ACANFORA, Gennaro Anthony, 1939-
AN INSERVICE EDUCATION NEEDS ASSESSMENT
OF OHIO ELEMENTARY AND SECONDARY SCHOOL
PHYSICAL EDUCATORS,

The Ohio State University, Ph.D., 1975
Education, physical

Xerox University Microfilms, Ann Arbor, Michigan 48106

THIS DISSERTATION HAS BEEN MICROFILMED EXACTLY AS RECEIVED.
ACKNOWLEDGMENTS

Personal indebtedness is extended to the following individuals for their assistance in making this study possible:

To Dr. Charles L. Mand and Dr. Edward Coates, co-advisers, for their encouragement and guidance. To Dr. Lewis A. Hess, the third member of the Reading Committee, for his encouragement and guidance.

To the elementary and secondary school physical educators of Ohio who have participated in this study.

To Mr. Ralph Hennen for his assistance in the programming and statistical procedures.

To the Griggs and Acanfora families for their assistance in collating and preparing the questionnaire for mailing. To Robert L. Holland of the State Department of Education for his cooperation and assistance in this study.

To Joyce West for typing the manuscript.

Finally, the most grateful appreciation is extended to my wife, Nancy, and children, Frank, Brenda, Lisa, and Amy Sue, for their encouragement and understanding during the preparation of this manuscript.
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PUBLICATIONS

FIELDS OF STUDY

Major Field: Physical Education -- Professional Preparation
Minor Field: Higher Education -- Administration
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CHAPTER I
THE NATURE OF THE STUDY

INTRODUCTION

Among many tasks and responsibilities, instruction is the primary task of most physical educators. When the teacher performs the teaching act efficiently, students learn, realize their goals, and develop a sense of pride and satisfaction. Physical educators, as other teachers, react positively to student achievements. In effect, as students progress as a result of the instructor's efforts, the teachers will make additional efforts for improving the competencies that stimulated student progress. Helen Hart explains this commitment in the following manner:

Teachers who are challenged to 'save' education will need a commitment to self-development that extends far beyond any ordinary possession of classroom competencies. Such a commitment connotes that personal self-development will produce major modifications in teaching behavior and ultimately in pupil behavior and achievement.1

The process of improving instruction involves a continuous commitment to professional self-development. Ohio

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physical educators and all physical educators should meet this challenge by understanding their needs and striving for self-actualization. Continuous inservice education of all varieties will provide the means and the opportunities for professional re-education and self-renewal.\textsuperscript{2, 3} Inservice education should be a continuum of the preservice program. The effort must be continuous throughout one's professional career. Various modes of inservice education should be utilized, and the needs of the physical educators involved must be considered. This study is an attempt to ascertain and analyze the inservice education needs of elementary and secondary school physical educators of Ohio so that faculty development programs may be implemented and/or improved.

Several inservice education models have been described in the literature. Each model differs somewhat, but characteristics common to most models include some provisions for continuity, motivation based on extrinsic and/or intrinsic reward systems, professional growth center(s), and mutual cooperation between the college or university and the school participants. Traditional modes of inservice education are being supplemented by other means such as self-instructional modules (resource and materials or both) which provide for

\begin{itemize}
  \item \textsuperscript{2}Ibid., p. 501.
  \item \textsuperscript{3}Arthur A. Evans, Jr., "Faculty 'Deadwood': Prevention and Cure," Improving College and University Teaching, XXI (Summer, 1973), 185.
\end{itemize}
self-pacing, special needs, and unique interests and system or training models which emphasize self-motivation and competency incentives as intrinsic reward systems. Examples of such models are reported by Merwin, Hart, Harris and Bessent, Johnson, and others.⁴,⁵,⁶,⁷

One of the most important components of the more recent inservice education models is the improvement of teaching behavior and attitude. Through the teaching behavior improvement activities, the professional physical educator may be more capable of adapting to the changing needs of today's society and its students. Thus, the physical education students in Ohio's elementary and secondary schools will benefit from the continuous commitment to instructional improvement through change. Helen Hart has stated this principle as a basic premise for inservice education design: "... Schools cannot change unless educators change."⁸


STATEMENT OF THE PROBLEM

The purpose of this study is to determine the in-service education needs assessment of Ohio's elementary and secondary school physical educators for implementing and improving faculty development programs.

Based on a review of the literature related to the problem and an analysis of the physical education teaching status, this study will attempt to identify the in-service education needs and analyze those needs in relation to their contributing factors. A questionnaire will be developed for identifying the needs. The analysis of the instrument will provide a basis for the design of faculty development programs. Among the major questions this study will attempt to answer are the following:

1. What are the most important in-service education needs of elementary and secondary school physical educators in Ohio?

2. What factors, as indicated by the responses of the physical educators, influence those in-service education needs?

3. As indicated by the responses of the physical educators, are there any differences among the elementary, middle, junior, and senior high teachers in respect to the most important topics and preferences for in-service education?

4. As indicated by the responses of the physical
educators, are there any differences among the teachers from the five geographical areas of Ohio?

5. As indicated by the responses of the physical educators, are there any differences in the inservice education needs of female and male teachers?

6. What are the interests, possibilities, preferences, and needs for inservice education as indicated by the responses of the selected strata?

7. What is the relationship of teaching position and responsibility to the inservice education needs as indicated by the responses to topical needs?

8. What locations and formats are most beneficial for inservice education activities as indicated by the responses of the physical educators?

9. Can the results of the study, when applied to an inservice education model, provide a more effective vehicle for implementing and improving faculty development programs for Ohio elementary and secondary school physical educators?

10. Can the research instrument, as developed, provide an efficient means by which inservice education needs may be assessed so that predictions or assumptions may be made for a program in a geographical area of Ohio or a particular school district?
PURPOSES OF THIS STUDY

The purposes of this study are:

1. To determine the inservice education needs assessment of elementary and secondary school physical educators of Ohio.

2. To ascertain the influence of selected factors such as age, sex, race, number of years teaching, educational level, marital status, and others upon the inservice education needs of Ohio physical educators.

3. To utilize the information derived from the needs assessment and factors influence analyses for implementing and improving faculty development programs for Ohio physical educators.

4. To suggest a theoretical base for inservice education programs so that programs will have a firm foundation.

5. To develop a theoretical model for inservice education based on the literature and research so that staff development programs in Ohio might be more coordinated and effective throughout the State.

THE SIGNIFICANCE OF THE PROBLEM

There are several reasons for investigating this problem. Listed below are some of these reasons:

1. The Fox-Foley report published in 1973 recommended the need for the development of organized programs for in-
tensive inservice education, the development of such programs with resource centers such as teacher-training institutions working with school personnel from a particular school or school system, and the cooperative efforts in the delineation of needs and design of the programs/activities. This study will involve itself with the latter need so that inservice programs in physical education may be implemented, thus carrying out a recommendation of the Fox-Foley research.

2. The students of physical education in the elementary and secondary schools of Ohio will benefit most from the highest quality of instruction. Improving instruction and acquiring new information or advances in our field are continuous processes which must be maintained by each physical educator throughout one's professional career. This study will attempt to assess the needs of Ohio physical educators. Based on the analyses of the inservice education needs assessment, programs may be implemented for improving and maintaining the highest quality of instruction. Thus, the students may benefit from the improved performance.

3. The knowledge and information obtained from the needs assessment will provide a basis for the identification of specific needs, preferences, and possibilities for inservice education programs in physical education.

Pambookian, Carl Rogers, Medley and others have in-

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9 June T. Fox and William Foley, Assessment of Needs of Ohio Educators for Intensive Staff Development (Columbus, Ohio: The Ohio State University, 1973).
dicated that recognition and attention to the attitudes and needs are basic for an effective program.\textsuperscript{10,11,12} The development and use of such an instrument will provide a means for identifying problems and needs and initiating activities aimed specifically at improving the teaching performance of the individuals involved. The emphasis is placed on the improvement of instruction of each individual. The knowledge and information obtained from the analyses will be utilized, combined with planned approaches derived from the literature and research, as a more effective basis for inservice education decision-making. The recognition of and attention to specific needs will be considered in the formulation of programs.

4. The development of an instrument for identifying needs, preferences, and possibilities for inservice education is a primary step in the formulation of a theoretical model. The instrument will be utilized for developing a more coordinated and effective theoretical model for in-

\textsuperscript{10}Hagop S. Pambookian, "Initial Level of Student Evaluation as a Source of Influence on Instructor Change After Feedback," \textit{Journal of Experimental Psychology}, LVI (February, 1974), 52-56.


service education in physical education. The theoretical basis for the model will be change. Change will be defined as maintaining and improving teaching performance. In this study, the change will be directed toward the elementary and secondary school physical educators of Ohio.

5. The Physical Education Division of the School of Health, Physical Education, and Recreation of The Ohio State University will be actively involved in developing and implementing the inservice model in cooperation and conjunction with school personnel from a particular school, school system, or geographical area of Ohio. Thus, in addition to implementing The Fox-Foley Report recommendations, The Physical Education Division (also in conjunction with the College of Education's Committee) will be cooperatively involved in meeting the inservice education needs of Ohio's elementary and secondary school physical educators and in fulfilling a role in Ohio's inservice education development and conduct.

HYPOTHESES

The following hypotheses were presented in null form for statistical analysis:

1. There will be no significant difference in responses by category of selected factors such as teaching level, type of college attended, educational level, undergraduate major, number of years teaching, school district type, geo-
There will be no significant difference in responses by category of physical educators from the five geographical areas of Ohio and the location of inservice education programs.

3. There will be no significant difference in responses by category of physical educators from the five geographical areas of Ohio and inservice education formats.

4. There will be no significant difference in responses by category of the physical educators teaching level and inservice education topic needs.

5. There will be no significant difference in responses by category of the physical educators sex and inservice education topic needs.

6. There will be no significant relationship between professional aspects and selected variables.

7. There will be no significant relationship between the teaching responsibility in a particular ac-
tivity and the inservice education level of importance for that activity.

8. There will be no significant relationship between inservice education and change as a theoretical base for a model as indicated by selected responses and by the literature review.

DEFINITION OF TERMS

The essential terms have been defined in a variety of ways by different authors. For the purpose of this study, the following definitions will be used:

Inservice Education. An organized effort to provide educational experiences that contribute to the professional or occupational growth and competence of members of the physical education instructional staff during the time of their service to the school system or school. It implies a continuous program of self-development throughout one's professional career. Among these activities are workshops, demonstrations, seminars, study groups, clinics, course for credit, conferences, practicums, observations, visitations, self-instructional materials and modules, and others. In-service education, programs, activities, preparation, and

staff development or growth activities will be considered synonymous.

Needs. A term used in describing discrepancies or differences between what a physical educator knows and what one should know. It also implies urgency in that the information, topic, or activity may help the teacher improve teaching performance. The needs defined in this study refer to the topics for inservice education and the activities or possibilities for its conduct.

Needs Assessment. A process by which educational needs of physical educators are identified and ranked in order of or level of importance according to a determined scale. The variables include 228 items in respect to inservice education needs and related factors.

Ohio Elementary and Secondary School Physical Educators. Those individuals who have instructional or administrative responsibilities in the area of physical education in the schools of Ohio from grades K-12. Elementary schools include grades K-6, middle schools grades 5-8 or 6-8, junior high schools grades 7-8 or 7-9, and senior high school grades 9-12 or 10-12. Some schools will include a combination of the above. These schools will be categorized in the classification of other schools.

Faculty Development Programs or Activities. Those

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experiences, including inservice education activities, which are designed to provide and develop knowledge in content areas and competence in certain skills needed by a physical education teacher in maintaining and/or improving effective teaching and classroom management. These activities take place after preservice programs are completed and continue throughout one's professional career.

Change. A theoretical concept, involved with adaptation to something different or new, concerned with the teaching behavior of physical educators. Its meaning is the improvement and/or maintenance of quality teaching performance.

Instructional Staff. Those physical educators who have teaching and/or administrative responsibilities in physical education. Those individuals who have multiple responsibilities in addition to or in lieu of physical education teaching and administration will be considered as instructional staff.

Questionnaire. The structured response sheet containing questions pertinent to inservice education needs (topics), formats, interests, and preferences for physical education teachers in the elementary and secondary schools of Ohio.

Variables. Those 228 items which make up the questionnaire and are classified according to present position and responsibility, educational background and professional experiences, school information, background information, se-
lected topics and activities, and inservice education preferences and possibilities. Each category has specific responses which pertain to one of the 228 variables.

SCOPE OF THE STUDY

The sample of this study was composed of 402 physical education teachers in the elementary and secondary schools of Ohio. The study represented the needs assessment of the current state department list of certificated individuals during the 1974-75 school year.

LIMITATIONS OF THE STUDY

The primary purpose of this study is to identify the inservice education needs of Ohio's elementary and secondary school physical educators in order that faculty development programs may be implemented and/or improved. While it is recognized that inputs on the perceptions of the needs may be viewed from several facets, this study will be concerned only with the physical education teacher's perception of his/her needs.

This study will attempt to develop a theoretical base for an inservice education model; however, it will not attempt to test or evaluate this model. It will draw from information and analysis from the literature, the questionnaire, and selected interviews in order to make suggestions
for a theoretical model for physical education.

This study will be limited to 400-450 elementary and secondary school physical educators of Ohio (approximately 10% of the total population). Male and female physical educators will be included from elementary, middle, junior, and senior high school levels.

This study will be limited to instructional staff and administrators of physical education. Individuals who have multiple responsibilities in addition to or in lieu of physical education teaching and administration will be considered as instructional staff. The return percentage of the questionnaire may be affected by the fact that the State Department's list of certificated teachers includes both health and physical education teachers without distinction in their responsibilities.

The pre-test of the questionnaire and the interviews of the study will be limited to approximately 1% of the sample because of time and expense.

School districts of six or less physical education teachers may not be represented because of sampling procedure limitations. Certain geographical sections (Southeast Ohio) will be limited at selected school levels (elementary and middle schools) because of the disparity in numbers at those levels compared with the other sections. The return rate will also be limited, to some extent, at selected levels from certain areas in male and female categories because of
fewer returns than other areas and levels.

This study will make no attempt to relate inservice education needs to teaching performance as viewed by selected evaluation instruments, students, supervisors, or administrators.

Other limitations of the study include the following:

1. Data collected were limited to those teachers who responded to the questionnaire.
2. Treatment of data was limited by the statistical techniques employed.
3. Treatment of data was limited by budget and time restrictions.

ASSUMPTIONS UNDERLYING THE STUDY

1. It was assumed that Ohio elementary and secondary school physical educators would complete the questionnaire authentically.
2. It was assumed that the randomly selected stratified sample would represent the total population of said physical educators.
3. It was assumed that participating physical educators would have somewhat comparable interpretations of categorical values and descriptive terms.
4. It was assumed that physical educators would recognize and value good inservice education functions and practices.
5. It was assumed that physical educators would be able to relate their professional needs to practices and related questions for inservice education.
6. It was assumed that the questionnaire would identify the needs of the physical educators involved and that its analysis would indicate significant information for a decision-making basis for inservice education programs.
PROCEDURES AND METHODS

The major purpose of this study is to survey and identify the specific inservice education needs of the elementary and secondary physical educators in Ohio. The survey includes information on 228 variables and an evaluation of those variables in relation to needs including biographical, professional, interest, topical, and preference data.

The Sample

The sample was selected from the current state department list of certificated individuals in health and physical education. The population was represented by a stratified randomly selected sample of certificated individuals from each of the five geographical areas of Ohio. The strata were composed of male and female teachers from each level (elementary, middle, junior, and senior high) from the school districts of each geographical area of Ohio.

Source of Data

A questionnaire was developed to collect data for use in identifying the needs, preferences, interests, and possibilities for inservice education programs. A pilot questionnaire was used in the development of the final questionnaire. Critical analysis of content, phraseology, ambiguity, results, and other elements was made and appropriate revisions were completed. The questionnaire has been included in Appendix B. A deadline for coding and analysis of the ques-
Collection of Data

Four hundred twenty, or 10.2 percent, of the total population of elementary and secondary school physical educators responded to the participation request. Of the four hundred twenty responses, 402 returned completed questionnaires. Eighteen did not meet the requirements or have the appropriate teaching responsibility or interest necessary for participation in the study. The response rate represents 50.3 percent of the eight hundred which were mailed to obtain the four hundred desired for the study.

Responses were taken from the questionnaires, coded on coding forms, keypunched on computer cards, verified, and printed according to the specifications as programmed by the researcher.

Treatment of Data

The Ohio State University Computer Service (IRCC) was utilized in the tabulation (keypunching and printing operations) of the information and in the performance of the analyses (program and computer operations) for significance. Data were first treated in the form of frequencies of occurrence and percentages for each response. Following a presentation in this form, statistical analysis was made to test the stated hypotheses. Cross-tabulations were made using Chi-square ($X^2$) for determining the level of difference
in expected and observed frequencies of responses. Fisher's exact test was applied, where appropriate, for 2 X 2 tables when there were fewer than 21 cases. Yates' corrected chi-square was applied for all other 2 X 2 tables. Correlations using non-parametric statistical analyses (Spearman r) were made for determining relationships between variables in selected responses. A multiple regression formula was suggested for possible use in prediction purposes for inservice education.
CHAPTER II
REVIEW OF RELATED LITERATURE AND RESEARCH

The related literature and research reviewed in this study were specifically relevant to those areas concerned with inservice education and successful practices related to improving teaching performance. These broad areas have been divided into the following three categories: (1) perceptions relating to inservice education, (2) change, and (3) successful practices and models.

PERCEPTIONS RELATING TO INSERVICE EDUCATION

From the Teacher's Perception

The perceptions related to the inservice education function include the indications from the following sources: (1) the individual teacher (self), (2) the attitudes and communications in the teachers interpersonal relations, and (3) the evaluation of the teacher. The chief purpose of research on the inservice education of teachers is to improve the faculty development programs in the school districts and their component schools. Therefore, if change (improving or maintaining quality teaching performance) is to occur through inservice education, it will occur because
the physical educators themselves recognize the need for initiating, conducting, and evaluating programs for providing quality inservice education. To this point, Harris and Bessent suggest the following propositions about the meaning and function of inservice education:

1. In-service education is a process of change.
2. Changes through inservice education take place in an organizational context.
3. In-service education is a process for planned change.
4. In-service education is one of several organizational changes and takes place through personnel development.

The first aspect related to perceptions involves self-evaluation by the instructor. Research by Medley shows that the teacher is the most vital link in the process of improving teacher effectiveness, not the researcher or the administrator. He concludes his case in the following manner:

But the most vital link in the process of improving teacher effectiveness is not the research worker, or the teacher educator, but the teacher himself, systematically implementing research findings in his own behavior and assessing the effects it has on his pupils. The only one who can finally close the

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gap between research and teacher education is the teacher himself.\textsuperscript{2}

In his book, \textit{Quality of College Teaching and Staff}, Deferrai makes the following statement about self-evaluation: "The drive to be an effective teacher must come from within; it cannot be superimposed."\textsuperscript{3} Self-acceptance and criticism must be accepted. Changes may then result into improved effectiveness. Holcomb and Frazier, in their videotape research on improving instruction, have reported positive changes resulting from self-evaluation utilizing videotape replays with student reactions on a split-screen and student interview results.\textsuperscript{4} Self-evaluation and self-criticism are vital elements in the process of improving teacher effectiveness. The teacher should perceive that the analyses and alterations of his/her teaching behavior are necessary since one can create improvements in students and their learning.

\textsuperscript{2}Donald M. Medley, "Closing the Gap Between Research and the Teacher Education Curriculum," \textit{Journal of Research and Development in Education}, VII (Fall, 1973), 45.


\textsuperscript{4}J. David Holcomb and Donald T. Frazier, "Improving Lectures by Videotape Self-Confrontation," \textit{Improving College and University Teaching}, XX (Autumn, 1972), 340-341.
When the teacher recognizes the need for improving and maintaining high levels of teaching quality, the individual might be more readily cognizant of the process for change and plan for it through participation in selected inservice education activities. The process of planned change, therefore, has commenced.

The second aspect includes attitudes and communication in improving teaching performance. Skill in interpersonal relationships seem crucial in the improvement process. Attitude and communication research findings should be utilized in the design. Communication must be designed to reach the individuals or change initiations may not be accepted/adopted. In these situations administrators, other teachers, and students in addition to oneself are involved. There is extensive evidence which indicates that "... human encounters may have constructive or deteriorative consequences ..." Carkhuff's research also presents evidence that all effective interpersonal processes share a common set of conditions that are conducive to facilitate human experiences.

Argyle explains his approach in terms of the basic

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5 Ronald M. Mangano, "Faculty Attitudes and Teaching Improvement," Improving College and University Teaching, XXI (Summer, 1973), 210.

elements of interaction including bodily contact, proximity, orientation, gestures, facial expression, eye-movements, verbal aspects of speech, and non-verbal communication.\(^7\)

Another important aspect of his approach relates the social interaction to its biological roots and to the surrounding culture. Different rules and role-relationships between the interactors should be considered in different situations.\(^8\)

Finally in the communication process, information is not enough. Mangano's research shows that there is a need for reinforcement and initial active participation. He suggests that instructional improvement and its programs must be aimed at the attitudes of the faculty. He expresses the process as follows: "Assess the faculties' attitudes, and direct the changes so that the changes will, at least, be given a trial stage." He also suggests Carl Rogers' "crucial elements of diffusion analysis for initiating change programs.\(^9\)

The interpersonal skills, therefore, seem crucial in the improvement process. Attitudes must be considered


\(^{8}\)Ibid., p. 16.

since human feelings and relations are most important. The communication process conveys one's perceptions in the interactions. Verbal and non-verbal aspects are involved and may positively or negatively affect the consequences. Appropriate models need to be understood and applied as a part of interpersonal relationships of the teachers, administrators, and students involved.

The third aspect of the teacher's perception relates to the evaluation of the individual by an administrator, supervisor, or colleague. The starting point for this perception aspect is the evaluation process. The fact that there is effective, ineffective, or degrees of teaching performance in between should be determined. Research in the area of evaluation instruments are becoming more sophisticated.\(^{10}\) The instruments are available; they must be properly utilized with all elements of the teaching situation (students, teacher, and administrator) involved and in a manner worthy of the teaching profession (humanely and properly with the understanding that the evaluations are designed for improving the teacher and the instruction).

The manner of observing and evaluating is important. The teacher and the administrator should understand why the observer is there and what instrument is being employed in

the analyses. Direct observations combined with student and individual self-evaluations certainly seem like an obvious approach to the situation. As stated by Bloom in the same work, "... the examining process must be viewed as a means of making the educational process more effective."  

The teacher and the administrator should understand and utilize appropriate evaluation instruments including direct observations. The process should be a total one with all instructional elements considered (students, teacher, administrator, colleague, and media). The purpose of the process should be clearly understood: The improvement of instruction.

From the Administrator's Perception

The perceptions of the administrator in relation to the inservice education function are very important since one may directly and indirectly influence the performance of the teachers. The administrator must realize that one is working with people rather than things. In realizing the needs of teachers, one may positively influence their teaching performance. A starting point is the individual administrator. Research reported by Savage demonstrates

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that there is a relationship between the administrator's effectiveness and success and one's knowledge and skills in interpersonal and group relations.\(^{13}\) Research on the "executive professional leadership" of administrators by Gross and Herriott support the positive relationship between high skill ratings in interpersonal relationships and "executive professional leadership."\(^{14}\) They also conclude that the executive professional leadership of the administrator (principals of elementary schools in this research) has great potential for influencing directly the type and quality of education through his staff. The EPL has important organizational effects upon morale, teacher performance, and pupil performance.\(^{15}\)

The administrator, therefore, seems to be a key agent in laying the foundation for effective teaching. It has been suggested by Williams and Loy that the efficient administrator might be more readily able to influence his staff by his performance. They state the relationship as follows:

"It seems reasonable to suggest that complementary leadership roles


\(^{15}\)Ibid., Ch. 7.
Williams and Loy further admonish the administrator that 
"... improvement in organizational performance most likely 
involves matching leadership style and the school situation."\(^{17}\)

However, if the administrator is not necessarily 
liked or effective in his role, he should do one of two 
things:

1. Complement his leadership role by allowing 
other members of the department faculty 
an informal leadership position.

2. Evaluate himself for his efficacy and re­
sign if the indications point out that he 
is ineffective in his role.\(^{18}\)

The administrator and the leadership team, therefore, may 
help in the inservice education function by providing effec­
tive leadership as indicated in suggestion 1.

In respect to inservice education, the most practical 
administrative decision seems to be the provision for the 
best possible programs. Thus, the administrator may posi­tively influence the effectiveness of the teaching staff. 
By commitment to this decision, individuals may be encour­aged and helped in achieving their maximum potential.

\(^{16}\)Leonard B. Williams and Wayne K. Hoy, "Principal-
Staff Relations: Situational Mediator of Effectiveness," 
Journal of Educational Administration, IX (May, 1971) 70.

\(^{17}\)Ibid., p. 72.

\(^{18}\)Ibid.
From the Student's Perception

The perceptions of the students are important for two reasons:

1. They are the consumers in the educational process and will benefit most from quality instruction.

2. They have perceptions about the instruction they receive and may provide some input into the evaluation process.

Several examples from the literature and research will be cited which support the input from the student's perception which may influence teaching performance.

Pambookian in his research on improving teaching through student evaluation concluded the following:

Instructors can improve their teaching through various approaches, and one way of helping them bring positive changes in their classroom behavior is to tell them what their students think of their teaching.19

Moderate evaluation from students, therefore, can produce instructional change after feedback because the teachers will change or modify their instruction for improving their performance.

