
- ___Teaching folk dance/rhythms
- ___Teaching and using hoola hoops
- ___Teaching jump rope activities
- ___Teaching parachute activities
- ___Teaching tumbling activities
- ___Teaching track and field events
- ___Other (list) _____

___Reading
- ___Content area reading
- ___Diagnosing/correcting reading difficulties
- ___Early reading experiences
- ___Language experience approach
- ___Teaching comprehension skills
- ___Teaching work analysis skills
- ___Other (list) _____

___Science
- ___Development of a science materials center
- ___Integrating science with other subjects
- ___Process vs. content orientation in science instruction
- ___Sources of inexpensive science equipment
- ___Using discovery techniques to teach science
- ___Other (list) _____

___Social Studies
___Helping children develop values
___Integrating social studies with other classroom activities
___Resources available for social studies instruction
___Role of current and special events in the social studies curriculum
___Skills to be stressed in social studies (maps, graphs, etc.)
___Strategies, methods, and activities for teaching social studies
___Other (list) _____

## D. EFFECTIVENESS OF IN-SERVICE ACTIVITIES

Instructions: Evaluate the following in-service activities according to how effective you find them in helping you solve your classroom needs. Indicate their effectiveness by circling the appropriate response. Very Good--5, Good--4, Fair--3, Poor--2, Very Poor--1.

| | VG | G | F | P | VP |
|---|---|---|---|---|---|
| Brainstorming | 5 | 4 | 3 | 2 | 1 |
| Buzz sessions | 5 | 4 | 3 | 2 | 1 |
| Conferencing with another teacher | 5 | 4 | 3 | 2 | 1 |
| Conferencing with a principal | 5 | 4 | 3 | 2 | 1 |
| Conferencing with a supervisor | 5 | 4 | 3 | 2 | 1 |
| Demonstrations by another teacher | 5 | 4 | 3 | 2 | 1 |
| Demonstrations by a supervisor or specialist | 5 | 4 | 3 | 2 | 1 |
| Grade level discussion groups | 5 | 4 | 3 | 2 | 1 |
| Independent study | 5 | 4 | 3 | 2 | 1 |
| Lecture | 5 | 4 | 3 | 2 | 1 |
| Microteaching | 5 | 4 | 3 | 2 | 1 |
| Observation in another classroom | 5 | 4 | 3 | 2 | 1 |
| Professional research | 5 | 4 | 3 | 2 | 1 |
| Professional writing | 5 | 4 | 3 | 2 | 1 |
| Travel | 5 | 4 | 3 | 2 | 1 |
| Workshops | 5 | 4 | 3 | 2 | 1 |
| University or college course work | 5 | 4 | 3 | 2 | 1 |

# VITA

Jane Hawk Davis was born in Beaumont, Texas on September 7, 1928. She attended public schools in Beaumont and graduated from Beaumont High School. She received a Bachelor of Science Degree in music education from Texas Woman's University in 1948. Her Master's Degree, in educational administration and supervision, was received from The University of Tennessee in 1965. She expects to complete all requirements for the Doctor of Education Degree in the spring of 1977.

She has taught public school music and string instruments in elementary and junior high schools in Dallas, Texas; Ozona, Texas; and Marshall, Texas for seven years. She taught in a private kindergarten in Knoxville, Tennessee for one year and in the primary grades of Knox County and Knoxville City Schools for nine years. She has served as elementary principal in Knoxville City School system for seven years. She is currently employed by the Knoxville City School system.

She is the widow of Travis Leon Hawk, a former professor of educational psychology at The University of Tennessee. She was married to Drexel C. Davis, D.D.S., of Knoxville in 1971. She has one daughter, Kathryn Hawk Nelson.