Holcomb and Frazier, in their research with videotape self-evaluation using eight medical physiologists, included twenty-five student interviews as a component of

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the evaluation process. The results showed that "... The videotape project had a very positive effect on the faculty and students."\textsuperscript{20} Student feedback was obtained through questions and answers. The students indicated that they felt positive changes resulted. The faculty indicated that fears and anxieties were forgotten after the classes began.\textsuperscript{21}

Evans suggests several ideas for the development of teachers including input from colleagues, administrators, students, and the work environment. These elements should support the teacher in the process. One of the eleven specific suggestions includes the evaluation of the classroom performance by the students. Thus, in addition to inservice education activities, videotapes, administrator evaluation, and self-evaluation, the student is involved as a contributing evaluator.\textsuperscript{22}

Gage, in his studies from 1948-1955 on the accuracy of social perceptions, examined the effects of feedback from pupils and teachers. In the testing of his equilibrium theory, he concluded that "... Teachers who received feedback did seem to change in the direction of the pupils'...

\begin{footnotesize}
\textsuperscript{20}Holcomb and Frazier, op. cit., p. 341.
\textsuperscript{21}Ibid.
\textsuperscript{22}Arthur A. Evans, Jr., "Faculty 'Deadwood': Prevention and Cure," \textit{Improving College and University Teaching}, XXI (Summer, 1973), 185-187.
\end{footnotesize}
'ideals' more than did teachers from whom feedback was withheld." The students' perceptions of the teaching performance, therefore, becomes a part of a reference group's opinions and may be an effective, democratic, and practical way of improving teaching performance.

Smithman and Lucio studied pupil achievement as a measure of teacher performance. They determined that pupil achievement, including the pupil's perception of it, could be utilized as a valid part of the improvement input process. More research, however, is needed in the examination of the phenomena.

From the Colleague's Perception

Many references in the literature and research support the idea that colleagues and their perceptions of one's teaching performance may positively influence teacher behavior. The process, therefore, may also become a part of the inservice education function and activity. Three sources (Evans, Low and Dey, and Finch) will be cited in respect to the input of colleagues.


24 Ibid., p. 266.

Evans, as previously cited, suggests the use of colleagues in supporting "... the prevention and cure of perfunctory teaching performance." Faculty exchanges, growth and development activities, conferences, and colleague feedback on teaching performance are proposed. The inservice education function and conduct will be developed from within the department (or school). Continuous learning and inservice education would, therefore, continue throughout one's professional career with the colleague interaction.

Low and Dey, in a project with eight professors, combined group processes and staff team teaching as a means of staff improvement. Using the Trump Plan with staff interaction, they found that teaching improved significantly and gains were retained after the participants returned to their normal teaching posts. The staff interaction in meetings and participation proved helpful. Involvement in the process, sharing of real problems, and availability of competencies contributed to the functional teaching ability of the participants.

Finch recommends informal and indirect inservice

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26 Evans, op. cit., pp. 185-187.
27 Ibid.
28 Harvey L. Low and Glenn Dey, "Staff Improvement: A Dividend of Team Teaching," Improving College and University Teaching, XX (Autumn, 1972), 337-341.
educational activities such as faculty meetings, local teacher groups, and departmental meetings for providing valuable opportunities for inservice education and colleague feedback. In respect to departmental meetings, he makes the following statement:

Perhaps the most significant value of grade level or department meetings is the opportunity afforded for teacher-to-teacher exchange of ideas, techniques, and methods.  

He strongly emphasizes the importance of the department chairman and teachers in the planning of and participation for the sessions. Through the interaction processes, "...the new or inexperienced teacher may not only learn from the experienced teacher, but through active participation, may do much to stimulate others with fresh ideas attributable to his more recent training."  

CHANGE: IMPROVEMENT AND MAINTENANCE OF QUALITY TEACHING PERFORMANCE

Why should the physical educator try to change his teaching behavior? How does one become motivated to alter his/her behavior in order that one may improve or maintain


30Ibid., pp. 43-44.
efficient teaching performance? This section will review the literature and research in relation to the two questions and attempt to establish change as a theoretical base for inservice education.

Need for Change

Harris and Bessent have stated four propositions about the meaning and function of inservice education. The first proposition states that "inservice education is a process of change." The other three propositions are listed on page 21 of this chapter. He explains the process of change by stating that "the intent of in-service education is to change instructional practices or conditions by changing people." The in-service education is a process for planned change and may assert itself from different organizational levels including one of a district-wide change, one of change in a small group, and one of an individual change. The planned change will include processes other than inservice education; however, the main function is the bringing about of personnel change. Other components of the change process include environmental change, structural change, and functional change. The changes may be planned or unplanned; the organizational context will include both maintenance and change operations. "In-service education, then, is defined as being both change

^31^ Harris and Bessent, op. cit., p. 16.
and maintenance; planned and goal-directed rather than unplanned, achieved through personnel changes, not changes in procedures and rules, structure, function, or physical environment; and accomplished through retraining, not replacement or reassignment." He concludes that the inservice programs are focused on the instructional improvement of professional staff members.32

The Fox-Foley Report, prepared for the Ohio State Department of Education in 1973, pointed out the need for inservice education with the following conclusion:

In-service training of teachers and administrators in Ohio is looked upon as a necessary aspect of continuous staff development by educators throughout the state. At present, school systems, in general, provide only a minimal amount of released time for teachers and administrators (2.5-3.5 days, respectively) for in-service attendance. This time cannot possibly be sufficient for serious in-service training."33

The Report recommended the need for the development of organized programs for intensive inservice education, the development of such programs with resource centers such as teacher-training institutions working with school personnel from a particular school or school system, cooperative efforts in the delineation of needs and design

32 Harris and Bessent, op. cit., pp. 16-17.
33 Fox-Foley, Assessment of Needs Study, p. 79.
of the programs/activities, and school system policies for credit determination and funding sources.\(^3\)

The Commission on Public School Personnel Policies in Ohio has also studied teacher education in our State and found that "... any effort to improve the quality of education for our children must start with a frontal attack on the inadequacies of the preparation of teachers."\(^4\) One of the eight major deficiencies in Ohio's efforts to prepare and improve teachers for its classrooms included the following: "There are neither clear expectations nor adequate opportunities for experienced teachers to continue their professional growth after initial certification."\(^5\) The Summary of Recommendations contain the following items which relate to inservice education and professional growth:

1. Fifth-Year Programs
2. Teacher Education Councils
3. Two-Year Teaching Internship
4. Teacher Centers and Training Teachers for Supporting Internships
5. Initiation Schools throughout the State

\(^3\)Fox-Foley, *Assessment of Needs Study*, pp. 80-81.


\(^5\)Ibid., p. 2.
6. Internships for Out of State Teachers (with one year experience or less)

7. Training Experiences at Initiation Schools for Teachers Returning to the Profession

8. Professional Growth Responsibilities of Individual Teachers

9. Professional Growth Responsibilities of School Districts for Programs (including criteria for maximum involvement, a variety of experiences, growth credits and salary increases, and funding)

10. The Role of the Universities Offering Graduate Programs (improve subject matter and classroom instruction competencies, provide clinical experiences, and appoint Advisory Councils for planning and conducting programs). 37

Moffitt stresses the need for continuous education of teachers as a main thesis of his book, *In-Service Education for Teachers*. The thesis is summarized in the following statement:

> Our accumulation of knowledge during recent years has been rapid. Research, scientific experimentation, and new explorations have revealed facts heretofore unknown. The race between education and catastrophe was never so closely run. It now appears certain that injustices to children and youth will be inevitable unless education for teachers increases in quality and quantity, both before and after teaching commences. 38

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Teachers must change. He contends that this change should be implemented through better use of the findings of research and through research as a means of professional growth while in service. His six year merit study was developed and implemented in his school system at Provo, Utah. Its main problems were the definition or description of the qualitative aspects of teaching. The model will be outlined in the third section of this chapter.

How to Change

Much research has been conducted on change and theories of change. Several ideas from Chin, Guba, Bricknell, and Lavitsky will be presented on the educational change process. Other ideas from Bennis, Owens, Miles, and others will be described under organizational change.

Chin proposes that the alternative programs require one of five different levels of change. If Chin is correct, he identifies these levels (in ascending order of difficulty) as:

1. **Substitution** — Where one element is substituted for another.
2. **Alteration** — It may involve a minor change, but one that can have unforeseen systemic effects.
3. **Perturbations and Variations in the Client System** — These changes are major ones, but relatively temporary.

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The system soon reaches a point of equilibrium.

4) **Restructuring** -- Fundamental changes are made in the structure of the system.

5) **Value Orientations** -- The final and most complex type of change.

Chin also postulates that there are different principles of change and different variables involved at each of these five levels. Therefore, a change agent who wishes to provide viable professional alternatives to the educational practitioner will have to vary his strategy and his techniques according to the level of change involved. This business of choosing the best means of bringing about educational change frequently sounds, when one examines the literature, as if the change agent were about to engage in a battle or psychological warfare, at the very least.

Bricknell has proposed what appears to be an extremely reasonable approach:

1) Look at the needs of the individuals concerned and of society and determine whether the individuals are performing in such a way as to satisfy these needs. If they are, then we can continue our present system. If they are not, then we need to change our program.

2) If we find that we ought to change our program, we must first analyze the needs we have identified to determine what "desired learning" will help our students (teachers in this study) meet these needs. Then, we compare the actual learning with the desired learning to identify gaps. (Needs assessment)

3) When we find gaps, we look around for al-
He also compiled a characteristic "set of conditions that seemed to exist where curriculum innovation had been introduced successfully into ongoing instructional programs." The conditions included the following items: group of people with differentiated or specialized roles, limited problem(s) and usable solution(s), time and special places available, materials and equipment production, contact with other developers and alternative approaches, evaluation of programs in classrooms, and recognition for achievement.

Guba suggested a taxonomy of ways for viewing the potential adopter and a catalogue of techniques for interacting with the adopter. The change agent should pay particular attention to the educational practitioner he is attempting to change. Six techniques can be used in reaching the potential adopters: Tell, Show, Help, Involve, Train, and Intervene. The critical question is: How do we decide which technique to use with a particular adopter?

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Guba states that we do not really know the answer, but he has provided a framework for determining scientifically and anecdotally how best to proceed pending development of a genuine, first-class theory of change.

Lavitsky, based on his studies of the change process, presented a faculty inservice program for junior college teachers. He proposed that in planned change the following process is needed:

1. Formulate specific, detailed educational objectives.

2. If none are presently specified, one should formulate overall educational objectives before introducing educational innovation (especially inservice education programs).

3. Identify unmet needs.

4. Pinpoint educational problems — real ones for your situation.

5. Consider alternative solutions you have defined for eliminating the problem. Cost/effectiveness or other forms of analyses may be utilized. Select the best alternative solution. In respect to educational change, inservice education may be what the "doctor ordered."

6. Implement the alternative solution by putting the solution into effect.

7. The final step in the cycle (since the process may have to be repeated) is evaluation — the process of determining to what extent the new
product or process is achieving the objectives toward which it is directed.\textsuperscript{43}

The purpose of the inservice education process, he concludes, is to enable the faculty to do a better job in their teaching, to upgrade their skills, their knowledge, and/or their attitudes. The implicit assumption is that it will help students learning.\textsuperscript{44}

Change: Improvement and Maintenance of Quality Teaching Performance

Human Needs and Motivations for Changing the Behavior:

Maslow's hierarchy of needs might also be utilized in explaining some of the "why change" question. Several of the reasons may cross-over the whole hierarchy. A basic need is the drive to be an effective teacher which Deferrai proposes as one that comes from within.\textsuperscript{45} Evans in his article states three needs which are part of Maslow's hierarchy: (1) economic satisfactions, (2) self-motivation and self-improvement, and (3) further learning for individual growth and development.\textsuperscript{46}

\textsuperscript{43}Saul Lavitsky, "Faculty In-Service Training Programs and the Educational Change Process," paper presented at American Association of Junior Colleges In-Service Training Personnel Workshop, Warrenton, Virginia, July, 1969, pp. 11-12.

\textsuperscript{44}Ibid., p. 1.

\textsuperscript{45}Deferrai, Quality of College Teaching and Staff.

\textsuperscript{46}Evans, op. cit., p. 185.
Teachers obviously would like to improve teaching performance because the results will enhance the educational development of the individuals involved. Physical education teachers will react positively to the situation with renewed efforts for improving the competencies that stimulate student progress. The Hart statement in the opening paragraph of this chapter explains this commitment to education. Thus, the teacher becomes involved in helping students meet some of their own personal human needs. The inservice education activities of the teacher help that individual meet his/her needs.

The teacher's desire for meeting the needs of the students is a global truism in education. The willingness of the medical physiologists in the Holcomb and Frazier videotape research (and all self-confrontation research of that nature) provides a fairly common example.\textsuperscript{47} The positive changes of the eight instructors produced favorable results with both the faculty and students involved. Both groups profitted from the self-analyses -- and participated voluntarily!

The motivations for the behavior changes are summarized with W.J. McKeachie's question: "What do I contribute to the education process?"\textsuperscript{48} Other motives for

\textsuperscript{47}Holcomb and Frazier, loc. cit.

\textsuperscript{48}W.J. McKeachie, "Research on Teaching at the College Level," in Handbook of Research on Teaching, ed. Nathaniel L. Gage, p. 1118.
for teachers, beyond the economic realities, involve the competence incentive and central incentive systems described by Zimmerman and Halbert. These systems are aimed at the teacher rather than the improvement of the quality of instruction alone. Perhaps motivating systems of these kinds will prove helpful.

Savage suggests a guideline for helping individual teachers. He, as many other inservice education researchers have concluded, that individuals are different. Each has one's own needs and disposition. Contributing members of a group usually exhibit positive morale. When the fulfillment of human needs are blocked, the adjustments to the frustration seem to lead to tension within the individual. Identifying the needs may help in resolving the individual's needs. Once the causes are determined, the remedy may be effected. Therefore, when the personal commitment of the individual to education and teaching is determined, some clues may be utilized in the treatment of the causes of the problem (ineffective teacher) rather than the symptoms.

Motivation systems or contingency management systems may prove helpful in motivating improved performance -- the

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stronger, the better the probability of positive change. Much research has been conducted in behavior change and attitude change. Several studies in these areas will be briefly outlined here; others will be described in other sections of this chapter. Several have already been reviewed (Zimmerman and Halbert, Mangano, and Ohio Policies Commission).

In a study by Pommer and Streedbeck, staff performance in a residential child-treatment facility was effectively used in starting and maintaining high-performance levels with the combined use of public notices and one-dollar tokens. It was suggested by the researchers that the behavior of the fellow staff members and supervisors which results from reading the notices may have a reinforcing effect on job performance. It was also possible that jobs were done to avoid being looked down upon by other staff members. The separate reinforcers were not effective over a long period of time indicating that one alone was not strong enough in maintaining high performance levels. The short period of time and the trends noticed in the experimental periods limit the definitive statements possible by the researchers. However, it appeared that both were stronger than one, and the present data showed that operant learning techniques can be applied to child-care workers in treatment programs to increase
perhaps the reinforcing contingencies might be applied to teaching performance.

Two feedback experiments, one by Saudargas and one by Rule, provide several implications for modifying teacher behavior and performance in the classroom. In the former experiment with two teachers over three time periods, feedback was given by classroom observers who were used when the videotape was not in operation. The results concerning the research have been equivocal except during this experiment, where the setting of criterion rates may be critical for consistent changes in teacher behaviors. The Rule experiment involved nine teachers who were given three different types of feedback -- instructions and experimenter feedback, videotape scoring of one's own behavior, and direct intervention in which the experimenter temporarily replaced the subject whose teaching fell below criterion. A multiple baseline design was employed in testing the

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three procedures in modifying three teaching behaviors (praise, on-task contacts, and off-task contacts) which were considered important in teaching teachers to behave effectively and in effecting positive student performance. Direct intervention was most effective in changing teachers' behavior. Smaller changes in the three teaching behaviors occurred during the video scoring procedure, and no predictable change occurred in the instructions plus feedback condition. Two implications might be made for teacher training:

1. That direct intervention could be a useful on-the-job training procedure for changing teacher behaviors;

2. That, if the specific, daily instructions to teachers in this study had little effect on their teaching, the instructions which they received in methods courses cannot be expected to control much classroom behavior.53

The improvements in teachers' behaviors might be applied to inservice education processes directed at teacher change.

A most interesting investigation was done by Sherman and Cormier who used student behavior change for influencing teacher behavior. One fifth-grade teacher served as the subject and two students in her class were employed as teacher change agents. In a multiple baseline design, the students' disruptive behavior (the independent variable)

was modified without the teacher's knowledge. The teacher's reactions toward the students (the dependent variable) was monitored on several dimensions: teacher behavior, teacher attitude toward students, and the quality of teacher verbal statements. The results indicated that student behavior change influenced the teacher's behavior. The implications are that students possess reinforcing properties for teachers and that students should be trained to be effective students. Thereby, the reinforcing potentials of students could be applied in situations where they could help teachers improve their performance under certain conditions (micro-teaching, practice teaching, workshops, and inservice education). The main finding of the authors' is summarized in the following statement:

The major implication, however, is that we begin to consider programs that work simultaneously with students and teachers. There is no reason to leave student behavior to chance than there is teacher behavior. Perhaps, if each member of the classroom structure, student and teacher, can learn effectively to reinforce appropriate behaviors in the other, enduring ideal learning conditions can be achieved and maintained.  

Further research seems necessary for utilizing the findings

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and applying them to improving teaching performance. The potentials and implications for inservice education could provide fascinating possibilities.

Several studies have supported the idea that teacher attitudes may be positively changed by inservice education programs. The below listed studies briefly summarize the results:

1. Butts and Raun — *A Study in Teacher Attitude Change* concluded that teachers' attitudes do change when they are involved in a teacher education program to increase competence in the processes of science. 60 elementary teachers were involved in the study which attempted to determine which factors contribute most to teacher attitudinal change. Grade level and few or no previous courses (in science) variables resulted in more positive change. Previous teaching experience and school location appear unrelated to attitude change.55

2. King and Scott — *The Effect of an In-Service Institute on the Attitudes of Vocational Teachers Toward the Teaching-Learning Process* supported the implication that attitudes toward selected teaching/learning concepts can be change and suggested further research. 51 preservice and in-service teachers were involved in the study.56

3. Scriven — *A Study of Teacher Attitude Change* assessed the attitude change of teachers relating to inservice programs based on the theory of individual progression. 22 Rockford, Illinois teachers took part in the one year study and 59% (or 13) reported that their attitudes toward


their goals had changed.\textsuperscript{57}

4. Henderson -- Programs to Alter Negative Attitudes Toward Integration indicated that "... As a rule, attitudinal change is more likely to occur where there is free expression without fear of reprisal and where the group members are allowed full participation in important group decisions (including program planning and evaluation)."\textsuperscript{58}

Interpersonal Relationships and Communications: This section will deal with the interpersonal relationships and communications involved in changing the behavior of teachers. There is a voluminous amount of research in many different fields; therefore, this review will focus on the interpersonal relationship and communication roles which the department chairman or instructional supervisor may utilize in attempts at causing behavior changes. The prime functions of the administrator or supervisor are to expedite the change process, to shape the desired behaviors, and to maintain the desirable behaviors through reinforcement contingencies (the administrator's role) and self-direction (the teacher's role).

The starting point for changing behavior begins with the individual's awareness for the need of change.

\textsuperscript{57}Georgia H. Scriven, "A Study of Teacher Attitude Change Related to an In-Service Program," Illinois School Research, VIII: 3: 52-54.

Three possibilities exist for the communications of this awareness: the individual himself, the individual's colleagues and/or students, and the administrator/supervisor. Elements of each possibility should be utilized. Savage indicates that there are several factors which the administrator/supervisor might consider before initiating change. They involve the administrator/supervisor himself and include the following:

1. The administrator/supervisor must first gain an understanding of himself and his behavior before he will understand the behavior of others. "When one really understands his own behavior, he gains a greater understanding of why others behave as they do ..."

2. He must be (reasonably) effective or change his own behavior (if he is not) before he expects the teacher to change. (parenthetical additions by this writer)

3. He takes "... a tremendous step toward understanding himself and others when he realizes (and believes) that behavior is caused." There are reasons for the ineffective teaching, and he must find them.59

The research on interaction indicates that behavior may be positively changed and that interactions may influence people. Argyle suggests non-directive and cognitive approaches which require little skill, but mainly involve genuine warmth, understanding, interest, and empathy. He further concludes that the interpersonal skills needed can be learned and the individual helped can be improved.60


Carkhuff's approach in the helping process goes back to the 3 R's: the right, the responsibilities, and the role. He calls them the critical issues of helping. The goal is to develop in the helpee the ability to help himself. The helping process involves two phases: the helpee's inward probing to explore and experience his innermost depths and the emergence of directionality. He suggests that the point at which effective helping begins is when the helpee begins to grow and help himself become productive. At this point, it seems logical to proceed to a second possibility for changing behavior; i.e., the individual himself. Two points should be interjected at this time:

1. The Carkhuff suggestions and research is aimed at trained lay and professional helpers, the Argyle information at social psychologists and social scientists. Administrators/supervisors might utilize the information for making applications.

2. The area of behavioral modification and its research has not been included in this review. Applications from that area should be understood and utilized by individuals involved in effecting change.

One of the most difficult tasks of an administrator/supervisor is the communication of the idea that one is

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62 Ibid., pp. 41 ff.
inefficient in one's teaching. Certain individuals, how­
ever, are self-directed and usually appraise their own
performance. Apparently the self-evaluations do not ap­
preciably produce change. McGregor suggests a new theory
of management for helping this performance appraisal which
might be applied by the educational administrator/supervi­sor. His approach involves "... the individual setting
'targets' or objectives for himself in a self-evaluation
of performance semi-annually or annually."^ The indi­
vidual takes on a greater responsibility for planning and
appraising his own contribution to institutional objectives.
The level at which one is involved (Maslow's hierarchy)
should be understood by the administrator/supervisor for
maximum effectiveness in utilizing motivational approaches.

Research generally supports the proposition that
individual morale-satisfaction and production or improved
performance are related provided the two sets of variables
are dependent upon each other. 64 These factors with their
ramifications should be considered by administrators/super­

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visors in contributing to the individual's self-actualization. Most of the research, however, has been conducted in industrial organizations. Two main ideas seem to follow from the research results:

1. If an organization can generate self-correction, it seems possible that an individual can. If the intervention is successful, the individual himself may continue the self-corrective (improvement) processes which have been initiated by the intervention.65

2. If an individual is to be made aware of the need for change in himself, he must be communicated the idea in a humanistic manner so that he may understand, accept, and strive for positive change. This means that the administrator/supervisor becomes a "facilitator" for change by causing an individual to operate at his highest capacity and insuring the self-direction (evaluation and improvement included) process in the individual to generate improved performance.66

Several ways for causing change in the individual have been researched and proven successful by Pambookian at the University of Michigan. This involves the third aspect of the possibilities: the individual's colleagues and students. Pambookian describes the approach in the following way:

"Instructors can improve their teaching through various approaches, and one way of helping them bring positive changes in their classroom behavior is to tell

65 Matthew B. Miles, "Planned Change and Organizational Health: Figure and Ground," Ibid., pp. 376-391.

them what their students think of their teaching." 67

Three suggestions including giving feedback, improving skills, and exploring other means for helping instructors are given. Further implications will be discussed in the organizational and educational options section.

Gage, in his research for improving teacher behavior, investigated the feedback from pupils to teachers and concluded that teachers who received feedback did seem to change more than those who did not. 68 His technique involved an equilibrium theory, meaning that the teacher was compared with the "ideal teacher." The feedback to a teacher would cause an imbalance, and one would strive for positive improvement toward the "ideal." "Feedback of a reference group's opinions about an individual's behavior may turn out to be an effective, democratic, and practical way of changing behavior." 69 The accuracy of the teacher's social perceptions might also become correspondingly changed. The implications point out the values of interpersonal perceptions to administrators/supervisors and their con-

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67 Pambookian, op. cit., p. 52.


69 Ibid., p. 266.
nections with interpersonal relationships.

Two other avenues for changing behavior may be utilized by the department chairman or supervisor: (1) the teacher's colleagues and (2) the department or institutional environment. Low and Dey suggest that staff interaction (described in the Perceptions section) in team teaching situations produced a significant change in teacher improvement. They combined the knowledge of group processes and applied it with team teaching as a method. The instruction improved, and the gain was retained after the participants returned to their normal teaching situation. Further research should be considered since the project included only eight teachers, and the retention period of the participants has not been evaluated.

The other aspect for change includes the environment in which one teaches. Gibb suggests that the administrator's (a department chairman) leadership for providing the optimal teaching-learning environment is crucial. The role of communications, processes, motivations, and environmental settings which the administrator may utilize should be understood. A conducive environment with effective elements

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70 Low and Dey, loc. cit., p. 337.

of the first three items will help the teacher's performance.

In Summary, several guidelines based on human needs and motivations research which may facilitate the change process. They include the following:

1. The administrator/supervisor should learn, understand and apply all the knowledge of and skills in interpersonal relations and behavioral change one can so that one may assist teachers in becoming more effective. One must realize that behavior, both effective and ineffective teaching in this situation, is caused. However, one should first assess oneself and his performance behaviors; one may then gain more understanding of why others behave as they do.

2. Communication of the need for change should be shared and perceived by the individuals affected. The administrator/supervisor should realize the options available in the situation and apply the best alternative in the process. Various ways of changing behavior have been reviewed. Generally the process includes the following social engineering steps: (1) Analyze the situation, (2) Determine the change required, (3) Make the changes (use the best alternative or combinations thereof), and (4) Stabilize and support the change (use inservice education as a process).

3. Skills for social engineering and behavioral modification should be understood, learned, and applied in the appropriate manner. Contingencies of management, feedback, reinforcement, perceptions, change agents, attitudes, and teaching skill shaping are some of the skills involved in the change. The teacher must perceive the need, have the desire, and be motivated for making the change.

4. For the administrator/supervisor to help in making the change, one should transfer the process so that the individual becomes self-directed in achieving and maintaining the improved performance.
Organizational Environment Considerations: This section will review the organizational environment considerations which have been reported in the literature and research as successful in improving teaching performance. Several approaches to organizational change and development will be summarized and specific suggestions will be listed with the appropriate source(s).

Bobbitt et al has suggested two general approaches to organizational change with several possibilities within each. All are based on theories and findings developed from research in behavioral and social sciences. They state: "Change and develop people if you wish to change and develop the organization. Change perceptions, cognitions, attitudes, and so; motivate." They emphasize, however, that evidence to support the effectiveness of the methods is still inconclusive and further research into results is needed.

The individual approaches are classified as follows:

1. Job enrichment
2. Management by objectives
3. Theories of leadership effectiveness
4. Sensitivity training
5. Need achievement training.

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73 Ibid., Chapter 6, p. 180.
The interpersonal approaches include the following:

1. Interpersonal peacemaking through confrontations and third-party intervention
2. Event-process analysis
3. Decision making in groups
4. Process consultation
5. Grid organizational development which is a combined approach.

Each approach has its advantages and disadvantages. However, in general, the methods need to consider the organization as a system of highly interrelated variables. It seems that inservice education programs might benefit if they were organized in a highly related system.

Bennis, Gross, Miles, Sobol, and other researchers in the behavioral sciences advocate common elements in organizational change. Among those elements are change agents, adequate funding, appropriate goals and plans, open or temporary systems, acceptance of need for change, presence of a change agent for advice and support, use of research information, and planned change programs.

Bennis suggests three programs for implementing planned organizational change which might be utilized in inservice efforts directed at change. The programs include training (lab training or T-group training), consulting, and applying research. (The use of data as feedback intervention). The principles and strategies of directing organizational change via lab training are directed at two main

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target or client systems:

1. The individual — his growth, interpersonal competencies, and self-actualization

2. The social system — a formal organization or some sub-system.

The change agent's role is "... professional, marginal, ambiguous, insecure, and risky;" it is crucial in the process. Even more crucial in the success of the program, however, is the voluntary commitment of the participants.!

Beckerman and Sweeney have each completed research which supports the change agent's role and the T-group training respectively. Beckerman advocates the creation of two new roles — those of training specialists and extension educational specialist — who, from their school district and university bases respectively, would act as educational change agents. The "inside-outside" team would be committed to the ultimate task — to help improve the quality of education. Sweeney's study assessed the effect of T-group sensitivity training on teacher attitudes as indicated by the Minnesota Teacher Attitude Inventory. Twenty-five elementary and secondary school teachers were given the MTAI before and after a 10-week T-group program.


A control group of 16 teachers taking an inservice course in Iroquois Indian History was used. Results showed that the control group’s test scores remained the same or decreased slightly, while the experimental group’s scores increased 5 to 20 percentile points. It may possibly be inferred that the T-group training caused the increase in scores, but further research must be done to determine whether the training causes actual changes in the teacher’s classroom behavior. The teachers’ comments indicated that the T-group training helped them obtain a higher degree of satisfaction from interpersonal relationships, insights, and awareness. 77

Owens points out some of the achievements of the behavioral science research which might be employed in implementing change based on a heuristic approach utilizing behavioral concepts. He suggests several alternatives for the “new administration” with the four problems (role relationships, communication, internalizing, and generalizing) of putting the concepts to work and the four keys (team training, temporary systems, data feedback, and “outside” consultants) in applying the heuristic approach.

His staff development program would commence with a process

of inquiry, study, and learning about the four problems which provide an analysis of the organization. The four key aspects would provide the means for implementation. Team training exposes the entire organization to training simultaneously outside of the school setting in a relaxed manner. Temporary systems apply Miles' research on types of changes possible and conferences or ad-hoc groups for the various kinds of functions desired. Data Feedback obtained from various sources reveals consensus and discrepancies of the organization and stimulates participation of the individuals. The role of the consultant is one that suggests alternatives, provides technical advice, and makes proposals for stimulating the group. He also proposes a team from the schools involved which reinforces the university-school partnership.  

Miles has reported extensive research and experience utilizing temporary systems as change-inducing mechanisms in schools. He states that temporary systems may be used to bring about changes in the behavior of individuals or of groups. The focus could be on one teacher, a workshop within the school, or an entire faculty. There are three distinct types of changes that are generally sought by temporary systems: educative, re-educative, and treat-

ment. Educative processes are designed to provide participants with knowledge, attitudes, and skills which are new to them. Re-educative processes are aimed at unlearning or correcting something that the participants have already learned and then providing educative activities to replace what has been discarded or add to what has been corrected. Treatment processes seek to correct an existing deviancy and to restore a state of health to either individuals or groups. He proposes several means for the focus of attention on persons or groups and organizations by which the change may be implemented.79

Problems confronting organizations have been reported by many change researchers. Three sources and their views will be briefly outlined:

1. Bennis and Slater have identified five human problems confronting organizations. They are integration, social influence, collaboration, adaptation, and revitalization. They expand on the problem of revitalization and view it as very similar to self-renewal.80

2. Parsons identified four basic problems of all social systems in renewal. He viewed the problems as pattern-maintenance, goal maintenance, integration, and adaptation.81

3. Toffler, expressed the ideas of transcience, novelty, diversity, and adaptation as keys to understanding and overcoming "Future Shock." — what happens to people when they are overwhelmed by change.  

Bennis and Slater summarize the elements of revitalization which may be applicable to the inservice education change process. They are:

1. An ability to learn from experience and to codify, store, and retrieve the relevant knowledge

2. An ability to learn how to learn, that is, to develop methods for improving the learning process

3. An ability to acquire and use feedback mechanisms on performance, in short, to be self-analytical

4. An ability to control one's own destiny.

In respect to educational innovation, Gross and others proposed several variables which can nurture or kill an innovative inservice program. They identified the four barriers to an organizational innovations dependent on a new inservice education training program. The proposed instructional innovations failed because:

1. Teachers lacked a clear understanding about the new role they were about to play in the instructional process. They did not have a clear idea of the performances expected of them.

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2. Teachers lacked the necessary skills and knowledges to carry out the new instructional package.

3. Teachers lacked the required materials and equipment to implement the new programs.

4. The organizational arrangement of the school in the form of school schedules, assignment of teachers, and others was incompatible with the innovation programs.

They, therefore, suggested that resources were needed as well as a commitment in educational change. 84

Sobol studied the descriptive findings from the educational literature on the question of what variables appear important in changing inservice training procedures. Among the many variables which he recommended for further study are external and internal support for change, funding, plans for meeting both organizational members' needs and the organizations problem under consideration, members' acceptance for change, having old members remain for new tasks, and presence of change agents for needed support and advice. His summary and conclusions recognize the need for innovation (recognizing, developing, guiding, and using) and includes many specific suggestions on needs, questions, and issues. Also many ideas on planning and organization, administration support, rewards, time, evaluation, and a

synopsis of psychological and sociological needs are suggested.85

One of the main problems in the implementation of inservice education programs is resources. Presently in Ohio legislation is pending for providing more appropriate and equitable distribution of funds. The need is crucial in the change process. Hefferlin has summarized the importance of resources to academic reform in the following manner:

In short, the first key to academic reform is that of resources: an existing program will continue to exist as long as it can find support. A new program will be tolerated if it costs no money or it brings its own support. It will be resisted if the new funds it requires could be used for the expansion of existing programs. And it will be actively opposed and accepted only under duress if existing resources must be divided to include it. This tendency is the fundamental reason why the source of academic change has always been and continues to be predominantly outside of the educational system, for the resources that support the system overwhelmingly come from outside the institutions themselves.86

Other organizational environment considerations which are involved in the change process are listed below. Several

items have already been described. They include the following:

1. Supervision -- systematic rational study and analysis of teaching. (Mosher)

2. Staff Interaction -- application of the Trump Plan in staff improvement by involving the teachers in identifying, sharing, and solving problems. (Low and Dey)

3. Administrative Actions or Involvements -- leadership of the department chairman by example in his own teaching and supervision, facilities and environmental lay-outs conducive for teaching, inservice education and professional opportunities for the staff throughout their career, faculty exchanges, and other elements considered helpful in causing good teaching-learning situations. (Evans)

4. Technology -- use of technology and media for improving and aiding instruction, its evaluation, and its improvement. (Holcomb and Frazier)

5. Organizational Structure -- avoid faulty organizational structure since many human relations problems are caused, in part, by it. (Griffiths, Lane)

Finally, in the change process, the individual member of an organization is one of the most important elements in the changing of that organization. Gardner lists eight rules for continuous renewal of society which he calls the conditions for renewal. The rules, he says, can apply essentially unaltered to the organizations within society. Hence he uses them to assess a university's successes and failures at renewal. The eight rules are briefly summarized as respect for individuals, development of full poten-
tialities of each one, appreciation for pluralism, development of organizational forms that permit renewal, combatment of rigidifying elements, means of cutting through the encircling web of vested interests, presence of motivated individuals, and measures for consensus so that consensus will provide room for pluralism and dissent. 87

**Self-Renewal for Performance Improvement and Skills Development**  
According to Hemphill a new discipline for self-renewal is emerging based on the "... assumption that American public schools and teacher-training institutions can and will renew themselves and adapt to the needs of a changing society. A further assumption is that an emerging new discipline -- educational development -- can play a catalytic role in the change process while at the same time acting as a force for 'conservation' in public education." 88

Educational development is defined as a systematic process of creating new alternatives that contribute to the improvement of educational practice. 89 The research aspect produces outcomes in new knowledge; the development aspect

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89 Ibid., p. 3.
produces usable products. The educational development does not mandate change itself in any specific situation. It does provide alternatives to present practices. There are two types of educational development with combinations of each also possible: product development and change support. The product development approach seeks to bring about improvement in educational practice by creating new tools or devices which are designed to yield specific outcomes. The outcomes are usually described as complete 'packages' that have physical identity. The change support approach directly attempts to change the behavior of those who are engaged in the practice of education. Individuals and groups or organizations can be targeted for improvement.

It is suggested by Hemphill that research, development, and evaluation are tools we must use if we wish to reform and renew educational practice. There are three steps or phases necessary for purposeful action: the formulation of an intention, the operation upon that attention, and the comparison of the intended state of affairs with the realized state of affairs. He concludes his suggestion with the following statement:

"If we are to make orderly and rapid progress in improving our education system, we who assume some responsibility for the task are obliged to

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The steps in the process include planning and developing, evaluating and revising, disseminating and installing, funding, and managing.

Geisert, Hart, and Palola have described self-renewal models for educational development in recent writings. Each of these models will be briefly reviewed, and selected performance improvement research will be reported for facilitating change.

Geisert presents a model that describes logical steps that should be implemented to maximize self-renewal in a rapidly changing social environment. The model is designed to assist educators in the continual definition, selection, and implementation of viable educational alternatives. The model utilizes discrepancy evaluation for determining inconsistencies between the programs selected and the philosophy and goals desired. The discrepancy evaluation makes a comparison between reality and some standard(s) which have been defined by the participants in the process. The comparison process often demonstrates differences between the standard and reality, and this difference is called discrepancy. The author provides a step-by-step explanation of the model including (1) the

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selection of an educational philosophy, (2) the development of written goals from that philosophy, (3) the acquisition of a staff consensus on the philosophy and goals, (4) the development of educational objectives from the goals and priorities, (5) the establishment of a selection criteria for alternative instructional designs, and (6) the dissemination of the program plan.  

Hart suggests that a commitment to self-development will produce major modifications in teaching behavior and ultimately in pupil behavior and achievement. Her Self-Renewal Model for inservice programs stresses the need for a continuous program meeting the goals and objectives of the teachers involved. Her three-pronged approach (teacher behavior improvement, staff development activities, and retraining) are presented with a Professional Growth Center as the basis for providing services such as training in teaching skills, media utilization, interaction analysis, use of student feedback, and strategies for helping the various types of students in our schools. In her conclusion, she makes the following statement:

The modern in-service design is based on the principle that schools cannot change unless educators change. In-service education is the key to

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whether or not schools can meet the demands upon education. A revitalization of our schools requires a commitment to self-renewal through continuing individual growth and participation in those activities that prepare today's teachers to cope with the changing needs of today's society.93

The Palola Model was developed from the findings of a study of planning and change at 80 colleges and universities, private and public, located in four separate states (California, Florida, Illinois, and New York). Eight dimensions of planning were used to characterize the type of planning in the past at the eighty institutions. He defined them as follows:

1. Scope (ends/means)
2. Integration (integrated/piecemeal)
3. Priority (priorities/no priorities)
4. Style (periodic/continuous)
5. Research (research based/limited data)
6. Participants (joint/separate structure)
7. Participation (light/heavy faculty participation)
8. Structure (special/existing structure).94

The three forms of planning were defined as substantive (long-range and continuous), expedient (day-day problems), and mixed (a combination of the two).95 He proposed six

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95Ibid., pp. 27 ff.
correlates of planning which include inputs, outputs, environmental, social structure, attitudes, and activity. Finally he recommends four principles as a further explanation of his model for educational planning.

Principle One: Program development and Renewal -- includes proposals for programs, change, and others which require continuous review and examination.

Principle Two: Planning as Process -- means ongoing and continuously practiced processes of decision making, initiation, implementation, evaluation, etc.

Principle Three: Responsibilities -- includes who and what of defining program needs, institutional mission and role, program needs, and planning tasks and responsibilities within each level.

Principle Four: Contingencies -- includes high cost and joint programs, program gaps and disputes between units, responsibilities assumed by next higher level, special steps taken by higher units to respect the independence of all units (especially innovative programs).96

Selected studies in respect to performance improvement and skills development will be presented in the itemized research as listed below:

1. Classroom Aspects of Teaching -- focus on the concepts and applications involved in classroom and school operations which are responsive to the needs and interests of teachers. (Brimm and Tollett)

2. Interpersonal Relationships and Skills -- focus on good and desirable habits such

as industry, initiative, and critical inquiry in the class for evidences of teaching performance. (Thompson)

3. Social Perceptions — focus on and use of feedback as a usable scheme for improvement of teaching skills. (Gage, Pambookian)

4. Attitudes — focus on the teacher’s attitudes for improving instruction by giving reinforcement and allowing participation in workshops and programs. (Mangano)

5. Teaching Behavior Improvements — focus on skills, understandings, and concepts in planning and decision-making for curriculum and teaching improvements. (Hart)

6. Self-Confrontation — use of videotape of self and students in class situations for self-assessment and improvement. (Holcomb and Frazier, Brooks, Carline, Hill, Fuller and Manning)

7. Desire — must be genuine and come from within the person. (Deferral)

8. Self-Learning — use of time, needs, and interests in doing things for self-improvement. (Merwin, Delforge)

9. Independent Activities — further study at the graduate level or individual action research. (Hart, Medley)

10. "Quality Control" — involved with curriculum/instruction developments and self-renewal. (Mosher)

11. Self-Evaluation — use of videotape and other means by which the teacher’s feelings change has occurred by a more positive attitude toward oneself, one’s profession, and one’s students. It may be his testimony accepted as fact and reflected in greater sensitivity toward students’ needs. (Jensen, Belanger, Ward, Johnson)
In summary, change seems necessary in the improvement and maintenance of quality teaching performance. This section has attempted to establish change as a theoretical base for inservice education. The literature and research in relation to the why and how questions have been reviewed as the means for bringing about the change. In the next section, the practices and models for inservice education will be described. However, as in many endeavors where options and individuals are concerned, a conclusion of Fantini is proposed:

Some of the options will succeed and some will fail. Those which succeed, however, will add impetus to the reform and to a continuing search for better schools. Thus, programs of professional growth should stimulate options and depress mandates throughout the mainstream of the educational process, for it is in the diversity of man that our strength lies.\(^7\)

INSERVICE EDUCATION PRACTICES AND MODELS

This section will review the inservice education practices and models which relate to selected variables in the questionnaire and to change efforts in actual practice.

Early inservice education efforts were directed primarily at filling gaps in college degree requirements, as recalled by Tyler. However, more recently they have been aimed primarily at helping teachers meet new problems. Institutes and summer sessions are no longer the chief means of inservice education. Programs of professional growth include many options, experiences, and means through which the teacher may pursue growth and development. To the defect versus growth argument, Jackson suggests that:

"The motive for learning more about teaching is not to repair a personal inadequacy as a teacher, but to seek fulfillment as a practitioner of the art." 

Selected Variables Relating to the Questionnaire

Selected Variables: Rubin's project, designed to train more than 500 inservice teachers to teach selected cognitive skills to 15,000 students ranging from grades 1 through 10, produced findings which suggested many implications for the conduct of inservice education. Several


of its main characteristics were its emphasis on a school-based, total-staff approach and a teacher-facilitator in each school (a practicing teacher selected by his colleagues to serve as coordinator). Among the findings of the study relating to teacher learning, teacher effectiveness, individual differences in teachers and teaching styles, and relative effectiveness of this approach to continuing education were:

1. That a practicing teacher makes an excellent trainer of teachers,

2. That changing the behavior of a group is often easier than changing the behavior of an individual,

3. That the impotence of much inservice effort is attributable not so much to teacher resistance as to the ineffectiveness of educational systems used.

Several of Rubin's implications are particularly relevant since they are generally supported in inservice education research. They are listed below:

Finally, as our study demonstrated, educators must be responsible for their own strengths and weaknesses... Ultimately, however, we must have teachers who are self-directive, who participate in the organization for their own improvement.

In the making of a teacher, it is highly probable that inservice training

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100 Louis J. Rubin, A Study on the Continuing Education of Teachers (Santa Barbara, California: Center for Coordinated Education, University of California, 1969).
is infinitely more important than preservice training.

Our study of inservice education programs gave rise to this conclusion: the first two years of a teacher's experience are the most crucial.

To improve teaching, therefore, it is necessary to analyze performance in order to deal with a particular component, but it is most important to then fuse the components into an effective teaching style. We need a complete teacher who can meld knowledge of the subject matter, good teaching techniques, an understanding of the learner's nature, and the capacity for combining the elements.

It was our belief that a school-centered approach to professional growth would necessitate an on-site agent, someone able to manage the program of self-developments. Consequently, in our study, a teacher selected by his faculty colleagues and given special leadership training, was used as the training agent. The results were extremely impressive — so much so, in fact, that we now conjecture that a practicing teacher is the best possible trainer of teachers. (The individual was called a teacher-facilitator.)

We found, too, that where professional growth is concerned, changing the behavior of a group often is easier than changing the behavior of an individual. Therefore, the total faculty of a school should be involved.

Other implications, too numerous to quote all, include the following elements:

1. Professional growth as a part of the teacher's work load

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101Louis J. Rubin, A Study on the Continuing Education of Teachers, pp. 3-11.
2. Various methods (modes) of inservice education

3. Reward, value, and esteem for the additional education from the power structure of the school

4. Individualization for teachers who learn at different rates, in different ways, and through different experiences

5. A human coach for observing, interpreting, and improving pedagogical skills

6. Feedback, evaluation, and help for learning new techniques which are often uncomfortable and produce insecurity

7. Values perceived as program response determinants

8. Teacher resistance to change as overestimated

9. Exploit individual teacher's unique strengths, improve weaknesses

10. Right formulas for making a profound difference in improving teachers.102

Finally, in respect to selected variables which are included in this study's instrument, Rubin found there were no significant correlations between personality, professional background, attitude regarding education, or setting that had the greatest effect on one's responsibility to the retraining opportunity. He anticipated that the length of service would correlate negatively with receptivity to change, reasoning that a longer professional experience

would result in greater rigidity. The results, however, did not bear this out since Rubin found no significant connection between age, length of experience, biographical history, and enthusiasm for the training program. The concluding statement of the report summarizes the inservice education dilemma:

One must conclude that the importance of so much of our inservice effort is attributable, not to teacher resistance, but to the ineffectiveness of the system we use. The potential of inservice education, as a consequence, would seem to be great: if we can find the right formulas, we may well make a profound difference in the quality of schooling.¹⁰³

The findings of Smith and Feinberg in their separate studies corroborate most of the previously mentioned items of the Rubin Report. Smith identified seventeen findings which were reported from the data.¹⁰⁴ Feinberg isolated eleven factors which may distinguish between schools (grades 5-9 in the study) engaging in "highly effective" inservice programs and/or practices and others.¹⁰⁵ In both studies,


the factors were identified and recommended as guidelines for professional staff development. Several items, not previously mentioned in the Rubin review include the following: specific objectives in behavioral terms, goal-setting and evaluation, human relationships as a part of the process, teacher compensation for attendance, and a process with teacher input and involvement with flexibility and options for diversity.

**Needs Assessment**: Several studies recommended the use of a needs assessment instrument as the starting point for inservice education programs. One of Feinberg's eleven factors included a needs assessment of some type for determining the needs and interests of individual teachers. The Fox-Foley recommendation for the needs survey has been mentioned previously. Rice's research described the construction and use of a set of evaluative instruments for aiding in the planning of inservice programs. The four instruments constructed used Stufflebeam's four evaluative strategies: context, input, process, and product. They were designed to provide ratings which could be compared in regard to personnel groups (teachers versus administrators) and local school district variables (four different types of districts) and selected variables including age, number of years teaching, size of enrollment, and number of years in the school district. 410 teachers and 173 administrators took part in the study which found that differences did exist in the two groups, but not in the
teachers from the various districts. He concluded that there is some value in comparing discrepancies between administrators and teachers on the four strategies as a diagnostic measure in order to plan cooperative inservice activities, that context was rated significant by both administrators and teachers while product rated higher than input and processes by teachers only, and that there is value in organizing and implementing inservice programs based on the evaluative strategies.106

Brimm and Tollett surveyed 646 Tennessee teachers in their "Teacher Attitude Toward In-Service Education Inventory" which they used in determining needs in their state. They suggested that the survey was a prerequisite to the planning of meaningful programs. The programs should focus on the classroom aspects of teaching and be offered in the schools in which participants are working. Finally, administrators and teachers must pool their knowledge and resources and seek programs more responsive to the needs and interests of the practicing classroom teachers.107

106 Thomas Ernest Rice, An Exploratory Study to Investigate the Aspects of the Construction and Use of Instruments Encompassing the Evaluative Strategies of Context, Input, Process, and Product of In-Service Programs (Iowa City, Iowa: The Iowa Center for Research in School Administration, 1969).

Formats and Locations: White, Raun, and Butts conducted a study to answer two questions: What type of program most efficiently achieves the aims; and How are the results affected by location, previous teaching experience, previous courses (science in this study), and grade level taught? 140 elementary school teachers were involved in the study. Three group programs were conducted including a 6-credit-hour course on a college campus, a 1-week preschool workshop with monthly 1-day visits and group sessions in participating schools, and a released-time plan of 11 half-day sessions throughout the school year. A pre-and post-test design was employed. They concluded that organization and location of the program is a relevant condition. For an improvement in both science competence and teacher attitude, it appears that the released time format is most effective with the campus program the least effective. Previous teaching experience and grade level taught seem unrelated to competence and attitude change, but previous science training appear to contribute positively to both types of change. 108

Delano's study suggested that inservice designs

which were most effective in her investigation had these components: self-choice, alternatives, active learning, evaluation procedures, and feedback for teachers. Classroom observations made in October and May showed that the teachers had internalized the theory and practice of open education. 109

Prevention: Two means for preventing problems with teachers are suggested by Bedford and Evans. Bedford, in a ten-year study of the Teacher's College at Saskatoon, Canada, concluded that the best way to eliminate "weak" teachers is to eliminate them before they get started. He concluded that teacher education institutions should spend time and resources in developing instruments for screening out weak prospective teachers before admission is considered. The evidence furnished (largely statistical) supported the idea. 110 Perhaps inservice education might help improve such teachers and mutually benefit all concerned -- teacher and students. Evans proposed 11 suggestions for preventing and curing perfunctory teaching. Inservice education and several other points are included and have been mentioned in previous sections of this


110 C.M. Bedford, "Screening Out Weak Prospective Teachers," Teacher Education, V (Spring, 1972), 73.
Practices Relating to Successful Inservice Education Efforts

Self-Evaluation and Confrontation:

1. Use of videotape in self-confrontation which may have potential for help and harm. It is suggested that careful studies of immediate, intermediate, and long-term effects of different types and combinations of playback be made for individuals who vary along the dimensions of congruence, competence, self-esteem, and openness; for performances which vary from the ideal; for situations which are more or less stressful; for focus which varies from nonexistent to strong; and for outcomes which are implicit and explicit. (Fuller and Manning)

2. Use of videotape in helping teachers self-evaluate their teaching behavior. (Ward, Holcomb and Frazier, Jensen, and Brooks)

3. Use of a self-appraisal guide in an inservice education program as measured by pupil achievement on a standardized test. (Stanley)

4. Use of videotapes and seminars for improving teaching behavior in classroom settings. (Johnson)

Feedback from Observation and Supervision:

1. Observation as methodology for helping train teachers in observational techniques for improving performance. (Webb)

2. Supervision feedback as a means of helping teachers improve. (Belanger, Gage)

3. Interaction and feedback in programs for assisting teachers in continuing their professional development. (Hrivnak, Weber, Hill, Flanders)

4. Remote feedback techniques involving micro-teaching and video-recording using techniques of videophone, video-mail, and video-self-evaluation feedback sources. (Cameron)

5. Clinical supervision and evaluation for implementing instructional change. (Harris, 1966; Mosher)

6. Discrepancy evaluation and feedback for causing change in teacher behavior. (Gage, 1963; Geisert)

Summer Programs:

1. Summer school training for improving reading-language teaching conducted in coordination with Temple University's Portal School Project. Four other projects are located at The Ohio State University, Chapel Hill (N.C.), University of California at Berkeley, and Portland, Oregon. (Peper)

2. Summer program of study trips and short-term work experiences for updating the technical competencies
of 96 industrial education teachers. (Bohn)

Leadership Role of State Department and Local School District:

1. State departments of education will have a broader role in the future which will involve planning and effecting improvements in the state educational system and assessing and evaluating progress in the programs. "... Staff members will spend a great deal of time in regional or other group meetings, conferences, and seminars concerned with new technological developments and the spreading of good practices. Inservice education for school personnel within the State as well as for the department itself will occupy a high place among the activities of the department. The staffs of the departments will be trained and will focus more of their attention on producing desirable change that is beneficial to the educational program." (Philips, quote from p. 6)

2. Florida, New York, and Ohio State Department involvements have been mentioned earlier. (Florida State Department, Ohio Department, and Bricknell) Various self-renewal bills and professional development acts have been reported by Rubin (1968), Ohio, and Florida.

3. Local school districts should play a major role in change since the local level alone may incorporate and attack local problems specific to a system. Inservice education should be developed and funded by local districts as a major thrust in the total growth and development pro-
Individualized Programs:

1. A program being field tested in Haywood County, North Carolina Public Schools in cooperation with Western Carolina University utilizes competency identification, development, and evaluation by the participants. The competency based program offers an innovative approach to inservice education. It is felt that the model is practical and realistic since it strengthens and develops both school and university personnel and many schools require teacher development beyond preservice competencies. Six major points of the program are: competency based education, individualized instruction, team teaching, cooperatively designed, heavy use of media, and inservice training for all individuals involved in the program (classroom teachers, supervisors, and university personnel). (Delforge)

2. A televised inservice program was developed and evaluated by Piper for determining whether or not it could help. 50 teachers took part in the quest for change. Based on an analysis of pre-and post-test scores, evidence indicates that yes, it can help teachers change. It was concluded that positive changes and increased science competency is associated with teachers motivation to teach more science activities in their classrooms. (Piper)

3. Self-Instructional Packages (SIM'S) were utilized in research with 32 high school social studies teachers instead of conventional practices. Significant differences
between pre-and post-test scores of the teachers were found at the .00001 level. It was concluded that "... SIM'S can be used with reasonable certitude to provide an effective alternative to more traditional inservice teacher training."

The main advantages are the self-pacing and the serving of special needs and unique interests of the participants. SIM'S can improve quality of teaching performance and increase the effectiveness of inservice programs when appropriate training materials are utilized and principles/practices of CBTE are employed. (Merwin, quote from p. 32)

**Team Efforts:**

1. The Innovation Team was studied as a model for change in the inner city schools of Washington, D.C. The Team became a genuine participatory decision making group in the experiment with 300 teachers from 24 inner city schools. The Innovation Team was composed of 15 former classroom teachers, 1 outside change agent, 1 group processes consultant and behavioral scientist, and the support staff. The experiment suggested that there is room in large organizations for different organizational models to accomplish different ends. (Cernius)

2. The Seminar, combining theory process education and self-study, was employed in Kulp's research model. The program with 49 teachers and 1,272 students was considered more effective in achieving desired results than a program based on any one separately. (Kulp)
3. Staff improvement as a dividend of team teaching was studied and proved successful. (Loy and Dey -- reviewed previously)

4. Project PLAN involved an inservice education program which consisted of individualized education, conferences, and consultants as part of the teacher development activities. The consultants visited the teachers' classrooms and helped improve their performance using behavioral change techniques. (Steen, Lipe, and Quirk)

5. The T-Group program of Sweeney, as reviewed earlier, indicated that this method of team or group effort may be effectively employed in inservice education efforts. (Sweeney)

6. A demonstration teaching team using highly developed teaching demonstrations were tested and determined effective in promoting changes in teacher and student behavior of specific kinds at a significant level. (Harris, 1966)

7. Teachers, university team leader, and school supervisors were studied by Delforge and reviewed previously. (Delforge) An inside-outside team reported by Beckerman consisting of a training specialist and extension education specialist might also be included as a team effort. (Beckerman, 1973)

Change Agents:

1. Support from behavioral science research on
change agents has been reported in the following sources: Owens, Bennis, Chin, and others. Teacher-facilitators and other inservice education change agents have been suggested in Rubin, Rogers, and virtually all other inservice sources.

2. Action researchers and trainers of action research have been developed as a part of a special project for improving methods of training change agents involved with classroom and school management practices. 50 interns were trained in three phases: a 5-week residential care experience at Bethel, Maine; 3 weeks of field work on individual projects supervised by 12 members of the National Training Laboratories Network of social scientists; and a 1-week follow-up for evaluation and further training. Major strengths of the program included the reality-based practice opportunities, the development of an extended training design, and the emphasis on self-direction by the interns in designing their own learning activities. (Mial)

3. Beckerman advocates the creation of a new role: the extension education specialist who, from the university base, is to act as an educational change agent. (Breckerman, 1972) The other half of the team is the training specialist working from within a particular school. The "inside-outside team" would help schools in recognizing and defining their R and D and inservice needs; in diagnosing their problems and setting program objectives and priorities; in acquiring
and utilizing relevant university academic resources; in selecting and creating solutions from presented alternatives; in getting solutions accepted, adapted, and installed; and in evaluating solutions and assisting in future planning (Beckerman, 1972 and 1973; Lippitt and Fox in Havelock; Havelock)

Field Services Cluster:

1. The Field Services Cluster, as proposed by Yarbrough, is somewhat broader than a teacher center and functions intensely on teacher growth and pupil performance at all levels rather than being a technical assistance group. It has the goals of improving teacher competencies, identifying educational needs of children, testing innovative programs and approaches, and utilizing community resources in instruction. It possesses a mobile capability in that the cluster disbands and reforms in other areas as needed. The cluster is composed of three teams: the university team of 20-25 student interns, 3-5 graduate interns, 2 field-based professors, and 2-3 field-centered professors; the community team made up of 20-25 community members (parents, business people, church leaders, and educational personnel); and the school team made up of teachers from various curriculum areas responsible for the overall coordination of services. Funding for the cluster comes from state, federal, university, business, community, and foundations sources. The relationship is a cooperative
venture with the responsibility for teacher growth among
the triad of education: university, public school, and
community. (Yarbrough)

2. The copartnership of the University of Wisconsin
-- La Crosse Center represents another form of the field
cluster concept. The Center consists of 23 multiunit area
schools grouped into a network called "Area Movement for
Educationally New Dimensions" (AMEND). The AMEND schools
were provided with inservice programs, public relations,
resource materials, and sources by the Center; AMEND schools
provided research laboratories and field-testing materials
for multiunit schools curriculum. As the network grows and
gains solidarity, it will provide more services for its
member schools and play a greater role in improving the
quality of teacher education programs at both the preservice
and inservice levels. (Wisconsin State University, La
Crosse)

Centers, Professional Growth Centers,
Teacher Centers:

Many sources in the literature and research have
reported and studied the teacher center concept. Generally
the Center provides such services as education in teaching
skills, media utilization, interaction analysis, use of
student feedback, and strategies for helping teachers in
understandings and problems. The centers were first de­
signed to serve teachers rather than instruct or direct
them. Selden and Darland suggests that the teacher center
should be the main instrument of renewal so far as methods and techniques are concerned. The centers should be autonomous, teacher controlled, non-profit corporations; they should concentrate on the development of improved teaching as distinguished from other aspects of school operations. Parents, community leaders, universities, and students should be represented on advisory boards, not "parity boards." The centers should be viewed as permanent organizations with on-going financial commitments from all levels of government. 112

The below listed sources indicate the value of teacher centers or support the concept through research findings:

1. Rubin -- The Center for Coordinated Education and Educational Change (Rubin, 1968)

2. Houston -- The Houston University Teacher Center (Houston)

3. DeShields, Butler, Gerber -- The Institute for Educational Development (DeShields et al)

4. Theimer -- Professional Development Centers (Theimer)

5. Eddy -- "How Successful Are the British Teachers' Centers": Describes the development of teachers' centers and advocates their use in teacher change through inservice education activities. (Eddy)

6. Hart -- Professional Growth Center (Hart)

7. Schmieder -- "Teacher/Teaching Centering in America": Describes the development, types, functions, organization and administration, and extent of teaching centers in the U.S. including the following types: independent, "almost independent, professional organization, single unit, free partnership, free consortium, and legislative/political consortium. (Schmieder)

Teachers' centers are an international phenomena and exist in many foreign countries. The following sources provide examples from the various countries:

1. Britain -- Composed of three main elements: a working room, a discussion, and a refreshment area. Work includes meetings of teacher groups, meetings of at least two concerned with learning, and making apparatus. (Thornbury et al, Watkins et al, and Johnson, D. J.)

2. Japan -- A centralized bureaucratic model. (Selden and Darland)

Models:

Numerous models for inservice education have been described in the literature; fewer, however, have experienced or endured scrutiny under research conditions in toto. Elements of most models have been studied and were reviewed as a part of this chapter. The models might generally be classified in terms of their development under the following headings:

1. General
2. Organizational
3. School district
4. State
5. National.
Selected examples from each classification will be described briefly with its special emphasis(es).

**Common Elements:** As a result of the dissimilarity of sponsoring institutions, each program is diverse; nevertheless, there are major components common to all. One prevalent element is that of involving teachers in the planning and development of the inservice activities. Another item is the use of a needs assessment instrument prior to program initiation in order that the special needs, interests, and problems of the participants may be determined. One of the most important components of all recent models is the improvement of teaching behavior and attitude. Other common facets of the programs are the following:

1. the emphasis on provisions for continuity throughout one's professional career,
2. the emphasis on the role of motivation based on extrinsic and/or intrinsic reward systems,
3. the emphasis on the role and need for the professional growth center(s),
4. the emphasis on the values and functions of the mutual cooperation between the college or university and the school participants,
5. the emphasis on the role and value of change agents in the change process,
6. the emphasis on the use and need of resources and materials in order that innovations may be applied,
7. the importance of the use of research and its findings,
8. the emphasis on the provisions for self-pacing and self-evaluation,
9. the importance of the need for al-
ternatives in fulfilling development activities and active learning in acquiring the "new" skills or competencies, and (10) the emphasis on the use of planning principles and approaches in program implementations.

**General Models:**

1. **Jarolimek: A Model for Inservice Teacher Education** -- This model designed in the Tri-University Project in Elementary Education -- Social Science/Social Studies at the University of Washington, Seattle demonstrates the result of creative thinking as applied to teacher inservice education. The participants developed six packages from the many alternatives given as the highest priority problems of teachers. The use of educational television gave the program many advantages for self-instruction and involvement for inservice consumers. The six packages included the following: **Contrasting Teaching Styles; Developing Facts, Concepts, and Generalizations; Strategies for Valuing and Decision Making; Selecting and Using Learning Resources; Individualizing Instruction; and Objectives and Evaluation.** (Jarolimek)

2. **Carl Rogers: Freedom to Learn** -- This model designed as a means to general learning might be modified and applied to inservice education. In his summary, Rogers states that his book presents "... A practical plan for self-directed change. Every element in the proposal has
been tried and found to be effective."\textsuperscript{113} In order that there be freedom to learn, there must be commitment, self-direction, self-evaluation. Those elements will allow an individual to self-growth and development; thus, the goal of a fully-functioning person may be achieved. He speaks specifically to inservice education in his chapter on "Some Thoughts About Education Administration:

In-service training in such an educational system would see its most important problem as 'How may we generate or develop more facilitative leaders?' ... Bring all constituents into the situation -- administrators, faculty, students -- for more effective self-directing learning. This type of training is difficult because it is not enough to pick up certain tricks of method or procedure. The leader needs to grow into a person who can actually understand, accept others views, etc. Hence the inservice-training would be essentially concerned with providing growth opportunities for persons who could then facilitate growth in other individuals or groups.\textsuperscript{114}

A tool for educational change would be the "T" group (Lab training, sensitivity training, basic encounter group, workshop) with 10-15 persons and a facilitator or leader. A Plan must be built into the system and includes the following components: (1) the selection of a target educa-


\textsuperscript{114}Ibid., pp. 208-209.
tional system, (2) an intensive group experience for participants (1 week away with the administrator and faculty) as the first step, (3) intensive group experiences for teachers, (4) encounter groups for class units, (5) intensive groups for parents, (6) vertical groups (some from each of the above), and (7) the time table.

3. Jung: Instructional Systems for Professional Development -- The Northwest Regional Educational Laboratory developed 24 instructional systems for the professional development of educators called The Improving Teaching Competencies Program. The model suggests that any school district considering inservice education should determine which kind of training is most urgent. Five different kinds are identified:

1. Training in New Curriculum
2. Training in Use of Technology
3. Training for Organizational Improvement
4. Training for Intercultural Needs
5. Generic Process Training

The fifth kind involves learning the general processes that can be applied to all the other areas. These processes (component categories) are being an active learner, interacting with students to support learning, objective analysis and planned change, interpersonal skills, support for professional growth and organizational improvement, and operating local schools to support the growth of human potential.

Each instructional system provides behavioral as well as cognitive learning. Each is competency based and
includes practice in the form of simulation or actual application on the job. Most systems are designed for use in a workshop setting (30-40 hours in 5 days); a few are intended for self-directed learning. Flexibility, however, is possible in the time span. An instructional system includes: (1) an instructor's manual; (2) participant handout materials; (3) reusable demonstration materials, media aids, and equipment; (4) related information on research, action techniques, or assessment instruments. Components, titles of instructional systems with target populations designated, training outcomes for each area of processes, and hypotheses about resultant outcomes that represent improvements are described. (Jung)

**Organizational Models:**

1. **Jirik:** The Ohio Education Association's Staff Development Programs -- The OEA Instructional Services Division initiated its "Professional Development Seminars" (PDS) with a problem solving focus directed toward the individual building unit. The team approach is encouraged in that the principal or administrative designee along with the building teachers attend. The seminars are held at well-equipped motels in Columbus with members paying a nominal fee ($20.00-$30.00). The 2-day program includes presentations on selected topics and sessions for interaction with consultants and each other. An on-line computer terminal is available, and the OEA's Association
Referral Information Service (ARIS) is used for securing materials and resources which are available upon request.

Inner City Seminars have been initiated as a staff development model approach that focuses upon a single faculty with its specific needs and problems. "Instructional Advocates" have also participated in two phases of the planned program. Phase I involved the identification and clarification of problems; Phase II provided small group meetings for proposing solutions which are listed and summarized by each advocate. Programs of developing awareness, problem-solving techniques, and the dissemination of new information and models are all part of the OEA strategy of bringing about more effective staff development programs. (Jirik)

2. Other organizational models have been reviewed previously and include the following examples: Field Services Cluster (Yarbrough), AMEND (University of Wisconsin-LaCrosse), Center for Coordinated Education and Educational Change (Rubin), Houston Center (Houston), The Ohio State University (Blanke, Mand), Temple University Portal School Project (Peper), University of Texas Laboratory Approach (Harris and Bessent), and others.

School District Models:

1. Portland, Oregon: Larson -- Portland's program involves all personnel in the planning and implementing of inservice projects which respond to the identified needs of schools and teachers. Five elements are included in the
approach: top priority with funding available and professional growth incentive salaries given, total involvement with the district divided into three areas each of which have a responsible administrative team, goals and priorities with each district identifying its specific ones and planning on-site inservice projects, availability of resources with 11 colleges and universities in the district and many interested business and professional organization for support, and recognition for professional development of the teaching staff with grants awarded to districts which have demonstrated educational leadership. (Larson)

2. Downey, California: Finch -- The Downey Unified School District's program is described in Finch's *Growth In-Service Education Programs that Work*. The Downey, California superintendent's program is based on the assumption that competence in a profession is directly related to the extent of education and training found in that profession. A secondary assumption is that there is a significant difference between the competence of teachers who have experienced more inservice education than those with less. The comprehensive program is outlined in detail and is based on research findings from his doctoral dissertation. The development program included work completed in universities and colleges, district-sponsored "point-credit" classes, approved travel and work experience projects, research study, and related activities. (Finch)
3. Ogden, Utah: Moffitt — The main thesis of this model is expressed in the statement "... that injustices to children and youth will be certain unless education for teachers increases in quality and quantity after teaching commences."\textsuperscript{115} This, he contends, should be done through better use of research findings and through research as a means of professional growth while in service. A basic facet of the Moffitt model is the use of a code as a means of inservice education (called the Provo Code). The Code was developed from a six-year study of 648 elementary and 270 secondary school teachers in defining and describing quality teaching. The study findings determined that teacher functions fall into six major categories:

1. Functions that control
2. Functions that facilitate
3. Functions that develop content by response
4. Functions that serve as personal response
5. Functions of positive affectivity
6. Functions of negative affectivity.\textsuperscript{116}

Each function has subfunctions indicating a function of it; i.e., regulate as a subfunction of control. Teacher behavior was recorded in autumn and spring. Changes occurred which indicated that the code helped teachers in the improve-


\textsuperscript{116}Ibid., p. 94.
ment of their own teaching. The Code combined with the other standard elements of an inservice program provided an effective inservice program. (Moffitt)

4. Other school district programs have been studied and reported in the research literature. Generally their findings corroborate the elements described in this chapter. Several specific items from each of three selected studies will be mentioned:

Turner: There is no single format that is effective for all teachers; however, there are elements which should be incorporated in all programs if teachers are to perceive them as effective. They include objectives that are related to the reality of classroom topics, practices that are of immediate use in classroom teaching, and workshops involved with problems teachers encounter.\textsuperscript{117}

Atkins: The purpose of the local inservice program should be clarified to all participants. It should be a part of the school concerns, not an out-of-school affair. There should be a variety of choices and of self-assessment techniques, and each item should be focused upon improving teacher behavior.\textsuperscript{118}


There should be a full-time inservice education coordinator. Each school district should initiate its own professional growth program as a coordinated part of the total inservice program and budget $50-$150 per teacher for it. Salary increments for specified amounts and graduate credits should be given for participation. 119

State Models:

1. Florida — The State's strategy for stimulating constructive change is to help clarify objectives, develop analysis techniques, and stimulate self-renewal. Clarifying goals and objectives involves content, level of specificity, and individual groups to whom it applies. Analysis and management includes the development of instruments to assess pupil achievement, to analyze productivity in terms of appropriate criteria for the situation, and to make cost analyses for use in research and development projects (concerning staff, faculty, pupils, methods, and time). The element of educational self-renewal requires a continuous evaluation of the established objectives, continuous monitoring of the extent the objectives are achieved, and continuous identification of alternative processes and practices for consideration. District offices and local schools will

be aided by the State, but they are responsible for making the creative application of new techniques and materials. Through effective communication between the many persons involved in improving teacher performance, constructive educational change can actually take place. "The State cannot change education without the help of the educators -- the teachers, pupils, parents, supervisors, and administrators -- of Florida." 120

2. Ohio -- The Ohio Model involves a two-pronged attack on educational change: one from preservice, the other from inservice education. The State Department of Education has been increasingly involved in assessing needs and developing comprehensive, effective, and meaningful inservice programs to serve teachers in Ohio. The State Department, Ohio Education Association, Fox-Foley Report, Ohio State University, Commission on Personnel Policies, and other organizations have been contributing in the effort. The Redesign and Renewal Committee of the State Department of Education (with other agencies and committees) has been engaged in promoting change based on three premises: inservice education (teacher-centered), materials (materials, delivery systems, and individualization approaches), and on-the-job training. An Inservice Materials

Center, ERIC, ARIS, and other teacher centers cooperating with higher education institutions and/or local school districts have been established. House Bill Number 86 provides funding for Staff Development as a line item of State budget for materials and services.

Each district has been encouraged to establish professional growth responsibilities which include a program that meets the following four criteria:

1. Maximum involvement of teachers in planning and implementation.

2. A rich variety of experiences which draws upon resources from colleges and universities, its own and surrounding districts, and from the community at large.

3. Development of professional growth credits which permit teachers to achieve salary increases commensurate with their professional growth.

4. Allocation of appropriate growth funds in annual operating budgets of school districts.121

The role of universities is also outlined in terms of graduate and development programs for teachers. Types of programs, vehicles, and evaluation are suggested in detail. (Ohio Department of Education, Commission on Public School Personnel Policies in Ohio)

3. Texas — "The State of Texas backs its commitment to quality inservice education by providing extra salary for ten teacher inservice days per year and by providing a network of Regional Education Service Centers offering cooperative multidistrict inservice program." Twenty regional centers are scattered throughout the state and facilitate inservice efforts. The center is organized with a salaried professional staff, part-time consultants available from the Texas Education Agency, consultants from higher education, and administrators and teachers from the various school districts. The program functions in the following manner: (1) Needs of specific schools are determined cooperatively. (2) Schools or groups with common problems are grouped. (3) Training sessions are held for the participants in curriculum, methodology, or materials. Actions are cooperative in nature. Evaluations are conducted for on-going activities.

The ESC offers continuous support to small groups of teachers and individuals who try new strategies or develop new skills. The centers are capable of assisting the state department and local districts in solving educational problems and improving instructional quality.

(Mullins)

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New York State and other state models have been reviewed in Bricknell: *Organizing New York State for Educational Change* and other sources throughout this chapter.

**National Models:**

1. The British Model developed primarily from the James Report recommendations which recommended the endorsement of a proposal for the massive increase of provisions for inservice or third cycle training. The Report viewed local curriculum development and evaluation as an important type of third cycle activity through which teachers could extend their personal development, develop their professional competence, and improve their understanding of educational principles and techniques. One main recommendation was the idea of one full-term every 7 years. Other proposals including regional and national organizations, local commitments, shared costs, reorganization and redesign of existing bodies, inservice as a continuum of preservice education, and appropriate rewards were advanced for a national effort. Teachers' centers were also supported as a part of the recommendations.

A total program for the nation was developed based on five categories of inservice provisions:

1. Resources, guidance, and support services at all stages in one's career

2. Short, specific, and limited courses and topics

3. Higher level courses designed for
shaping careers and gaining recognition

4. Relatively smaller numbers of teachers from each region advancing through selectivity to higher management posts in the education service

5. Cooperative involvements among local, regional, and national education bodies and colleges and universities of all types. 123

Thus, a total commitment with specific functions and responsibilities for all constituents and at all levels were designed. (The specifics are described in Watkins et al, Thornbury et al, and D.J. Johnson.)

2. The Canadian Model -- The Canadian Model elements are designed in the Ontario Institute for Studies in Education. Curriculum, inservice, educational change, educational innovation, educational research, and graduate programs for the improvement of teachers are described. Many of the elements are derived from the British model; however, Canadian modifications and innovations with their national flavor have been made. (Jackson and Andrews)

SUMMARY

The elements and guidelines as reviewed in this chapter, if applied in a humanistic and professional manner,
would probably improve any teacher's performance. Ineffecti-

tive teacher performance, however, presents many problems

for students, other teachers, and administrators. It must

be realized that the ineffective performance is a form of

behavior. The problem(s), therefore, are caused; in order

to treat the problem(s), the cause or causes must first be
determined. Treating the symptoms will not cure the situa-
tion. A three-pronged attack seems necessary:

1. From the teachers involved,
2. From the administrator,
3. From the organizational environment.

The individual person must apply a three-pronged course of
action:

1. Recognize the need for change
   (improvement and/or maintenance
   of quality teaching performance).

2. Take measures for improving one's
   teaching and strive for bettering
   those skills.

3. Develop means for monitoring the
   teaching process and for guiding
   the feedback system so that one
   may recognize the evaluation re-
   sults and enhance self-direction.

All the practices and models described have as their
goal the improvement of an individual who can function
effectively in the teaching-learning situation. The em-
phasis, however, varies. The common characteristics pre-
sent more likenesses than differences. This Review of
Related Literature and Research has attempted to ascertain
the elements necessary in assessing needs directed at teacher
change. Perceptions relating to inservice education, change pertaining to its why and how, and inservice education practices and models have affirmed the needs and possibilities for affecting improved teaching performance. Change, as a theoretical base for inservice education, has been proposed and established. Other studies, all repetitious, could be cited to reaffirm the preceding studies. This inquiry is dedicated to the task of assessing the inservice education needs of Ohio elementary and secondary school physical educators in order that faculty development programs may be implemented and/or improved.
CHAPTER III
DESIGN OF THE STUDY

DESCRIPTION OF RESEARCH DESIGN

The purpose of this chapter is to explain the procedures and methods employed throughout this study. Primarily, it is concerned with the methodology associated with the stated hypotheses.

The major purpose of this study was to determine the inservice education needs assessment of Ohio's elementary and secondary school physical educators for implementing and improving faculty development programs. Based on a review of the literature related to the problem as described in Chapter II and an analysis of the physical education teaching situation as perceived by the investigator, a questionnaire was developed for identifying specific inservice education needs of the stated population. The survey included information on 228 variables related to those needs and the factors contributing to them. The analysis and evaluation of the data derived from the questionnaire provided a basis for the design of faculty development programs. The variables were classified according to present position and responsibility,
educational background and professional experiences, school and background information, selected topics and activities, and inservice education preferences and possibilities.

Nine major procedures were employed in the design for testing the hypotheses. The procedures included the following:

1. Review of the literature and research as described in Chapter II and an evaluation of the physical education teaching situation;

2. Construction of the pilot questionnaire pertaining to inservice education and related factors;

3. Administration of the pilot questionnaire to a sample of the total population;

4. Analysis of the pilot and its data;

5. Development of the final questionnaire for the study;

6. Administration of the pre-test to a small sample for checking the instrument;

7. Selection of the population to be surveyed;

8. Administration of the questionnaire to the sample of the population;

9. Analysis of the data by statistical procedures.

**SAMPLING PROCEDURES**

**The Sample**

The sample was selected from the current (1974-1975) state department list of certificated individuals in health and physical education. The population was represented by
a stratified randomly selected sample of certificated individuals from each of the five geographical areas of Ohio. The strata were composed of male and female teachers from each of the following levels: elementary, middle, junior, and senior high school teachers from the school districts of each geographical area of Ohio. The physical educators were determined by using the list of certificated individuals. The mailing addresses were used to ascertain the current locations and assignments of the physical educators.

In requesting permission to involve these individuals, a letter was sent to the Ohio State Department of Education explaining the purpose of the study and who was to be involved, the measure in which each individual and school anonymity would be safeguarded, the procedure for distribution of the research instruments, and the means for provision of findings at the conclusion of the study (see Appendix C). In addition, the research instrument used for the pilot study was included for examination purposes.

800 individuals from the list were selected to obtain 400 for participation in the study. The letter of request for participation and questionnaire were mailed to each physical educator on February 10 or 11, 1975. This letter explained the nature and purpose of the study. The letter has been included in Appendix A. Four hundred twenty, or 52.5 percent, responded to the requests by returning the questionnaires. 402, or 50.3 percent, were involved
in this study. 18, or 2.3 percent responded, yet the researcher found that they did not meet the specifications for inclusion in the study because of no teaching responsibility in physical education, no interest in physical education inservice activities, or incomplete responses in specific areas of the questionnaire. It was assumed that those physical educators who did not respond were not eligible to participate because of teaching responsibilities other than physical education (health, driver education, and others), lack of interest in physical education inservice education, or lack of time.

A pilot was conducted during December (1974) and January (1975) for testing and improving the questionnaire. Forty-one individuals, or 1.0 percent of the total population, participated in the pilot study. The forty-one participants represented a 53.4 percent response rate (41 of the 77 distributed) and provided a basis for determination of the study's sample.

A small selected sample from the Central Ohio area were interviewed during the administration of the pilot questionnaire for detailed information about inservice education needs and for questionnaire improvement. Eight individuals were interviewed.

A pre-test was utilized for assessment of the questionnaire's adequacy in its finalized form. Eight physical educators, or one percent of the sample, responded to the
pre-test request. The pre-test was limited to the Central geographical area of Ohio because of time and expense limitations. Three of the eight respondents were also interviewed as part of the instrument's evaluation. Corrections and modifications were made, as necessary, based on the feedback from the evaluation procedures.

The Population

The sample represented the total population of elementary and secondary school physical educators certificated in Ohio. According to estimates of the Ohio State Department of Elementary and Secondary Education and the State Director of Physical Education, approximately 6,100 individuals are certificated in health and physical education.¹ The computerized listing included 6,168. It was estimated by the State Director, Mr. Robert L. Holland, that 2,000 or more are involved in teaching health and/or driver education with no responsibility in physical education teaching. The eight hundred represented approximately 20 percent of the 4,100 physical educators. The 402 respondents represented approximately 10 percent of the population and the 400 desired for inclusion in the study. The strata, as represented by the responses, have been included in

¹This figure was obtained by counting the total number of mailing labels of the individuals certificated in health and physical education.
Chapter IV and achieved an adequate sampling of the classes.

**Sampling Procedures**

A stratified randomly selected sample was employed in the representation of the total population of elementary and secondary school physical educators in Ohio. The total number on the State Department's list of certificated individuals was 6,168 at the time of the study's conduct. Approximately 4,100 are involved in physical education teaching responsibilities.

Both health and physical education teachers are included in the listing without specification. Eight hundred, or approximately twenty percent, were randomly selected for representation of the population of 4,100. It was expected that a sample of 400, or ten percent, replies would be obtained.

Data was obtained from members of the following groups or strata:

1. Ohio elementary school physical educators teaching in grades K-6
2. Ohio middle school physical educators teaching in grades 6-8 or 5-8
3. Ohio junior high school physical educators teaching in grades 7-9 or 7-8
4. Ohio senior high school physical educators teaching in grades 10-12 or 9-12.

Male and female teachers from each of the above levels were selected in each strata level. The male and female groups from each of the five geographical areas of Ohio were polled.
according to the above listed strata. The areas were designated as northwestern, northeastern, central, southwestern, and southeastern Ohio. The Division of Computer Services of the State Department supplied the names and school addresses of the total population in the form of mailing labels. The distribution of the eight hundred from which the sample was to be obtained have been listed in the table below:

Table 1
SAMPLE DISTRIBUTION BY AREAS AND LEVELS

<table>
<thead>
<tr>
<th>Areas</th>
<th>Elementary</th>
<th>Middle</th>
<th>Junior High</th>
<th>Senior High</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male Female</td>
<td>Male Female</td>
<td>Male Female</td>
<td>Male Female</td>
</tr>
<tr>
<td>Northwestern</td>
<td>20 20</td>
<td>15 15</td>
<td>20 20</td>
<td>25 25</td>
</tr>
<tr>
<td>Northeastern</td>
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<td>15 15</td>
<td>20 20</td>
<td>25 25</td>
</tr>
<tr>
<td>Central</td>
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<td>15 15</td>
<td>20 20</td>
<td>25 25</td>
</tr>
<tr>
<td>Southeastern</td>
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<td>15 15</td>
<td>20 20</td>
<td>25 25</td>
</tr>
<tr>
<td>Southwestern</td>
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<td>15 15</td>
<td>20 20</td>
<td>25 25</td>
</tr>
<tr>
<td>Subtotals</td>
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<td>75 75</td>
<td>100 100</td>
<td>125 125</td>
</tr>
<tr>
<td>Totals</td>
<td>200 150</td>
<td>200 250</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The random sample was selected in the following manner since the mailing labels were listed according to school districts in zip code order:

1. The dice were rolled for each page of the computer listings since each page contained twelve labels.

2. Appropriate procedures were followed in requesting and obtaining the names and addresses.
2. The number of the two dice added together was selected from the names as listed from 1 to 12.

3. As each individual was selected, he or she was placed in the appropriate strata until the designated numbers were achieved as listed in Table 1.

4. The geographical areas were listed in continuous label print-out sheets. The reverse order of pages were rolled first until the required numbers for each strata of each geographical area were obtained.

5. If a strata became completed in the required numbers, the dice were rolled again in selecting the participant.

6. The process was repeated until the designated numbers were selected for each geographical area.

Several limitations in selecting the sample included the following:

1. Health and physical educators were included in the listing without specification.

2. Some labels were incomplete in the listing of the individual. First names and incomplete surnames were included in the incomplete items. If the number of these names was rolled, the selection procedure was repeated for that page.

3. Some addresses were listed as school district without school level specification. These selections were checked in the Ohio Educational Directory 1974-75, the Ohio High School Athletic Association Directory, and the Ohio Association of HPER for appropriate placement. The selections of this type were considered elementary school physical educators if they were not found in the listed directories or known by the investigator.

4. First names common to both the male and female sexes sometimes made sex determination difficult. The above listed procedures were utilized, and the individual was placed accordingly
or the dice were rolled again.

5. Elementary and middle school physical educators in The Southeastern area were limited in numbers. To avoid sending questionnaires to individuals in the same school or those from the pilot study, ten names from the middle school group were randomly scattered throughout the other area groups.

Eighty elementary and secondary school physical educators, or approximately one percent of the total population and ten percent of the sample population, were polled in the pilot study. Three others were returned because of non-deliverable mailing addresses or lack of forwarding addresses. 41/77, or 53.4 percent, returned the pilots satisfactorily completed. A stratified randomly selected sample was also employed in the pilot study.

The pilot sampling involved the following numbers polled from each geographical area of Ohio:

<table>
<thead>
<tr>
<th>Levels</th>
<th>Male</th>
<th>Female</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elementary</td>
<td>2</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Middle</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Junior High</td>
<td>2</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Senior High</td>
<td>3</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>8</strong></td>
<td><strong>8</strong></td>
<td><strong>16</strong></td>
</tr>
</tbody>
</table>

As a part of the pilot study, eight individuals of the sample were interviewed for more detailed information and precise feedback on inservice education needs and related factors.
A pre-test of the instrument was carried out after the development of the final questionnaire from the pilot and data analysis. 8/12 took part in the pre-test; 3/8 were interviewed. The pre-test was limited to individuals in the central geographical area of Ohio.

DATA-GATHERING INSTRUMENTS

Source of Data

A questionnaire was developed to collect data for use in identifying the needs, interests, preferences, and possibilities for inservice education programs. A pilot questionnaire was used in the development of the final instrument. Critical analysis of content, phraseology, ambiguity, results, and other elements was made and appropriate revisions were completed. The final questionnaire has been included in Appendix B.

The instrument included data on 228 variables pertaining to inservice education needs and related factors. The items were classified according to present position and responsibility, educational background and professional experiences, school information, background information, selected topics and activities, and inservice education preferences and possibilities. Each category contained specific responses which pertain to inservice education. Each response constituted one of the 228 variables. A deadline was established for coding and analysis.
of the questionnaire as a completion goal by the investigator, April 1, 1975 was suggested.

As replies were received, they were charted for determination of response rates. Each questionnaire was checked by the investigator for charting the geographical location, teaching level, and sex of the respondent and for meeting the specifications of the study. Non-deliverable mail (12) which was returned were remailed to an individual in the corresponding strata.

The literature search and interviews were also employed as sources of data in the development of the instrument and in the needs assessment of inservice education.

Collection of Data

Four hundred twenty, or 10.2 percent of the total population of elementary and secondary school physical educators, responded to the participation request. Of the four hundred twenty responses, 402 returned questionnaires which met the specifications established for the study. 18, or 2.3 percent, did not meet the requirements or have the appropriate teaching responsibility or interest necessary for participation in the study. The response rate of 402/800 represented 50.3 percent of the individuals who received questionnaires.

Incomplete questionnaires containing a return address were remailed with a note requesting completion of the questionnaire.
Responses of the physical educators were taken from the questionnaire, coded on coding forms, and sent to The Ohio State University Instructional Resources Computer Center (IRCC) for keypunching and verification. The IBM computer cards were keypunched and verified according to the specifications of the researcher. The researcher trained, supervised, and worked with four assistants in coding the questionnaires. The numbered responses of the instrument were designed to correspond to the columns of the three computer cards necessary for coding 228 responses. The last four columns of each card contained the questionnaire number and card number for identification purposes. After all of the cards were keypunched and verified, they were checked for accuracy, placed in numerical order, and printed on computer sheets so that they could be rechecked by the researcher.

The interviews (eight in the pilot and 3 in the pre-test) were also utilized in the collection of information for purposes of improving the research tool and adding detailed information on inservice education needs and related items.

**STATISTICAL PROCEDURES**

**Preparation of Data**

The keypunched IBM cards were assembled in numerical order and prepared for programming. The programs were
developed in consultation with an IRCC consultant. After keypunching the programs into IBM computer cards, each program was submitted in sequential order for computation. SPSS (Statistical Package for the Social Sciences) were employed in the programming which had been designed for testing the hypotheses. The pilot data were prepared and computed previously for evaluating the designated programs.

**Treatment of Data**

The statistical procedures used to test the null hypotheses for possible significance were first evaluated for effectiveness using the pilot data. The Ohio State University IRCC was utilized in the tabulation (keypunching and printing operations) of the information and in the performance of the analyses (programs and computer operations using the IBM 370 Model 165) for significance. Data were first treated in the form of frequencies of occurrence and percentages for each variable. Statistics included in program 1-1 (see Appendix D) included mean, mode, kurtosis, minimum, maximum, standard error, skewness, median, variance, and range.

Following a presentation in this form, statistical analysis was made to test the stated hypotheses. Cross-

---

tabulations were made using Chi-square ($X^2$) for determination of the level of difference in expected and observed frequencies of responses. Correlations using non-parametric statistical analyses (Spearman $r$) were made for determination of significant relationships between variables in selected responses. An analysis of variance test (Fisher's Exact Test) was used where appropriate in determining differences between mean responses of the various categories. Selected factors found significant at or beyond the .01 level were combined, and a multiple regression equation involving the highly significant factors closely related to inservice education needs was suggested. A theoretical prediction index was established for possible use as a predictor of inservice education needs for a school system.

A theoretical base for an inservice education model, based on change, was attempted using the information from the literature search and the applicable statistical significances.
CHAPTER IV
ANALYSIS OF THE DATA

Four hundred and two elementary and secondary school physical educators, representing a total population of approximately 4,100 certificated individuals teaching physical education in the school districts of Ohio, responded to the needs assessment questionnaire. The return rate of the completed questionnaires was 50.2 percent. The 402 participants are 9.8 percent of the total population. Eighteen others, or 2.3 percent, responded, but did not meet the specifications for inclusion in the study.

The information obtained from the questionnaire responses was utilized in identifying the needs, interests, preferences, and possibilities for inservice education programs. The instrument included data on 228 variables pertaining to inservice education needs and related factors. The items were classified according to present position and responsibility, educational background and professional experiences, school and background information, selected topics and activities, and inservice education preferences and possibilities. The null hypotheses were tested at the .05 level (where applicable) in determining if there were significant differences in responses by category as they
relate to the selected variables.

The purpose of this chapter is to analyze the data from the questionnaire variables as determined by the responses of the elementary and secondary school physical educators (see Appendix B). The data were treated as stated in Chapter III. Responses in the questionnaire classifications were based on the following criteria:

1. Present position and responsibilities and school and background information by circling the number of the response that best represents you or your situation;

2. Selected topics and activities by circling the number of the response which represents your own personal needs for inservice education according to the importance rating of (1) Critical importance, (2) Major importance, (3) Undecided or neutral, (4) Little importance, and (5) No importance. The physical education activities were also answered, Yes or No, in relation to whether or not the individual had any teaching responsibility in the stated area.

3. Inservice education preferences and possibilities by circling the response which indicates your agreement or disagreement with the statements pertaining to interests, locations, formats, and preferences. (1) Strongly agree, (2) Agree, (3) Undecided, (4) Disagree, and (5) Strongly disagree were used for indicating responses.

An item in which no response was indicated was given a (0) or no response classification.

Only those variables which yielded significant results at the .05 level of significance were reported with
the following exceptions: The non-parametric correlations at .01 level of significance and the change as a theoretical base for inservice education.

A stratified randomly selected sample was employed for insuring representation from the groups which make up the total population. Subgroups considered representative included male and female physical educators from each geographical area of Ohio according to the teaching levels (see Table 1 on page 119). The numbers selected corresponded roughly to the number of estimated teachers at that level and representative numbers for each subgroup in respect to appropriate statistical treatment.

TESTING FOR SAMPLE REPRESENTATIVENESS

Forcese and Richer suggest that it is advisable to carry out a comparison procedure of selected characteristics for determining the extent that the sample is representative of the total population and that some form of comparison test on several factors is better than no test at all.¹ Exact figures on elementary and secondary school physical educators in Ohio are not available or cannot be determined from the State Department certification records. However,

estimates have been employed (wherever possible) in the population-sample comparisons. A comparison of population and sample for selected variables is listed below:

1. Sex -- 56.5 percent (227) female and 43.5 percent (175) male versus an estimated 50 percent of each;

2. Race -- 93.8 percent (337) White, 5.5 percent (22) Black, and 0.7 percent (3) Others versus an estimated 92 percent White, 7 percent Black, and 1 percent Other Minority groups.

3. Teaching level -- 16.2% (65) elementary, 15.2% (61) middle, 25.9% (104) junior high, 29.1% (117) senior high, and 13.7% (55) other meaning that the individuals teach in situations which are combinations of the above listed levels versus an estimated 46% and 54% elementary and secondary respectively.

4. School district type -- 47% (189) city, 5% (20) exempted village, 40% (161) local, 7% (28) non-public, and 0.5% (2) state supported or special purpose versus 29% city, 8% exempted village, 63% local. In addition to the above, there are 643 elementary and 128 high schools in the non-public schools and 31 state supported or special schools in Ohio.

The possible sex variable discrepancy of 6.5 percent reflects a satisfactory sample distribution. The race figures have been obtained from the Computer Services Division of the State Department and the Ohio Educational Directory of 1974-75. The race figures are based on the 1973-74 school year which are the latest figures available.
variable represents an almost identical distribution, but the population percents are an estimate of all certificated teachers. Figures are not available in this variable for physical educators. It may present a realistic distribution or a slight difference because of chance alone, sample bias, or sampling error. The teaching level comparisons are difficult because figures are not available for the various levels in physical education. A recent State Department estimate indicates that there are 1900 elementary physical education teachers. By combining the elementary, middle, and approximately one-half of the other teaching levels, a total of 38.4% which may represent an estimated possible discrepancy of 5.6%. The sample, therefore, seems to reflect a satisfactory distribution which might be accounted for in the higher rate of return of secondary school physical educators, by chance alone, or by sampling error or bias—caused by lower rates of return by elementary physical educators from selected geographical areas (Southeast, Northwest Ohio).

Variables in respect to the strata or subgroups are listed in Table 2.

**DESCRIPTION OF THE SAMPLE**

Fifty-five variables are included in the questionnaire as a description of the sample. The data includes 20 variables on present position and responsibility, 23 on
Table 2

VARIABLES RELATING TO STRATA
(N=402)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sex</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>227</td>
<td>56.5</td>
</tr>
<tr>
<td>Male</td>
<td>175</td>
<td>43.5</td>
</tr>
<tr>
<td>TOTAL</td>
<td>402</td>
<td>100.0</td>
</tr>
<tr>
<td><strong>Teaching Level</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elementary</td>
<td>65</td>
<td>16.2</td>
</tr>
<tr>
<td>Middle</td>
<td>61</td>
<td>15.2</td>
</tr>
<tr>
<td>Junior High</td>
<td>104</td>
<td>25.9</td>
</tr>
<tr>
<td>Senior High</td>
<td>117</td>
<td>29.1</td>
</tr>
<tr>
<td>Other</td>
<td>55</td>
<td>13.7</td>
</tr>
<tr>
<td>TOTAL</td>
<td>402</td>
<td>100.1</td>
</tr>
<tr>
<td><strong>Geographical Location</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Northeast Ohio</td>
<td>85</td>
<td>21.2</td>
</tr>
<tr>
<td>Northwest Ohio</td>
<td>70</td>
<td>17.4</td>
</tr>
<tr>
<td>Central Ohio</td>
<td>96</td>
<td>23.9</td>
</tr>
<tr>
<td>Southeast Ohio</td>
<td>66</td>
<td>16.4</td>
</tr>
<tr>
<td>Southwest Ohio</td>
<td>84</td>
<td>20.9</td>
</tr>
<tr>
<td>(No response)</td>
<td>1</td>
<td>0.2</td>
</tr>
<tr>
<td>TOTAL</td>
<td>402</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Educational background and professional experiences, 7 on school information, and 5 on background information. A complete statement of each question of the instrument appears in Appendix B. This description will profile selected items with brief commentaries. There are 402 valid observations for each variable.

Present Position and Responsibility Variables

Most physical educators, 288 (71.6 percent), have more than one teaching responsibility. The most common
responsibility is the physical education and health combination (117 or 29.1 percent), followed by physical education only (114 or 28.4 percent). Of the 261 (64.9 percent) teachers who coached during this past school year, 199 coach two or more sports. Ten respondents, mostly women, coached 4 or 5 sports. The figures indicate that an individual must devote attention, time, and effort toward other responsibilities which may diminish efficiency in teaching physical education. The problem is compounded when an individual teacher has duties in more than one category (42 or 10.4 percent). These responsibility patterns should be scrutinized since they are not conducive to efficient teaching and they are not practical or realistic.

The teaching level of the sample, as Table 2 shows, indicates that 55 percent (221) of the physical educators teach on the secondary level. Question 47 on the school type corroborates those figures. More importantly, however, the distribution over the four teaching levels and the other category point out the need for aiming inservice programs at school levels. The greater number and percentage of teachers on the secondary levels may be accounted for by the greater number of questionnaires sent to those levels and the lower response rates of the elementary school level.

In respect to the "whom do you teach" question, 46.3 percent (186/402) teach classes of boys only or girls
only. Only 62, or 15.4 percent, teach all coeducational classes; 151 (37.6 percent) teach both coeducational and separate classes. The trend toward coed classes has yet to materialize in actual practice for some reason. The cross-tabulations may give more information on that situation.

Seventy-six percent of the teachers devote 51 or more percent of their teaching load to physical education. The modal category is the group that teaches physical education 100% (151). This figure is slightly different from the teaching responsibility items in question 1. Variations in load determinations or misinterpretations may explain the difference. The 36 (9.0 percent) and 59 (14.7 percent) load teachers might be more efficient in their teaching if their load was adjusted or their specialty was modified according to their needs, interests, capabilities, or school program.

Most teachers have been employed at their present school five years or less and are not tenured according to the following figures:

1. Present position -- 245 (61.5%) five years or less with 10.4 percent one-year or less and 13.2 percent twenty-years or over;

2. Tenure -- 271 (67.4%) not tenured and 94 (23.4%) are tenured; 36 have no tenure in their district or are uncertain of their status.

Physical education departments are generally organized with men and women separate. In 124 cases, or 30.8 percent,
there is no chairperson; in 105 cases, or 26.1 percent, there is a designated chairperson. Twenty-four, or 6.0 percent, have a chairperson for each of the separate men and women departments. Twenty-seven, or 6.7 percent, have coeducational departments with no chairperson; 35, or 8.7 percent, are coeducational with one chairperson; and 85, or 21.1 percent, are elementary or other situations not appropriate for departmental organization. Therefore, the evidence indicates that in approximately 36 percent of the sample survey a main source for a change agent is absent. Since most departments have 2-6 members, the departments may enhance leadership potential for the department in general and inservice education in particular by the selection of a chairperson. It seems that someone should assume a leadership position as suggested by the literature and research. Table 3 provides a composite view of the departmental situation.

The table shows that the overwhelming majority of the programs are required (294 or 73.2 percent). All elementary and junior high programs are required; the 96, or 23.9 percent, combination programs may represent a trend toward upper level elective classes in senior high school which may revert to a combination status for financial, legal, resources, or other reasons. The situation should be investigated along with the reasons for changes as evidenced by the colleges and universities.
Table 3  
COMPOSITE VIEW OF PHYSICAL EDUCATION DEPARTMENTS  
(N=402)  

<table>
<thead>
<tr>
<th>Variable and Responses</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Organization</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Separate with no chairperson</td>
<td>124</td>
<td>30.8</td>
</tr>
<tr>
<td>Separate with one chairperson</td>
<td>105</td>
<td>26.1</td>
</tr>
<tr>
<td>Separate with one chairperson for each</td>
<td>24</td>
<td>6.0</td>
</tr>
<tr>
<td>Coed with no chairperson</td>
<td>27</td>
<td>6.7</td>
</tr>
<tr>
<td>Coed with one chairperson</td>
<td>35</td>
<td>8.7</td>
</tr>
<tr>
<td>Other</td>
<td>85</td>
<td>21.2</td>
</tr>
<tr>
<td>(No responses)</td>
<td>2</td>
<td>0.5</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>402</td>
<td>100.0</td>
</tr>
<tr>
<td><strong>Elective or Required Program</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elective only</td>
<td>7</td>
<td>1.7</td>
</tr>
<tr>
<td>Required only</td>
<td>294</td>
<td>73.2</td>
</tr>
<tr>
<td>Combination of both</td>
<td>96</td>
<td>23.9</td>
</tr>
<tr>
<td>(No responses)</td>
<td>5</td>
<td>1.2</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>402</td>
<td>100.0</td>
</tr>
<tr>
<td><strong>Full-time Faculty</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 only -- you</td>
<td>77</td>
<td>19.2</td>
</tr>
<tr>
<td>2-3</td>
<td>210</td>
<td>52.2</td>
</tr>
<tr>
<td>4-6</td>
<td>98</td>
<td>24.4</td>
</tr>
<tr>
<td>7 or more</td>
<td>13</td>
<td>3.3</td>
</tr>
<tr>
<td>(No responses)</td>
<td>4</td>
<td>0.9</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>402</td>
<td>100.0</td>
</tr>
<tr>
<td><strong>Chairperson Selection/Appointment</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Selected by Administration</td>
<td>139</td>
<td>34.6</td>
</tr>
<tr>
<td>Elected from among members</td>
<td>27</td>
<td>6.7</td>
</tr>
<tr>
<td>No Chairperson</td>
<td>208</td>
<td>51.7</td>
</tr>
<tr>
<td>Other</td>
<td>18</td>
<td>4.5</td>
</tr>
<tr>
<td>(No responses)</td>
<td>10</td>
<td>2.5</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>402</td>
<td>100.0</td>
</tr>
</tbody>
</table>
Most departments (308 or 76.6) have 2-6 members which seems to be an ideal number for on-going inservice activities within the department. Even though the "no chairperson" responses of the organization and chairperson mode are not the same (238 versus 208), the figures support the fact that a major catalyst for change does not exist in the departmental organization. This situation, compared with other questions (40, 41, and 43) indicate that organizational modification or restructuring might enhance the change phenomena in physical education teaching.

In respect to cooperative relationships with a college or university, the following statements may be made:

1. 126/402, or 31.5 percent, have some relationships; 276 have none.

2. 257/402, or 63.9 percent, of the sample have students teachers during the past year; 145 had none.

3. 57/402, or 14.2 percent, had student aids; 345, or 85.8 percent had none.

4. 130, or 32.3 percent, had some form of field experience with a college or university; 272 had none.

5. 21, or 5.2 percent, indicated other experiences (mostly observations) were involved.

The figures indicate that a basic source of information and exchange is available and being utilized in helping teachers remain up-to-date in educational developments; namely, contacts with student teachers, college supervisors, field experiences, and student aids. However,
the use of student aids and field experiences as an element in aiding teachers in their classes seem well below maximum potentials. Teacher education, in general, would benefit from such associations which have been supported by the literature and research.

Most teachers (157 or 39.1 percent) rate themselves as very effective; 198, or 48.3 percent, as fairly effective; 42, or 10.4 percent, as need to be more effective. The recognition, therefore, of the need for improving one's effectiveness seems evident. Approximately 80 percent (312) indicate that they would become physical education teachers if they were to begin their career again. The evidence suggests that most teachers are happy with their profession, but approximately one-half have a second responsibility or job which would limit their inservice attendance and/or possibilities. Alternative options and self-directed study seem important in helping those teachers. It also supports the idea that split or combination teaching responsibilities, when unrealistic, may diminish change possibilities.

Educational Background and Professional Experiences

Variables

In respect to these variables, a profile would read as follows:

1. 235, or 58.5 percent, attended a state university; 96, or 23.9, a private college.
2. 225, or 56 percent, possess a bachelor's degree; 17.5 percent a bachelor's plus 30 credits or more; 22.4 percent a master's degree or more; 0.2 percent (1) a doctorate; and 1.2 percent have less than a bachelor's degree.

3. 84.1 percent have undergraduate majors in physical education and/or a combination with 16.7 percent specializing in physical education only. Sixteen percent majored in recreation or some other subject mostly elementary education or biological sciences and some minored in physical education.

4. A majority of teachers, 221 or 55 percent, obtained their highest degree in 1970 or later; 84.4 percent in 1960 or later. In most cases, however, 58 percent (233) do not have a master's degree or are working on one.

5. Forty-two percent of the teachers have been teaching 2-5 years with a concentration between 2-12 years, 8.7 percent, or 35, have been teaching 20 years or over.

6. A majority (224/402 or 55.7 percent) have not taken a course in the past two years.

Generally the teachers have less than 6 years experience, were graduated from a state supported university, have attained their highest degree in 1970 or later, are still working on a master's degree, have majored in a combination physical education program, and have not taken a course in the past two years. When the above items are compared with other variables (in-service education activities and organizational activities), the evidence suggests that the teachers are attempting to improve themselves in various ways; however, greater efforts seem necessary for granting graduate credits for in-service efforts. Thus, renewal may
be facilitated; and possibly, course work towards graduate degrees or professional development stimulated.

Organizational memberships among the physical educators indicate that 28.6 percent belong to the AAHPER, 41.5 percent to the OAHPER, 59 percent to the NEA, 60.9 percent to the OEA, 41.3 percent to the OHSAA, 8.5 percent to a national coaching association, 19.9 percent to a state coaching association, 42.5 percent to a local or state association or union of teachers, and 32.8 percent to an association limited to teachers at their institutions. The figures indicate that greater efforts seem necessary for utilizing these organizations as tools for improvement by attaching some form of growth credit to their membership and activity participation. As supported by the literature review, these organizations should play an important part in providing meaningful and relevant educational development activities.

Most teachers subscribe to academic or professional journals (232 or 57.7 percent to 1-2 and 91 or 22.6 percent to 3 or more). Thus, most teachers read as a part of self-development. To what extent or how it is related to teaching improvement needs investigation. Approximately 8 percent have had articles or other publications published. This aspect of professional endeavor provides a possible avenue for self-improvement and should be encouraged by some form of growth recognition or credit. Perhaps an explanation
might be that few write because of Maslow's hierarchy of needs elements which suggests that lower levels of satisfaction or needs must be achieved prior to the higher levels, because of teacher commitments to combination responsibilities, or because of lack of time or reward/credit for writing.

The interests of the teachers lie primarily in teaching with 34.6 percent very heavily in teaching and 38.3 percent in both but leaning toward teaching for a combined total of 72.9 percent. The respondents appear interested in their profession. However, thirty-five percent indicated that they had not attended inservice education activities in physical education. Of those who did attend, 58 percent or 233 responded to the 1-3 category. There should be more inservice education participation. Several explanations might be appropriate: (1) Inservice education activities in physical education are not offered as a part of school or district-wide program as shown in Table 4 where 240 or 59.7 percent indicated that there are no provisions, (2) Activities or programs were not available or not attended on a state or other level. (3) Time, resources, or credits of some kind were not available or possible for stimulating attendance. In most cases (188 or 46.8 percent), the teachers indicated that programs in physical education which they experienced were generally good or better. Evidently programs offered should be improved since 22.4 percent thought the programs were fair generally, 10.9 percent poor generally,
and 10.4 undecided. The no responses 138 or 9.5 percent and part of the undecided responses were explained by comments which revealed that evaluation was not possible since this was their first year teaching or they have not attended any activities in physical education. The great majority (306 or 76.1 percent) indicated that inservice education should be a powerful force for facilitating change. Some force for stimulation or motivation seems crucial for improving the situation in physical education.

Table 4

COMPOSITE OF PHYSICAL EDUCATION INSERVICE EDUCATION PROGRAMS
(N=402)

<table>
<thead>
<tr>
<th>Item</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>School or District Program Offered</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>140</td>
<td>34.8</td>
</tr>
<tr>
<td>No</td>
<td>240</td>
<td>59.7</td>
</tr>
<tr>
<td>Uncertain</td>
<td>20</td>
<td>5.0</td>
</tr>
<tr>
<td>(No responses)</td>
<td>2</td>
<td>0.5</td>
</tr>
<tr>
<td>TOTAL</td>
<td>402</td>
<td>100.0</td>
</tr>
<tr>
<td>Rating of Inservice Physical Education Programs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Excellent generally</td>
<td>37</td>
<td>9.2</td>
</tr>
<tr>
<td>Good generally</td>
<td>151</td>
<td>37.6</td>
</tr>
<tr>
<td>Fair generally</td>
<td>90</td>
<td>22.4</td>
</tr>
<tr>
<td>Poor generally</td>
<td>44</td>
<td>10.9</td>
</tr>
<tr>
<td>Undecided</td>
<td>42</td>
<td>10.4</td>
</tr>
<tr>
<td>(No responses)</td>
<td>38</td>
<td>9.5</td>
</tr>
<tr>
<td>TOTAL</td>
<td>402</td>
<td>100.0</td>
</tr>
<tr>
<td>Inservice Education as a Change Force</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>306</td>
<td>76.1</td>
</tr>
<tr>
<td>No</td>
<td>16</td>
<td>4.0</td>
</tr>
<tr>
<td>Uncertain</td>
<td>74</td>
<td>18.4</td>
</tr>
<tr>
<td>(No responses)</td>
<td>6</td>
<td>1.5</td>
</tr>
<tr>
<td>TOTAL</td>
<td>402</td>
<td>100.0</td>
</tr>
</tbody>
</table>
School Information

The percentage of responses from the five geographical areas of Ohio (see Table 2 on page 132) varied from 16.4 in the Southeastern area to 23.6 percent in Central Ohio. The difference may be explained by the location and proximity (possibly greater interest in responding) of Ohio State University in Central Ohio and the greater return rate of the Northeast and Southwest areas. Other factors might be the lower return rate of the elementary level in the Southeast and Northwest areas, lack of interest or time in completing the questionnaire, cynicism of some teachers toward ineffective change efforts or added responsibilities without compensation, length of the questionnaire, no teaching responsibility in physical education, and distance from Ohio State University.

All school district types, as designated in Ohio, are represented in the sample returns. Proportions have been stated previously in the Testing for Representativeness Section. The city and local districts are greater in number and in teachers; the 47 percent and 40 percent respectively indicate the predominance of teachers in those types of districts.

The school types have been described earlier. Junior and senior high school teachers have greater response numbers because of higher return rates at those levels and greater numbers in proportion to the others.
The location of the schools of the respondents indicates a representation which varies from 9.5 percent for urban schools to 23.1 percent for suburban schools. Generally all locations portray the population varieties with suburban and small city schools predominant. When urban and urban inner city numbers are combined the 19.2 percent establishes a disparity of 5.9 percent.

It is interesting to note that the residence location of the teachers generally follows the location pattern of the schools and a majority of teachers travel 5 miles or less to school. However, 21.4 percent travel 6-10 miles and 27.9 percent 11 or more miles. The teachers seem willing to travel equal distances as evidenced by the responses to question 167-72. Gradient distances appear generally accessible for travel to school and inservice locations, and most teachers will tolerate a 20 mile or less drive with about 9 percent willing to travel further.

Funding is one of the most important elements in the availability and success of inservice programs as supported by the literature review. Even though the question might be ambiguous in certain responses, the responses indicate the need for more resource provisions for inservice education. Table 5 shows that a budget item for programs and reimbursement exists in 12.4 percent or 50 respondent situations. The other most prevalent provision is the released time only with 22.6 percent or 91 responses. No
provisions were indicated in 23.1 percent or 93 responses. It would probably be a safe assumption that all school districts allow released time and possibly some reimbursement, but probably with few formal or written regulations. More provisions with formal and written regulations and equal opportunity for all teachers should be stipulated.

Table 5

BUDGET PROVISIONS FOR INSERVICE EDUCATION
(N=402)

<table>
<thead>
<tr>
<th>Response</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Budget item for programs only</td>
<td>32</td>
<td>8.0</td>
</tr>
<tr>
<td>Budget item for programs and reimbursement</td>
<td>62</td>
<td>15.4</td>
</tr>
<tr>
<td>Reimbursement only (including tuition remission or credit)</td>
<td>50</td>
<td>12.4</td>
</tr>
<tr>
<td>Released time only</td>
<td>91</td>
<td>22.6</td>
</tr>
<tr>
<td>No provisions</td>
<td>93</td>
<td>23.1</td>
</tr>
<tr>
<td>Other (mostly a combination of above)</td>
<td>36</td>
<td>9.0</td>
</tr>
<tr>
<td>(No responses -- mostly don't know)</td>
<td>38</td>
<td>9.5</td>
</tr>
<tr>
<td>TOTAL</td>
<td>402</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Background Information

The background information variables reflect the age, marital status, number of dependent children, sex, and race statistics of the sample surveyed. The extent to which they portray the total population and effect in-service participation has not been determined.

Table 6 shows that 60 percent of the physical educators are 30 years young or under with 29.1 percent 25
Table 6
COMPOSITE OF BACKGROUND INFORMATION (N=402)

<table>
<thead>
<tr>
<th>Variable and Responses</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25 or under</td>
<td>117</td>
<td>29.1</td>
</tr>
<tr>
<td>26-30</td>
<td>123</td>
<td>30.6</td>
</tr>
<tr>
<td>31-39</td>
<td>81</td>
<td>20.1</td>
</tr>
<tr>
<td>40-49</td>
<td>53</td>
<td>13.2</td>
</tr>
<tr>
<td>50 or over</td>
<td>26</td>
<td>6.5</td>
</tr>
<tr>
<td>(No responses)</td>
<td>2</td>
<td>0.5</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>402</td>
<td>100.0</td>
</tr>
<tr>
<td><strong>Marital Status</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Married</td>
<td>281</td>
<td>69.9</td>
</tr>
<tr>
<td>Separated/Divorced</td>
<td>28</td>
<td>7.0</td>
</tr>
<tr>
<td>Single</td>
<td>87</td>
<td>21.6</td>
</tr>
<tr>
<td>Widowed</td>
<td>5</td>
<td>1.2</td>
</tr>
<tr>
<td>(No responses)</td>
<td>1</td>
<td>0.2</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>402</td>
<td>99.9</td>
</tr>
<tr>
<td><strong>Dependent Children</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>None</td>
<td>229</td>
<td>57.0</td>
</tr>
<tr>
<td>One</td>
<td>68</td>
<td>16.9</td>
</tr>
<tr>
<td>Two</td>
<td>63</td>
<td>15.7</td>
</tr>
<tr>
<td>Three or more</td>
<td>42</td>
<td>10.4</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>402</td>
<td>100.0</td>
</tr>
<tr>
<td><strong>Sex</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>227</td>
<td>56.5</td>
</tr>
<tr>
<td>Male</td>
<td>175</td>
<td>43.5</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>402</td>
<td>100.0</td>
</tr>
<tr>
<td><strong>Race</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White/Caucasian</td>
<td>377</td>
<td>93.8</td>
</tr>
<tr>
<td>Black/Afro-American</td>
<td>22</td>
<td>5.5</td>
</tr>
<tr>
<td>Other (1 Oriental-American and 2 Chicano-American)</td>
<td>3</td>
<td>0.7</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>402</td>
<td>100.0</td>
</tr>
</tbody>
</table>
or under and 30.6 percent 26-30. Few teachers are 50 or over -- 6.5 percent. One might speculate that many physical educators leave their preparation area for supervision, administrative, or other positions. Two observations might be made concerning this situation: (1) As the experienced teachers leave the field for age or position change reasons, their knowledge and know-how are lost and diminish the possibilities for utilization in inservice activities. (2) As teachers remain in the field, their need for renewal and development becomes an important facet of their inservice education participation since they should maintain and improve their teaching performance and skills in some manner. Inservice education activities are important for both the experienced, inexperienced, and shades in between since they are the primary means (self-directed activities included) for self-renewal. Also, as supported by research, the experienced teachers may help the younger, inexperienced ones.\(^3\)

One's marital status and the number of dependent children might affect one's inservice education possibilities and participation in selected types of activities. Married individuals with children, in most cases, have some limita-

\(^3\)Harris, A Research Study of the Effects of Demonstration Teaching upon Experienced and Inexperienced Teachers, 1966.
tions because of financial or family responsibilities. Of
the sample surveyed, 281 or 69.9 percent are married, and
173 or 43 percent have one or more dependent children. The
no children figure seems to go along with the young teacher's
figure (30 percent 25 years or under).

Female physical educators showed a higher response
rate than males by 13 percent (56.5 versus 43.5). Female
elementary teachers, however, had lower response rates in
the Northeast, Southeast, and Southwest areas (below 50% for that subgroup) consistent with male returns for those areas.

The great majority of the respondents, 93.8 percent
or 377, were White. State department figures indicate that
7 percent of Ohio teachers are Black; figures are slightly
less than 1 percent for Other Minorities. The 5.5 percent
response of the Black physical educators might reflect
reality, chance alone, or lower return rates from Black
and Minority teachers. The figures should be investigated
for a true reflection of the situation.

Generally, the sample surveyed were 25 or under,
married, a majority without dependent children, and White.
The extent to which they portray the total population of
Ohio's elementary and secondary school physical educators
has been determined indirectly. The school information
factors should be considered and investigated in deter-
mining needs for inservice education in the schools, school
districts, and geographical locations of Ohio.

SUMMARY ANALYSIS OF INSERVICE EDUCATION TOPICS

The summary analysis of inservice education topics will highlight those variables which have produced responses at selected percentage levels according to the one of following criteria: (1) a single response category at 33 percent or above, (2) a combined response of the agree or disagree categories at 70 percent or above, and (3) a single response category at a low percentage level if the item is pertinent. Table 7 shows the response frequencies and percentages for the organization and administration topics.

Selected Topics: Organization and Administration

Organization Patterns for Physical Education received 41.3 percent of the responses in the Major Importance category and 26.9 percent in the Undecided category which indicates that it is an important topic, but probably too general because of the large number of undecided responses. The Guidelines for Administrative Planning followed a similar pattern (34% for MI and 28% for U). Administration of the Total School Program received a 42.5 percent rate in the Major Importance category which proved relatively strong when combined with Critical Importance responses (65 percent). Curriculum Organization and De-
<table>
<thead>
<tr>
<th>Topic</th>
<th>Critical Importance</th>
<th>Major Importance</th>
<th>Undecided Importance</th>
<th>Little Importance</th>
<th>No Importance</th>
<th>No Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organizational Patterns for P. E.</td>
<td>44 10.9</td>
<td>166 41.3</td>
<td>108 26.9</td>
<td>72 17.9</td>
<td>10 2.5</td>
<td>2 0.5</td>
</tr>
<tr>
<td>Guidelines for Administrative Planning</td>
<td>33 8.2</td>
<td>138 34.3</td>
<td>115 28.6</td>
<td>86 21.4</td>
<td>28 7.0</td>
<td>2 0.5</td>
</tr>
<tr>
<td>Administration of Total School P. E. Program*</td>
<td>89 22.1</td>
<td>171 42.5</td>
<td>74 18.4</td>
<td>51 12.7</td>
<td>15 3.7</td>
<td>2 0.5</td>
</tr>
<tr>
<td>Curriculum Organization and Development*</td>
<td>107 26.6</td>
<td>210 52.2</td>
<td>49 12.2</td>
<td>29 7.2</td>
<td>7 1.7</td>
<td>0 0</td>
</tr>
<tr>
<td>Administrative Theory and Its Application to P. E.</td>
<td>20 5.0</td>
<td>104 25.9</td>
<td>146 36.3</td>
<td>97 24.1</td>
<td>34 8.5</td>
<td>1 0.2</td>
</tr>
<tr>
<td>Public Relations, School-Community Relations</td>
<td>69 17.2</td>
<td>162 40.3</td>
<td>106 26.4</td>
<td>51 12.7</td>
<td>14 3.5</td>
<td>0 0</td>
</tr>
<tr>
<td>Human Relations</td>
<td>102 25.4</td>
<td>152 37.8</td>
<td>93 23.1</td>
<td>42 10.4</td>
<td>13 3.2</td>
<td>0 0</td>
</tr>
<tr>
<td>Organization of the Instructional Class*</td>
<td>72 17.9</td>
<td>164 40.8</td>
<td>89 22.1</td>
<td>59 14.7</td>
<td>17 4.2</td>
<td>1 0.2</td>
</tr>
<tr>
<td>Classroom Management and Control*</td>
<td>91 22.6</td>
<td>133 33.1</td>
<td>68 16.9</td>
<td>75 18.7</td>
<td>35 8.7</td>
<td>0 0</td>
</tr>
<tr>
<td>Administrative Control of Interscholastic Athletics, etc.</td>
<td>64 15.9</td>
<td>128 31.8</td>
<td>110 27.4</td>
<td>52 12.9</td>
<td>48 11.9</td>
<td>0 0</td>
</tr>
</tbody>
</table>
Table 7 (continued)

<table>
<thead>
<tr>
<th>Topic</th>
<th>Critical Importance</th>
<th>Major Importance</th>
<th>Un-decided</th>
<th>Little Importance</th>
<th>No Importance</th>
<th>No Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administration of State Department of HPER</td>
<td>16 4.0</td>
<td>102 25.4</td>
<td>153 38.1</td>
<td>92 22.9</td>
<td>34 8.5</td>
<td>0 0</td>
</tr>
<tr>
<td>Budget Systems and Management*</td>
<td>45 11.2</td>
<td>162 40.3</td>
<td>107 26.6</td>
<td>55 13.7</td>
<td>33 8.2</td>
<td>0 0</td>
</tr>
<tr>
<td>Legal Aspects and Liability*</td>
<td>93 23.1</td>
<td>185 46.0</td>
<td>68 16.9</td>
<td>43 10.7</td>
<td>10 2.5</td>
<td>3 0.7</td>
</tr>
<tr>
<td>Facilities Planning</td>
<td>110 27.4</td>
<td>156 38.8</td>
<td>79 19.7</td>
<td>43 10.7</td>
<td>14 3.5</td>
<td>0 0</td>
</tr>
<tr>
<td>Purchase and Care of Equipment and Supplies*</td>
<td>96 23.9</td>
<td>188 46.8</td>
<td>63 15.7</td>
<td>42 10.4</td>
<td>12 3.0</td>
<td>1 0.2</td>
</tr>
<tr>
<td>Title IX Implications for P. E.*</td>
<td>89 22.1</td>
<td>147 36.6</td>
<td>126 31.3</td>
<td>21 5.2</td>
<td>15 3.7</td>
<td>4 1.0</td>
</tr>
<tr>
<td>Implementation of Newly Initiated/ Emphasized Sports*</td>
<td>103 25.6</td>
<td>186 46.6</td>
<td>81 20.1</td>
<td>22 5.5</td>
<td>8 2.0</td>
<td>2 0.5</td>
</tr>
<tr>
<td>Leadership in the P. E. Department</td>
<td>67 16.7</td>
<td>151 37.6</td>
<td>120 29.9</td>
<td>42 10.4</td>
<td>22 5.5</td>
<td>0 0</td>
</tr>
<tr>
<td>Initiating Change or New Programs*</td>
<td>103 25.6</td>
<td>213 53.0</td>
<td>60 14.9</td>
<td>15 3.7</td>
<td>10 2.5</td>
<td>1 0.2</td>
</tr>
<tr>
<td>Promoting Inservice Education</td>
<td>64 15.9</td>
<td>174 43.3</td>
<td>120 29.9</td>
<td>27 6.7</td>
<td>15 3.7</td>
<td>2 0.5</td>
</tr>
<tr>
<td>Differentiated Staffing and Procedures</td>
<td>25 6.2</td>
<td>90 22.4</td>
<td>191 47.5</td>
<td>63 15.7</td>
<td>29 7.2</td>
<td>4 1.0</td>
</tr>
</tbody>
</table>

*Indicates a topic of significant importance as determined by a combined percentage of 70 or above in the high or low importance categories.
velopment was rated quite important with 52.2 percent (210) in the **Major Importance** category and 78.9 percent when combined with the **Critical Importance** responses (26.6 percent or 107). Only 1.7 percent or 7 indicated **No Importance**.

This topic presents a possible approach to inservice education activities as reported in the literature.

Administrative Theory and Its Application to Physical Education received 36.3 percent in the **Undecided** category which might suggest that the topic has limited practical application to most teachers who are not involved in administration. Public Relations, School-Community Relations and Human Relations showed strongly in the **Major Importance** area indicating a possible need for programs in human relations for teachers.

Organization of the Instructional Class, Classroom Management and Control, and Administrative Control of Inter-scholastic Athletics were rated **Major Importance** in 40.8 percent, 33.1 percent, and 31.8 percent respectively. The first two topics indicate a strong desire of the physical educators for improving their teaching performance. The latter topic on athletics reflects a current trend toward more knowledge and involvement in athletics as evidenced by the growth of athletic programs, especially women's programs.

Administration of the State Department of HPER received 38.1 percent (153) of its responses in the **Undecided**
area. The literature indicates a growing involvement of the State Department in inservice education. The Undecided responses might suggest that Ohio's HPER Section provide some leadership in those activities and in enlightening physical educators of the State in respect to its role, functions, and programs.

**Major Importance** ratings of Budget Systems and Management (40.3 percent) and Legal Aspects and Liability (46%) suggest a critical need for those topics in inservice programs. The need seems particularly important because both areas are of primary concern with our present economic and legal problems. Facilities Planning (38.8 percent) and Purchase and Care of Equipment and Supplies (46.8 percent) in the **Major Importance** category reinforce the previously stated needs.

**Title IX Implications for Physical Education** received a 36.6 percent in the **Major Importance** category and 31.3 percent in the **Undecided** area. At the time of the questionnaire, **Title IX Guidelines** were not quite publicized as now and would probably elicit a more decided response at this time since the Guidelines are presently before Congress and in the news.

The recognition for the need of change seems supported by the following responses: Implementation of Newly Initiated/Emphasized Sports -- 46.3 percent in MI and 72 percent when combined with CI, Leadership in the P.E.
partment -- 37.6 in MI, Initiating Change or New Programs -- 53% and 78.9 when combined with CI, and Promoting Inservice Education -- 43.3% in MI and 29.9 in U. Each topic represents an important inservice education need and should be provided. Differentiated Staffing and Procedures received a 47.5 percent in the Undecided category and indicates a concern primarily of administrators or lack of familiarity with its meaning.

**Physical Education Activities**

Each activity was represented by two variables: one indicating if the individual had any teaching responsibility in the activity area and the other indicating the level of importance of the activity in respect to one's personal needs. Skill workshops or clinics in the activities might be provided as a part of an inservice education program covering skill development, strategies, rules/officiating, and methods/techniques for teaching. Table 8 shows the response percentages for each variable. The following criteria will be employed in determining significance:

1. In the Yes or No response of column I pertaining to teaching responsibility, percentages of 70 and above or 30 and below will be considered significant.

2. In the Level of Importance categories of column II, percentages of 33 or above in a single response and 70 or above in a combined response of the CI and MI or LI and NI categories will be considered significant. A single response category at a low percentage level may be mentioned if the item is pertinent.
Table 8. RESPONSES FOR PHYSICAL EDUCATION ACTIVITIES  
(N=402)

<table>
<thead>
<tr>
<th>Activity</th>
<th>I. Any Teaching Responsibility? (in %)</th>
<th>II. Skills, Strategies, Methods/Techniques (in %)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>* Aquatics -- Water Games</td>
<td>8</td>
<td>92</td>
</tr>
<tr>
<td>Archery</td>
<td>40</td>
<td>60</td>
</tr>
<tr>
<td>Badminton</td>
<td>60</td>
<td>40</td>
</tr>
<tr>
<td>* Basketball</td>
<td>91</td>
<td>9</td>
</tr>
<tr>
<td>Baseball</td>
<td>33</td>
<td>68</td>
</tr>
<tr>
<td>* Boating and Small Crafts</td>
<td>6</td>
<td>94</td>
</tr>
<tr>
<td>Bowling</td>
<td>43</td>
<td>58</td>
</tr>
<tr>
<td>Conditioning, Individual Dev., Weight, Training</td>
<td>60</td>
<td>40</td>
</tr>
<tr>
<td>Dance</td>
<td>64</td>
<td>36</td>
</tr>
<tr>
<td>* Fencing</td>
<td>9</td>
<td>91</td>
</tr>
<tr>
<td>* Field Hockey</td>
<td>24</td>
<td>76</td>
</tr>
<tr>
<td>Football</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>Golf</td>
<td>44</td>
<td>56</td>
</tr>
<tr>
<td>* Gymnastics, Tumbling, Apparatus</td>
<td>86</td>
<td>14</td>
</tr>
<tr>
<td>* Handball</td>
<td>16</td>
<td>84</td>
</tr>
<tr>
<td>* Ice Hockey</td>
<td>4</td>
<td>96</td>
</tr>
<tr>
<td>* International Sports</td>
<td>7</td>
<td>92</td>
</tr>
<tr>
<td>Activity</td>
<td>I. Any Teaching Responsibility?</td>
<td>II. Skills, Strategies, Methods/Techniques</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>---------------------------------</td>
<td>--------------------------------------------</td>
</tr>
<tr>
<td></td>
<td>Yes (in %)</td>
<td>No</td>
</tr>
<tr>
<td>* Lifesaving</td>
<td>9</td>
<td>91</td>
</tr>
<tr>
<td>* Martial Arts</td>
<td>15</td>
<td>85</td>
</tr>
<tr>
<td>Movement Education</td>
<td>47</td>
<td>52</td>
</tr>
<tr>
<td>* Outdoor Pursuits</td>
<td>20</td>
<td>80</td>
</tr>
<tr>
<td>Perceptual Motor Development</td>
<td>47</td>
<td>53</td>
</tr>
<tr>
<td>Physical Fitness, Aerobics</td>
<td>69</td>
<td>31</td>
</tr>
<tr>
<td>Racquet Games</td>
<td>53</td>
<td>47</td>
</tr>
<tr>
<td>* Skin and Scuba Diving</td>
<td>9</td>
<td>90</td>
</tr>
<tr>
<td>* Soccer</td>
<td>73</td>
<td>26</td>
</tr>
<tr>
<td>* Softball</td>
<td>84</td>
<td>16</td>
</tr>
<tr>
<td>Special Activities -- Adapted P. E.</td>
<td>37</td>
<td>63</td>
</tr>
<tr>
<td>Special Games -- Floor Hockey, Speed Ball</td>
<td>60</td>
<td>40</td>
</tr>
<tr>
<td>* Swimming and Diving</td>
<td>14</td>
<td>86</td>
</tr>
<tr>
<td>* Team Handball</td>
<td>19</td>
<td>81</td>
</tr>
<tr>
<td>Tennis</td>
<td>47</td>
<td>52</td>
</tr>
<tr>
<td>* Track and Field</td>
<td>77</td>
<td>23</td>
</tr>
<tr>
<td></td>
<td>156</td>
<td></td>
</tr>
</tbody>
</table>
Table 8 (continued)

<table>
<thead>
<tr>
<th>Activity</th>
<th>I. Any Teaching Responsibility? (in %)</th>
<th>II. Skills, Strategies, Methods/ Techniques (in %)</th>
</tr>
</thead>
<tbody>
<tr>
<td>* Volleyball</td>
<td>Yes: 81 No: 19</td>
<td>CI: 22 MI: 48 U: 10 LI: 8 NI: 12</td>
</tr>
<tr>
<td>* Winter Activities</td>
<td>Yes: 15 No: 85</td>
<td>8 MI: 22 U: 18 LI: 17 NI: 35</td>
</tr>
<tr>
<td>Wrestling</td>
<td>Yes: 34 No: 66</td>
<td>9 MI: 24 U: 18 LI: 17 NI: 32</td>
</tr>
<tr>
<td>* Yoga and Relaxation Activities</td>
<td>Yes: 15 No: 85</td>
<td>11 MI: 20 U: 21 LI: 15 NI: 33</td>
</tr>
</tbody>
</table>

*Indicates significant importance as determined by a combined percentage of 70 or above in the "Yes or No" column or the "Level of Importance" column.
Teaching Responsibility Items

The responses indicated that the most common activities for which the physical educators have teaching responsibility are basketball (91%), gymnastics (86%), softball (86%), volleyball (81%), track and field (77%), and soccer (73%). The activities for which the teachers have the least teaching responsibility are ice hockey (96%), boating and small crafts (94%), international sports (92%), aquatics — water games (92%), fencing (91%), lifesaving (91%), skin and scuba diving (90%), swimming and diving (86%), martial arts (85%), winter activities (85%), yoga and relaxation activities (85%), handball (84%), team handball (81%), outdoor pursuits (80%), and field hockey (76%).

Realistically it should be recognized that physical educators have some responsibility in teaching aspects of physical fitness, conditioning, and other activities, and that others at the various teaching levels or in selected teaching programs have no responsibilities for teaching certain activities. However, the responses do indicate, to a certain extent, which activities are being taught in the programs by the respondents. The large number of activities for which few have teaching responsibility might lead one to ask: Why are they not being taught? Several possible reasons could be the high degree of specialization, the great expense of the facilities or equipment, the lack of knowledge and experience by the teachers in the particular
activity, the type of program at that level or in a particular school, the lack of instruction or exposure to the activity, and other reasons. Will inservice education activities (skill workshops or clinics) provide the teachers the necessary information, background, skill, and confidence for teaching the activities if they are considered important? If so, the teacher may benefit and change by the participation; and ultimately, one's students may profit from the experience and instruction.

Of the 38 activities or activity areas listed in the questionnaire, 21 were considered significant in terms of teaching responsibility -- 6 in terms of the most common and 15 of the least common. Other pertinent items might be the relatively small percentage of teachers involved with adapted physical education, the 50-50 split in football, the field hockey "No" response percentage, and the effect that sex may have had on the response patterns (i.e., football, martial arts, dance, wrestling, baseball, and yoga). The cross-tabulation results will shed some light on these items.

Levels of Importance Responses:

The second aspect of this section involved the level of importance which the respondents attached to each activity. Generally the response pattern of the previously listed significant activities reflected a corresponding high or low response in the level of importance. In 18 of
the 21 activities, a single response category had a 33 or more percent rate in a high or low category. The three exceptions were field hockey, martial arts, and outdoor pursuits whose responses were more evenly distributed. The pattern suggested that the importance attached to an activity -- high or low -- corresponds to the teaching responsibility in that activity. Gymnastics, track and field, and volleyball had combined percentages of 70 or above in the critical and major importance categories. Ice hockey had the only 70% or above response in the little or no importance categories. Most activities with low "No" percentages in column I had a "no importance" percentage above 30 which suggested that teachers had strong feelings about them. Possibly they did not care to learn about them because they did not teach them. Two exceptions were baseball and wrestling for which female teachers had little or no teaching responsibility. The lone activity with critical importance rating above 33% was gymnastics (43 percent). The need for inservice activities might prove helpful there.

Activities considered of major importance, but not significant in teaching responsibility are badminton, bowling, conditioning and individual development, dance, golf, perceptual motor development, physical fitness and aerobics, racquet games, special games (floor hockey, speedball, etc.), and tennis. The need for improving instruction
through inservice education in those activities and the others has been reflected by the teachers' responses.

Curriculum and Instruction Topics

The teachers attached great importance to these topics since each one except contract teaching and contingency management received 33% or more in the major importance category and most topics but maximum utilization of staff (and contract teaching) received 10% or less in the little or no importance categories. Contract teaching and contingency management obtained a 34% rating in the undecided category which seemed to indicate uncertainty about the topic and/or its meaning since it is relatively new. The datum seemed contradictory to the individualized instruction high rating. Curriculum development (73.6%), teaching strategies and methodologies (75.4%), teaching innovations (82.6%), individualized instruction (72.8), and making equipment and teaching materials (70.4) scored strongly in importance. These ratings reflected great concern with improving instruction as a part of inservice education.

Evaluation Topics

Teachers recognize the need for evaluation without realizing what it actually involves. Meaningful evaluation is dependent upon the knowledge of techniques employed in research methodology. The evaluation responses
Table 9. RESPONSES FOR CURRICULUM AND INSTRUCTION TOPICS (N=402)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Curriculum Development*</td>
<td>78</td>
<td>218</td>
<td>60</td>
<td>14</td>
</tr>
<tr>
<td>Teaching Strategies and Methodologies*</td>
<td>71</td>
<td>232</td>
<td>56</td>
<td>32</td>
</tr>
<tr>
<td>Teaching Innovations*</td>
<td>113</td>
<td>219</td>
<td>50</td>
<td>27</td>
</tr>
<tr>
<td>Use of Media and Technology</td>
<td>59</td>
<td>209</td>
<td>91</td>
<td>23</td>
</tr>
<tr>
<td>Use of Instructional Materials</td>
<td>56</td>
<td>222</td>
<td>82</td>
<td>26</td>
</tr>
<tr>
<td>Individualized Instruction</td>
<td>108</td>
<td>184</td>
<td>61</td>
<td>35</td>
</tr>
<tr>
<td>Contract Teaching and Contingency Management</td>
<td>47</td>
<td>116</td>
<td>138</td>
<td>65</td>
</tr>
<tr>
<td>Maximum Utilization of Staff</td>
<td>54</td>
<td>159</td>
<td>92</td>
<td>60</td>
</tr>
<tr>
<td>Use of Community Resources</td>
<td>85</td>
<td>188</td>
<td>74</td>
<td>33</td>
</tr>
<tr>
<td>Making Equipment and Teaching Materials*</td>
<td>106</td>
<td>177</td>
<td>75</td>
<td>26</td>
</tr>
</tbody>
</table>

*Indicates a topic of significant importance as determined by a combined percentage of 70 or above in the high or low importance categories.
(see Table 10) suggest an insecure feeling toward research as found in the Fox-Foley Report. The research topic is the only one which received a significant undecided rating (38.6 percent) and one of three (with tests, grading and marking procedures) which showed a little or no importance rating above 10 percent. No topic in this area received a significant rating in critical importance; all but research obtained one in the major importance category. Three received a combined major importance classification above 70 percent: programs (78.4), instruction (77.6), and students (75.9). Evaluation of equipment and supplies (69.9) and physical fitness (68.6) came close.

**Programs:**

Coeducational programs, lifetime sports programs, intramural programs, and innovative activities and programs reflected combined significant scores of 70% or above with lifetime sports receiving a 84.3% rating. All topics with the exception of elementary physical education programs, senior high school athletic programs, and other obtained 33% or better in major importance; however, elementary programs was the only topic which received a critical importance rating of 33%. The special nature of some

---

Table 10. RESPONSES FOR EVALUATION OF TOPICS  
(N=402)

<table>
<thead>
<tr>
<th>Topic</th>
<th>Critical Importance</th>
<th>Major Importance</th>
<th>Un-decided</th>
<th>Little Importance</th>
<th>No Importance</th>
<th>No Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Programs*</td>
<td>75 18.7</td>
<td>240 59.7</td>
<td>56 13.9</td>
<td>22 5.5</td>
<td>8 2.0</td>
<td>1 0.2</td>
</tr>
<tr>
<td>Teachers</td>
<td>74 18.4</td>
<td>198 49.3</td>
<td>79 19.7</td>
<td>39 9.7</td>
<td>11 2.7</td>
<td>1 0.2</td>
</tr>
<tr>
<td>Instruction*</td>
<td>85 21.1</td>
<td>227 56.5</td>
<td>57 14.2</td>
<td>20 5.0</td>
<td>9 2.2</td>
<td>4 1.0</td>
</tr>
<tr>
<td>Students*</td>
<td>90 22.4</td>
<td>215 53.5</td>
<td>60 14.9</td>
<td>23 5.7</td>
<td>8 2.0</td>
<td>6 1.5</td>
</tr>
<tr>
<td>Teaching Materials and Media</td>
<td>54 13.4</td>
<td>201 50.0</td>
<td>95 23.6</td>
<td>34 8.5</td>
<td>11 2.7</td>
<td>7 1.7</td>
</tr>
<tr>
<td>Tests</td>
<td>38 9.5</td>
<td>173 43.0</td>
<td>108 26.9</td>
<td>61 15.2</td>
<td>21 5.2</td>
<td>1 0.2</td>
</tr>
<tr>
<td>Grading and Marking Procedures</td>
<td>62 15.4</td>
<td>183 45.5</td>
<td>82 20.4</td>
<td>50 12.4</td>
<td>24 6.0</td>
<td>1 0.2</td>
</tr>
<tr>
<td>Equipment and Supplies</td>
<td>86 21.4</td>
<td>195 48.5</td>
<td>65 16.2</td>
<td>29 9.7</td>
<td>15 3.7</td>
<td>2 0.5</td>
</tr>
<tr>
<td>Physical Fitness and Measurement of Research</td>
<td>72 17.9</td>
<td>204 50.7</td>
<td>81 20.1</td>
<td>31 7.7</td>
<td>13 3.2</td>
<td>1 0.2</td>
</tr>
<tr>
<td></td>
<td>32 8.0</td>
<td>121 30.1</td>
<td>155 38.6</td>
<td>60 14.9</td>
<td>32 8.0</td>
<td>2 0.5</td>
</tr>
</tbody>
</table>

*Indicates a topic of significant importance as determined by a combined percentage of 70 or above in the high or low importance categories.
Table 11. RESPONSES FOR PROGRAMS' TOPICS  
(N=402)

<table>
<thead>
<tr>
<th>Topic</th>
<th>Critical Importance No. %</th>
<th>Major Importance No. %</th>
<th>Un-decided Importance No. %</th>
<th>Little Importance No. %</th>
<th>No Importance No. %</th>
<th>No Response No. %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coeducational Programs*</td>
<td>94 23.4</td>
<td>184 45.8</td>
<td>74 18.4</td>
<td>30 7.5</td>
<td>18 4.5</td>
<td>2 0.5</td>
</tr>
<tr>
<td>Elementary P.E. Programs -- Importance, etc.</td>
<td>138 34.3</td>
<td>120 29.9</td>
<td>61 15.2</td>
<td>41 10.2</td>
<td>38 9.5</td>
<td>4 1.0</td>
</tr>
<tr>
<td>Middle School Programs</td>
<td>123 30.6</td>
<td>139 34.6</td>
<td>64 15.9</td>
<td>37 9.2</td>
<td>35 8.7</td>
<td>4 1.0</td>
</tr>
<tr>
<td>Lifetime Sports Programs*</td>
<td>170 42.3</td>
<td>169 42.0</td>
<td>36 9.0</td>
<td>13 3.2</td>
<td>12 3.0</td>
<td>2 0.5</td>
</tr>
<tr>
<td>Intramural Programs*</td>
<td>122 30.3</td>
<td>193 48.0</td>
<td>47 11.7</td>
<td>24 6.0</td>
<td>14 3.5</td>
<td>2 0.5</td>
</tr>
<tr>
<td>Recreational Programs</td>
<td>106 26.4</td>
<td>171 42.5</td>
<td>75 18.7</td>
<td>30 7.5</td>
<td>19 4.7</td>
<td>1 0.2</td>
</tr>
<tr>
<td>Adapted P.E. Programs</td>
<td>98 24.4</td>
<td>168 41.8</td>
<td>77 19.2</td>
<td>35 8.7</td>
<td>23 5.7</td>
<td>1 0.2</td>
</tr>
<tr>
<td>Outdoor Education Programs</td>
<td>82 20.4</td>
<td>173 43.0</td>
<td>79 19.7</td>
<td>41 10.2</td>
<td>26 6.5</td>
<td>1 0.2</td>
</tr>
<tr>
<td>Innovative Activities and Programs*</td>
<td>104 25.9</td>
<td>191 47.5</td>
<td>74 18.4</td>
<td>17 4.2</td>
<td>13 3.2</td>
<td>3 0.7</td>
</tr>
<tr>
<td>Body Management Programs</td>
<td>77 19.2</td>
<td>177 44.0</td>
<td>96 23.9</td>
<td>32 8.0</td>
<td>16 4.0</td>
<td>4 1.0</td>
</tr>
<tr>
<td>Interval Training Activities and Programs</td>
<td>35 8.7</td>
<td>161 40.0</td>
<td>133 33.1</td>
<td>46 11.4</td>
<td>18 4.5</td>
<td>9 2.2</td>
</tr>
<tr>
<td>Community Resources and Utilization in P.E.</td>
<td>66 16.4</td>
<td>193 48.0</td>
<td>88 21.9</td>
<td>30 7.5</td>
<td>19 4.7</td>
<td>6 1.5</td>
</tr>
<tr>
<td>Elementary and Junior H.S. Athletic Programs</td>
<td>86 21.4</td>
<td>165 41.0</td>
<td>64 15.9</td>
<td>46 11.4</td>
<td>33 8.2</td>
<td>8 2.0</td>
</tr>
</tbody>
</table>
Table 11. (continued)

<table>
<thead>
<tr>
<th>Topic</th>
<th>Critical Importance No.</th>
<th>Critical Importance %</th>
<th>Major Importance No.</th>
<th>Major Importance %</th>
<th>Un-decided Importance No.</th>
<th>Un-decided Importance %</th>
<th>Little Importance No.</th>
<th>Little Importance %</th>
<th>No Importance No.</th>
<th>No Importance %</th>
<th>No Response No.</th>
<th>No Response %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Senior H.S. Athletic Programs</td>
<td>95</td>
<td>23.6</td>
<td>123</td>
<td>30.6</td>
<td>68</td>
<td>16.9</td>
<td>48</td>
<td>11.9</td>
<td>59</td>
<td>14.7</td>
<td>9</td>
<td>2.2</td>
</tr>
</tbody>
</table>
| Other -- Mostly Repetition of a Stated Topic | 11                      | 2.7                   | 14                   | 3.5                | 14                       | 3.5                     | 5                    | 1.2                | 24              | 6.0            | 334            | 83.1          | *Indicates a topic of significance as determined by a combined percentage of 70 or above in the high or low importance categories.*
of the programs with the limited grade level aspects might account for the results. At any rate, all topics except interval training activities and programs obtained percentages in the 60's. The 33% undecided responses seemed to suggest uncertainty about the topic and its applications. The responses generally supported the present concern for improvement in the significant topics; i.e., athletic, recreational, and coeducational programs.

General Physical Education Topics:

In respect to the general physical education topics (see Table 12), the following statements will summarize the analysis:

1. Behavioral problems and disruptive students and injuries were rated above 70 percent in high importance. The urgency for coping with these situations seemed reflected in the teachers' responses.

2. The other topics showed strong interest (most in the 60's, some in the 50's) and obtained a 33 percent or above in major importance with the exception of supervision of field based experiences.

3. Special mention should be made of the high undecided percentages of supervision (40.3), research and its applications (32.6), and the only critical percentage (38.6) of injuries.

Generally most topics appeared important with relatively large undecided responses. Inservice programs aimed at specific needs are suggested for making the topics more appealing. For example, girl's competitive sports and
Table 12. RESPONSES FOR GENERAL PHYSICAL EDUCATION TOPICS
(N=402)

<table>
<thead>
<tr>
<th>Topic</th>
<th>Critical Importance</th>
<th>Major Importance</th>
<th>Un-decided Importance</th>
<th>Little Importance</th>
<th>No Importance</th>
<th>No Response</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
</tr>
<tr>
<td>Growth and Development of School Age Children</td>
<td>54</td>
<td>13.4</td>
<td>182</td>
<td>45.3</td>
<td>91</td>
<td>22.6</td>
</tr>
<tr>
<td>Counselling</td>
<td>65</td>
<td>16.2</td>
<td>181</td>
<td>45.0</td>
<td>89</td>
<td>22.1</td>
</tr>
<tr>
<td>Behavioral Problems and Disruptive Students*</td>
<td>116</td>
<td>28.9</td>
<td>172</td>
<td>42.8</td>
<td>63</td>
<td>15.7</td>
</tr>
<tr>
<td>Drug Use and Abuse</td>
<td>97</td>
<td>24.1</td>
<td>157</td>
<td>39.1</td>
<td>83</td>
<td>20.6</td>
</tr>
<tr>
<td>Relationships of P.E. and Athletics to School and Society</td>
<td>89</td>
<td>22.1</td>
<td>189</td>
<td>47.0</td>
<td>72</td>
<td>17.9</td>
</tr>
<tr>
<td>Supervision of Field Based Experiences</td>
<td>37</td>
<td>9.2</td>
<td>123</td>
<td>30.6</td>
<td>162</td>
<td>40.3</td>
</tr>
<tr>
<td>Physical Cond. -- Heat Stress, Training Systems, etc.</td>
<td>63</td>
<td>15.7</td>
<td>161</td>
<td>40.0</td>
<td>105</td>
<td>26.1</td>
</tr>
<tr>
<td>Injuries -- Care, Prevention, First Aid, Taping*</td>
<td>155</td>
<td>38.6</td>
<td>161</td>
<td>40.0</td>
<td>41</td>
<td>10.2</td>
</tr>
<tr>
<td>Girl's Competitive Sports</td>
<td>120</td>
<td>29.9</td>
<td>134</td>
<td>33.3</td>
<td>72</td>
<td>17.9</td>
</tr>
<tr>
<td>Research and Its Practical Applications</td>
<td>31</td>
<td>7.7</td>
<td>136</td>
<td>33.8</td>
<td>131</td>
<td>32.6</td>
</tr>
</tbody>
</table>
Table 12. (continued)

<table>
<thead>
<tr>
<th>Topic</th>
<th>Critical Importance</th>
<th>Major Importance</th>
<th>Undecided</th>
<th>Little Importance</th>
<th>No Importance</th>
<th>No Response</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
</tr>
<tr>
<td>Rules and Officiating for Teachers</td>
<td>88</td>
<td>21.9</td>
<td>156</td>
<td>38.8</td>
<td>79</td>
<td>19.7</td>
</tr>
<tr>
<td>Other -- Mostly Repetition of Stated Topics</td>
<td>11</td>
<td>2.7</td>
<td>13</td>
<td>3.2</td>
<td>15</td>
<td>3.7</td>
</tr>
</tbody>
</table>

*Indicates a topic of significance as determined by a combined percentage of 70 or above in the high importance categories.
rules and officiating for teachers showed several significant patterns in the cross-tabulations with selected factors. The need for increased knowledge in supervision of field based experiences, drug use and abuse, and counselling are supported in light of current concerns and involvements with those areas.

**SUMMARY ANALYSIS OF INSERVICE PREFERENCES AND POSSIBILITIES**

The analysis of inservice preferences and possibilities will include a summary of the interests, locations, formats, and preferences for the conduct of inservice education. The statements are numbered as they appeared in the questionnaire for easier reference.

**Interests in Physical Education Inservice Programs**

Very high interest (92 percent) was indicated in the general statement on attendance at the proper time and place (see Table 13). The variable was included as a probe rather than a discriminatory item. The credit variables (items 49 and 56) showed almost identical splits in the five response categories and supported the idea that credit (graduate or pay-scale) are important considerations in influencing attendance. Most respondents (47 and 51 percent respectively) disagreed with the necessity for credit; however, the 25 percent undecided suggested that other conditions carried influence besides credits.
Table 13. RESPONSES FOR INTERESTS IN PHYSICAL EDUCATION INSERVICE PROGRAMS. (N=402)

<table>
<thead>
<tr>
<th>Interest Statements</th>
<th>SA</th>
<th>A</th>
<th>U</th>
<th>D</th>
<th>SD</th>
<th>No R</th>
</tr>
</thead>
<tbody>
<tr>
<td>48. I would be interested in attending if it were presented at the proper time and place.</td>
<td>59</td>
<td>33</td>
<td>5</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>49. I would be interested only if graduate credit were received.</td>
<td>7</td>
<td>18</td>
<td>26</td>
<td>31</td>
<td>16</td>
<td>2</td>
</tr>
<tr>
<td>50. I would be interested only if the school paid all expenses.</td>
<td>9</td>
<td>26</td>
<td>26</td>
<td>28</td>
<td>10</td>
<td>1</td>
</tr>
<tr>
<td>51. I would be interested only if I were paid to attend.</td>
<td>3</td>
<td>11</td>
<td>21</td>
<td>42</td>
<td>22</td>
<td>1</td>
</tr>
<tr>
<td>52. I would be interested if release time was given.</td>
<td>27</td>
<td>44</td>
<td>14</td>
<td>8</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>53. I would be interested in attending on my own time and at my own expense.</td>
<td>6</td>
<td>24</td>
<td>36</td>
<td>20</td>
<td>14</td>
<td>1</td>
</tr>
<tr>
<td>54. I would be interested in attending but only during the summer.</td>
<td>3</td>
<td>10</td>
<td>29</td>
<td>34</td>
<td>23</td>
<td>1</td>
</tr>
<tr>
<td>55. I would be interested in attending only during the season I am not coaching.</td>
<td>10</td>
<td>24</td>
<td>25</td>
<td>24</td>
<td>14</td>
<td>3</td>
</tr>
<tr>
<td>Interest Statements</td>
<td>SA</td>
<td>A</td>
<td>U</td>
<td>D</td>
<td>SD</td>
<td>No R</td>
</tr>
<tr>
<td>------------------------------------------------------------------------------------</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>------</td>
</tr>
<tr>
<td>56. I would be interested in attending only if I received credit for it in terms of my school district pay scales.</td>
<td>5</td>
<td>16</td>
<td>27</td>
<td>36</td>
<td>15</td>
<td>1</td>
</tr>
<tr>
<td>57. I would be interested in serving as an inservice coordinator in physical education for my school district.</td>
<td>6</td>
<td>18</td>
<td>37</td>
<td>20</td>
<td>18</td>
<td>1</td>
</tr>
<tr>
<td>58. I would be interested if our staff was involved in the planning of the program and activities.</td>
<td>6</td>
<td>30</td>
<td>33</td>
<td>17</td>
<td>13</td>
<td>1</td>
</tr>
<tr>
<td>59. I would be interested if I could be involved in planning and implementing inservice activities which are aimed at improving my professional competencies.</td>
<td>11</td>
<td>38</td>
<td>28</td>
<td>13</td>
<td>9</td>
<td>1</td>
</tr>
</tbody>
</table>
The school was not expected to pay all the expenses as shown by the similar percentages in the A, U, and D categories; 64 percent disagreed with the statement that they would be interested only if paid to attend. The low "agree" percent (14) indicated that most would attend for other reasons. Released time seemed a stronger motivator for attendance with 71 percent agreeing that it would help interest them. Interest in attending on one's own time and at one's own expense reflected a 36 percent as undecided. Some teachers would attend and indicated so in their comments if the topic was important to them, the expense was not too great, and the location and format were right.

Specific times (summer and coaching season) were considered important in affecting attendance with the coaching season as the greater of the two (34%). The responses supported the idea that the second responsibility was a restricting factor in attendance. The large percentage of teachers with coaching duties seemed reluctant to attend because of those responsibilities and lack of time.

The literature expressed the importance of change agents and inservice coordinators. Thirty-seven percent were undecided about doing so, but 24 percent stated that they would serve with 38 percent not interested. The need for such a coordinator seemed evident to the teachers, and
some indicated that they would serve.

Planning involvement and professional development (improving competencies) are important elements in successful practices. Many teachers (36% in the former and 49 in the latter item) revealed that they might be more interested if they were involved in planning and implementing activities aimed at professional competency development. 33 and 28 percent respectively in the two items were undecided.

In general, the teachers appeared interested if some reimbursement, credit, and released time were given with the latter as the most important provided the individuals were not coaching or their summer employment was not severely restricted.

Locations

The cross-tabulations by geographical areas indicated significant patterns for The Ohio State University and the nearest university or college offering a master's degree in physical education. The findings will be analyzed in those summaries. However, of the three stated locations, the local school site (86%) proved most agreeable (of course) with the nearest institution as the second choice (see Table 14). The Ohio State breakdowns (45% agree, 20 undecided, and 33 disagree) reflected a strong interest in attending there, but was affected by the fact that the more distance respondents would be more likely to attend provided the topic and other conditions were right. Some
Table 14. RESPONSES FOR LOCATIONS AND FORMATS FOR INSERVICE EDUCATION.  
(N=402)

<table>
<thead>
<tr>
<th>Location or Format Variable</th>
<th>SA</th>
<th>A</th>
<th>U</th>
<th>D</th>
<th>SD</th>
<th>No R</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LOCATIONS</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>60. At The Ohio State University</td>
<td>16</td>
<td>29</td>
<td>20</td>
<td>17</td>
<td>16</td>
<td>2</td>
</tr>
<tr>
<td>61. At a University or College site near my home which offers a master's degree in P. E.</td>
<td>33</td>
<td>40</td>
<td>14</td>
<td>8</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>62. At or near my local school site</td>
<td>43</td>
<td>43</td>
<td>8</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td><strong>FORMATS</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>63. Night course</td>
<td>10</td>
<td>33</td>
<td>16</td>
<td>23</td>
<td>16</td>
<td>2</td>
</tr>
<tr>
<td>64. Summer school course</td>
<td>14</td>
<td>38</td>
<td>19</td>
<td>16</td>
<td>12</td>
<td>1</td>
</tr>
<tr>
<td>65. Workshop (1-2 weeks)</td>
<td>18</td>
<td>47</td>
<td>17</td>
<td>8</td>
<td>8</td>
<td>2</td>
</tr>
<tr>
<td>66. Clinic (1-2 days)</td>
<td>39</td>
<td>50</td>
<td>6</td>
<td>2</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>67. System or district-wide session with a consultant or specialist</td>
<td>26</td>
<td>47</td>
<td>15</td>
<td>5</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>68. Short conferences at or near my school (2-5 hrs.)</td>
<td>24</td>
<td>49</td>
<td>11</td>
<td>10</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>69. Self-instructional resource/reading module (materials)</td>
<td>11</td>
<td>28</td>
<td>26</td>
<td>22</td>
<td>12</td>
<td>1</td>
</tr>
<tr>
<td>70. Self-instruction module</td>
<td>11</td>
<td>28</td>
<td>28</td>
<td>17</td>
<td>14</td>
<td>2</td>
</tr>
</tbody>
</table>
teachers would not because of the great time, distance, and expense involved. Also, many individuals from Central Ohio wrote on the questionnaire that Ohio State was the nearest in their response to item 62.

**Formats**

Table 14 shows the responses by category of the format variables. Short-term formats were preferred with the courses (night and summer) and self-instructional modules somewhat less. The following list shows the percentage rankings of formats:

1. Clinic (1-2) days — 89% SA and A
2. System or district sessions with a consultant and short conferences (2-5 hrs.) — 73% SA and A
3. Workshop (1-2 weeks) — 65% SA and A
4. Summer school course — 52% SA and A
5. Night course — 43% SA and A
6. Self-instructional modules of the two forms — 39% SA and A.

Time, topic, expense, distance, and other considerations were indicated as strong determiners of the format. The short-term format responses verified the popularly held notion that they are preferable for obvious reasons. However, the self-instructional modules would seem even more preferable as alternative forms of inservice education. The greater percentage of undecided responses in those forms indicated uncertainty about them. Several causes
are suggested: (1) Credit would not be received. (2) The module forms were misunderstood. (3) The innovative forms have not been recognized as inservice education forms.

Preferences

Each preference verified selected variables pertaining to location, distance, format, interests, needs, and change to a very high degree (71 to 92 percent as shown in Table 15). In summary, the responses indicated that the teachers recognize the need for change throughout one's career, prefer options with credit for meeting those needs, and prefer attending the university or college nearest their home (or other site within 20 miles) for short-term activities aimed at their needs or professional problems. Significant patterns listed in the next section might provide clues for the right formulas and planned change for more effective inservice education decision making.

CHI-SQUARE ANALYSIS OF SELECTED FACTORS

Twelve variables selected from the descriptive information of the questionnaire were analyzed separately for determining if there were significant differences in responses by category of those factors as they related to the inservice education needs of Ohio elementary and secondary school physical educators. The twelve variables were:
Table 15
RESPONSES FOR PREFERENCES FOR INSERVICE EDUCATION ACTIVITIES
(N=402)

<table>
<thead>
<tr>
<th>Preference Statements</th>
<th>Responses in %</th>
</tr>
</thead>
<tbody>
<tr>
<td>71. I would prefer to attend the university or college nearest my home for in-service education.</td>
<td>34 46 10 4 4 2</td>
</tr>
<tr>
<td>72. I would prefer to travel 20 miles or less for inservice education activities.</td>
<td>32 46 12 5 4 1</td>
</tr>
<tr>
<td>73. I would prefer to attend short term activities for inservice education.</td>
<td>30 50 13 4 2 1</td>
</tr>
<tr>
<td>74. I would prefer to attend inservice education activities if they were considered credits toward advanced degrees and professional growth credits.</td>
<td>29 42 17 7 4 1</td>
</tr>
<tr>
<td>75. I would prefer to participate in inservice activities which meet my needs and professional problems.</td>
<td>50 42 5 2 0 1</td>
</tr>
<tr>
<td>76. I would prefer to select my inservice education activities from the many possible options but with the realization that change (improving and/or maintaining quality teaching performance) is a process which should continue throughout my professional career.</td>
<td>51 41 4 1 1 2</td>
</tr>
</tbody>
</table>
1. Teaching level
2. Type of college attended (Bachelor's degree obtained)
3. Educational level attained
4. Undergraduate major
5. Number of years teaching
6. School district type
7. Geographical location
8. School location
9. Age
10. Marital status
11. Sex
12. Race

Cross-tabulations were made using Chi-square ($X^2$) for determination of the level of difference in expected and observed frequencies of responses according to the selected variables as stated in the hypotheses. Only those variables and questions which yielded significant results at the .05 level of significance were reported. Each question (variables 56-184) was considered as an inservice education need in respect to Hypothesis 1. Because of the large number of factors and significant items, the factors with the significant variables will be listed. Selected Tables and/or verbal analyses are contained in Appendix E. Selected statements are also included in the Findings. A high Chi-square value indicated that there are strong feelings in respect to the response patterns of the variables. High values may be reflected as 0.0000 significance levels since they compute out beyond 0.0001.  

Teaching Level: Significant Cross-Tabulations

---

Topics

1. Administrative control of interscholastic athletics
2. Title IX implications
3. Implementation of newly initiated/emphasized sports
4. Leadership in the P. E. Department

Activities

5. Archery -- Yes or No
6. Archery -- Topic Importance
7. Badminton -- Yes or No
8. Badminton -- Topic Importance
9. Basketball -- Yes or No
10. Boating and Small Crafts -- Yes or No
11. Bowling -- Yes or No
12. Conditioning, Individual Development, Weight Training -- Yes or No
13. Conditioning; Etc. -- Topic Importance
14. Dance -- Yes or No
15. Dance -- Topic Importance
16. Fencing -- Topic Importance
17. Golf -- Yes or No
18. Golf -- Topic Importance
19. Movement Education -- Yes or No
20. Movement Education -- Topic Importance
21. Perceptual Motor Development -- Yes or No
22. Perceptual Motor Development -- Topic Importance
23. Racquet Games -- Yes or No
24. Special Activities: Adapted P. E. -- Yes or No
25. Special Activities: Adapted P. E. -- Topic Importance
26. Special Activities: Elementary P. E. -- Yes or No
27. Special Activities: Elementary P. E. -- Topic Importance
28. Swimming and Diving -- Topic Importance
29. Tennis -- Topic Importance

Selected Topics

30. Grading and Marking Procedures
31. Elementary P. E. Programs
32. Middle School Programs
33. Body Management Programs
34. Senior H. S. Athletic Programs
35. Drug Use and Abuse
37. Girl's Competitive Sports
38. Rules and Officiating for Teachers

Preferences and Possibilities

39. Interested in attending during season not coaching
40. Interested if our staff involved in planning
41. Workshop Format
42. Self-Instructional Module Format

Type of College Attended (Bachelor's degree obtained); Significant Cross-Tabulations

Activities

1. Aquatics -- Topic Importance
2. Badminton -- Topic Importance
3. Baseball -- Topic Importance
4. Fencing -- Topic Importance
5. Golf -- Topic Importance
6. Handball -- Topic Importance
7. Ice Hockey -- Topic Importance
8. International Sports -- Topic Importance
9. Lifesaving -- Topic Importance
10. Martial Arts -- Topic Importance
11. Movement Education -- Yes or No
12. Outdoor Pursuits -- Topic Importance
13. Racquet Games -- Topic Importance
14. Skin and Scuba Diving -- Topic Importance
15. Special Activities: Elementary P. E. -- Topic Importance
16. Swimming and Diving -- Topic Importance
17. Team Handball -- Topic Importance
18. Winter Activities -- Topic Importance
19. Wrestling -- Topic Importance
20. Yoga and Relaxation Activities -- Yes or No
21. Yoga and Relaxation Activities -- Topic Importance

Selected Topics

22. Middle School Programs
23. Community Resources Utilization
24. Growth and Development of School Age Children
25. Research and Practical Applications
26. Rules and Officiating for Teachers

Preferences and Possibilities

27. Interested in Serving as Inservice Education Coordinator

Educational Level Attained: Significant Cross-Tabulations

Topics

1. Classroom Management and Control
2. Legal Aspects and Liability
3. Initiating Change or New Programs
4. Differentiated Staffing and Procedures

Activities

5. Aquatics -- Topic Importance
6. Baseball -- Topic Importance
7. Boating and Small Crafts -- Yes or No
9. Dance -- Yes or No
10. Dance -- Topic Importance
11. Fencing -- Topic Importance
12. Golf -- Topic Importance
13. Handball -- Topic Importance
14. Ice Hockey -- Topic Importance
15. Lifesaving -- Topic Importance
16. Martial Arts -- Topic Importance
17. Swimming and Diving -- Yes or No
18. Swimming and Diving -- Topic Importance
19. Team Handball -- Topic Importance
20. Winter Activities -- Topic Importance
21. Wrestling -- Yes or No

Selected Topics

22. Individualizing Instruction
23. Research Evaluation
24. Lifetime Sports Programs
25. Recreational Programs
26. Body Management Programs
27. Interval Training Programs
28. Girl's Competitive Sports
29. Rules and Officiating for Teachers

Preferences and Possibilities

30. Interested in serving as inservice coordinator
31. Interested if involved in planning
32. Location: At or near my school site
33. Prefer to attend a college or university nearest my home
34. Prefer to attend activities if they were considered credits toward advanced
degrees and professional growth credits

Undergraduate Major: Significant Cross-Tabulations

Activities

1. Archery -- Topic Importance
2. Basketball -- Topic Importance
3. Dance -- Yes or No
4. Dance -- Topic Importance

Selected Topics

5. Instruction-Evaluation of
6. Student-Evaluation of
7. Tests-Evaluation of
8. Coeducational Programs
9. Lifetime Sports Programs
10. Interval Training and Programs
11. Girl's Competitive Sports

Preferences and Possibilities

12. Prefer to participate in activities which meet my needs and professional problems

Number of Years Teaching: Significant Cross-Tabulations

Topics

1. Administration of Total School Physical Education Program
2. Administrative Theory and Its Application to Physical Education
3. Title IX Implications

Activities

4. Basketball -- Yes or No
5. Track and Field -- Topic Importance
Selected Topics

6. Use of Media and Technology
7. Use of Instructional Materials
8. Individualized Instruction
9. Contract Teaching and Contingency Management
10. Making Equipment and Teaching Materials
11. Instruction -- Evaluation of
12. Students -- Evaluation of
13. Equipment and Supplies -- Evaluation of
14. Coeducational Programs
15. Elementary Physical Education Programs
16. Middle School Programs
17. Lifetime Sports Programs
18. Intramural Sports Programs
19. Outdoor Education Programs
20. Body Management Programs
21. Interval Training Activities and Programs
22. Community Resources Utilization
23. Elementary and Junior H.S. Athletic Programs
24. Senior H.S. Athletic Programs
25. Supervision of Field Based Experiences
27. Injuries -- Care, Prevention, First-aid, Taping
28. Girl's Competitive Sports
29. Rules and Officiating for Teachers

Preferences and Possibilities

30. Interested in attending if presented at proper time and place
31. Interested only if graduate credit were received
32. Interested only if school paid all expenses
33. Interested only if paid to attend
34. Interested in attending on my own time and at my own expense
35. Interested in serving as an inservice education coordinator
36. Format: Summer school course
37. Format: Workshop
38. Prefer to attend only if credits toward advanced degrees and professional growth credits given
39. Prefer to participate in activities which meet my needs and professional problems

School District Type: Significant Cross-Tabulation

Topics

1. Organization Patterns for Physical Education
2. Administrative Control of Interscholastic Athletics
3. Administration of the State Department of HPER
4. Budget Systems and Management
5. Legal Aspects and Liability
6. Title IX Implications
7. Implementation of Newly Initiated/Emphasized Sports

Activities

8. Boating and Small Crafts -- Yes or No
9. Field Hockey -- Topic Importance
10. Special Activities: Adapted Physical Education -- Yes or No
11. Special Activities: Adapted Physical Education -- Topic Importance
12. Swimming and Diving -- Yes or No
13. Team Handball -- Yes or No
14. Winter Activities -- Yes or No
Selected Topics

15. Equipment and Supplies -- Evaluation of
16. Coeducational Programs
17. Recreational Programs
18. Girl's Competitive Sports
19. Rules and Officiating for Teachers

Possibilities and Preferences

20. Interested in serving as an inservice education coordinator
21. Workshop Format

Geographical Location of School: Significant Cross-Tabulations

Topics

1. Organizational Patterns for Physical Education
2. Budget Systems and Management

Activities

3. Fencing -- Yes or No
4. Gymnastics, Tumbling, Apparatus -- Yes or No
5. Gymnastics, etc. -- Topic Importance
6. Ice Hockey -- Yes or No
7. International Sports -- Yes or No
8. Lifesaving -- Yes or No
9. Outdoor Pursuits -- Yes or No
10. Skin and Scuba Diving -- Yes or No
11. Soccer -- Yes or No
12. Softball -- Topic Importance
13. Swimming and Diving -- Yes or No
14. Tennis -- Yes or No
15. Wrestling -- Yes or No
Selected Topics

16. Intramural Programs
17. Interval Training Activities and Programs
18. Elementary and Junior H.S. Athletic Programs
19. Growth and Development of School Age Children
20. Relationships of Physical Education and Athletics to School and Society
21. Supervision of Field-based Experiences
23. Girl's Competitive Sports
24. Research and Its Practical Applications
25. Rules and Officiating for Teachers

Preferences and Possibilities

26. Interested only if graduate credit received
27. Location: At Ohio State University
28. Location: At or near a university or college site near my home which offers a master's degree in physical education
29. Format: Summer School Course

Location of School (Urban, Etc.): Significant Cross-Tabulations

Topics

1. Administration of Total School Physical Education Program
2. Administrative Theory and Its Application to Physical Education
3. Organization of the Instructional Class
4. Classroom Management and Control
5. Budget Systems and Management
6. Legal Aspects and Liability
7. Purchase and Care of Athletic Equipment
8. Title IX Implications
9. Implementation of Newly Initiated/Emphasized Sports
10. Initiating Change or New Programs

Activities

11. Archery -- Yes or No
13. Dance -- Yes or No
14. Track and Field -- Yes or No
15. Yoga and Relaxation Activities -- Topic Importance

Selected Topics

16. Making Equipment and Teaching Materials
17. Teaching Materials and Media -- Evaluation of
18. Middle School Programs
19. Behavioral Problems and Disruptive Students
20. Girl's Competitive Sports

Preferences and Possibilities

21. Interested in attending only if school paid expenses
22. Interested in attending only during season not coaching

Age: Significant Cross-Tabulations

Topics

1. Guidelines for Administrative Planning
2. Administration of State Department of HPER
3. Differentiated Staffing and Procedures

Activities

4. Basketball -- Yes or No
5. Dance — Yes or No
6. Dance — Topic Importance
7. Gymnastics, Tumbling, Apparatus — Yes or No
8. Skin and Scuba Diving — Yes or No
9. Track and Field — Yes or No

Selected Topics

10. Teaching Strategies and Methodologies
11. Teaching Innovations
12. Use of media and Technology
13. Use of Instructional Materials
14. Individualized Instruction
15. Making Equipment and Teaching Materials
16. Coeducational Programs
17. Middle School Programs
18. Lifetime Sports Programs
19. Intramural Programs
20. Recreational Programs
21. Innovative Activities and Programs
22. Interval Training Activities and Programs
23. Behavioral Problems and Disruptive Students
24. Drug Use and Abuse
25. Relationships of Physical Education and Athletics to School and Society
26. Injuries — Care, Prevention, First-aid, Taping

Preferences and Possibilities

27. Interested in attending if presented at proper time and place
28. Location: At The Ohio State University
29. Format: Summer School Course
30. Format: Clinic (1-2 days)
31. Format: System or district-side conference with a consultant or specialist
32. Format: Short conferences at or near my school

33. Format: Self-instructional module

Marital Status: Significant Cross-Tabulations

Topic

1. Leadership in the Physical Education Department
2. Initiating Change or New Programs

Activities

3. Gymnastics, Tumbling, Apparatus -- Topic Importance

Selected Topics

4. Girl's Competitive Sports

Preferences and Possibilities

5. Interested in attending on my own time and at my own expense

Sex: Significant Cross-Tabulations

Topics

1. Organizational Patterns for Physical Education
2. Guidelines for Administrative Planning
3. Administrative Control of Interscholastic Athletics

Activities

4. Badminton -- Yes or No
5. Basketball -- Topic Importance
6. Baseball -- Yes or No
7. Baseball -- Topic Importance
8. Boating and Small Crafts -- Yes or No
9. Bowling -- Yes or No
10. Conditioning, Individual Development, Weight Training -- Yes or No
11. Dance -- Yes or No
12. Dance -- Topic Importance
13. Field Hockey -- Yes or No
14. Field Hockey -- Topic Importance
15. Football -- Yes or No
16. Football -- Topic Importance
17. Gymnastics, Tumbling, Apparatus -- Topic Importance
18. Handball -- Yes or No
19. Handball -- Topic Importance
20. Ice Hockey -- Topic Importance
22. Movement Education -- Topic Importance
23. Skin and Scuba Diving -- Topic Importance
24. Softball -- Topic Importance
25. Special Games -- Topic Importance
26. Team Handball -- Yes or No
27. Team Handball -- Topic Importance
28. Tennis -- Yes or No
29. Tennis -- Topic Importance
30. Track and Field -- Topic Importance
31. Volleyball -- Topic Importance
32. Wrestling -- Yes or No
33. Wrestling -- Topic Importance

Selected Topics

34. Use of Media and Technology
35. Contract Teaching and Contingency Management
36. Research -- Evaluation of
37. Recreational Programs
38. Supervision of Field Based Experiences
40. Girl's Competitive Sports
41. Rules and Officiating for Teachers

Preferences and Possibilities

42. Interested in attending if presented at proper time and place
43. Interested only if graduate credit were received
44. Interested only if school paid all expenses
45. Interested in attending on my own time and at my own expense
46. Interested in attending, but only during the summer
47. Interested in attending only during the season not coaching
48. Interested in serving as inservice education coordinator
49. Location: At a university or college near my home
50. Format: System or district-wide session with a consultant or a specialist
51. Format: Short Conferences at or near my school
52. Prefer to attend short term activities for inservice education

Race: Significant Cross-Tabulations

Topics

1. Organizational Patterns
2. Administrative Theory and Its Application
3. Organization of the Instructional Class
4. Initiating Change or New Programs

Activities

5. Field Hockey -- Topic Importance
6. Handball -- Topic Importance
7. International Sports -- Topic Importance
8. Special Games -- Yes or No
9. Volleyball -- Topic Importance
10. Winter Activities -- Yes or No

Selected Topics

11. Use of Media and Technology
12. Body Management Programs

Preferences and Possibilities

13. Location: At or near my local school site
14. Prefer to travel 20 miles or less for inservice education activities
15. Prefer to participate in inservice activities which meet my needs and professional problems

ANALYSIS BY INSERVICE EDUCATION LOCATIONS AND FORMATS

The five geographical areas of Ohio were cross-tabulated with the locations and formats for inservice education and analyzed using Chi-square for determining if there were significant differences in responses by category. Two-way frequency tables were computed with the geographical areas by the locations; three-way cross-tabulations were made with the geographical areas by the locations by formats, one for each value of each format. Only significant results at the .05 level of significance were reported. These items tested hypothesis 2 and 3 and answer the questions: Which geographical area wants to come to inservice education at the three locations
(questions 166: 60-62)? To what degree does each region want to come to the three locations for what formats (questions 167: 63-70 with controls for each format by location showing responses by values)? Significance, in these items, means that the patterns will occur by chance in 5 out of 100 cases or will occur 1 out of 100 cases at .01 levels.

Control Geographical Location

1. Geographical Location by The Ohio State University (see Table 16) —
   \[ X^2 = 114.9663, \text{df} = 30, \text{p} < .01 \]

   Table 16 indicates that there was a significant difference in the responses by category of physical educators from the five geographical areas of Ohio and The Ohio State University location of inservice education programs. Therefore, hypothesis 2, which stated that there would be no significant difference in responses by category in respect to that location is rejected.

   There is a strong relationship between the geographical area and the agreement responses for The Ohio State University location. The table shows that Central Ohio teachers are strongly agreeable for attending and the other areas more undecided or disagreeable. Gradient distance and expense were indicated as the main reasons. Selected formats and conditions, however, might influence their attendance.
<table>
<thead>
<tr>
<th>Geographical Location</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Undecided</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
<th>No Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>N. E. OHIO</td>
<td>13</td>
<td>9</td>
<td>25</td>
<td>25</td>
<td>36</td>
<td>60</td>
</tr>
<tr>
<td>N. W. OHIO</td>
<td>6</td>
<td>22</td>
<td>21</td>
<td>17</td>
<td>20</td>
<td>0</td>
</tr>
<tr>
<td>C. OHIO</td>
<td>52</td>
<td>37</td>
<td>6</td>
<td>12</td>
<td>8</td>
<td>10</td>
</tr>
<tr>
<td>S. E. OHIO</td>
<td>21</td>
<td>15</td>
<td>17</td>
<td>24</td>
<td>8</td>
<td>10</td>
</tr>
<tr>
<td>S. W. OHIO</td>
<td>6</td>
<td>17</td>
<td>30</td>
<td>22</td>
<td>28</td>
<td>20</td>
</tr>
<tr>
<td>No Response</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>100%</th>
<th>100%</th>
<th>100%</th>
<th>100%</th>
<th>100%</th>
<th>100%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>63</td>
<td>115</td>
<td>83</td>
<td>67</td>
<td>64</td>
<td>10</td>
</tr>
</tbody>
</table>

$X^2 = 114.9663$, df = 30, $p < .01$

Column percentages indicate the degree to which each region's teachers want to come to The Ohio State University.
2. Geographical Location by University or College Site Near Home (see Table 17) —
\[ X^2 = 90.5668, \text{ df } = 30, \ p < .01 \]

Table 17 indicates there was a significant difference in the responses by category of the physical educators from the five geographical areas of Ohio and the university or college site near my home location of inservice programs. Therefore, hypothesis 2, which stated that there would be no significant difference in responses by category in respect to that location is rejected.

The table shows the teachers are agreeable for attending a college or university site near home, but many are undecided and disagreeable. The disagreeable cells indicate that those teachers are willing to go elsewhere provided the conditions and topics are acceptable.

3. Geographical Location by At or Near My Local School Site

There were none significant for this location, indicating that there are no strong relationships in the patterns. However, the responses of each cell, row, and column might reveal important data concerning the relationships; i.e., a cell or group of cells might be strongly agreeable while another may not.

Geographical Location by The Ohio State University

The three-way cross-tabulations of geographical location by inservice education location by formats with a control for each value of the formats produced signif-
Table 17. CHI-SQUARE ANALYSIS: GEOGRAPHICAL AREA BY UNIVERSITY OR COLLEGE NEAR HOME (N=402)

At a University or College Site Near Home

<table>
<thead>
<tr>
<th>Geographical Location</th>
<th>Strongly Agree %</th>
<th>Agree %</th>
<th>Undecided %</th>
<th>Disagree %</th>
<th>Strongly Disagree %</th>
<th>No Response %</th>
</tr>
</thead>
<tbody>
<tr>
<td>N. E. OHIO</td>
<td>23</td>
<td>19</td>
<td>17</td>
<td>25</td>
<td>14</td>
<td>50</td>
</tr>
<tr>
<td>N. W. OHIO</td>
<td>14</td>
<td>21</td>
<td>9</td>
<td>28</td>
<td>29</td>
<td>0</td>
</tr>
<tr>
<td>C. OHIO</td>
<td>22</td>
<td>21</td>
<td>39</td>
<td>16</td>
<td>29</td>
<td>17</td>
</tr>
<tr>
<td>S. E. OHIO</td>
<td>17</td>
<td>18</td>
<td>18</td>
<td>9</td>
<td>14</td>
<td>0</td>
</tr>
<tr>
<td>S. W. OHIO</td>
<td>23</td>
<td>21</td>
<td>17</td>
<td>22</td>
<td>14</td>
<td>17</td>
</tr>
<tr>
<td>No Response</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>16</td>
</tr>
</tbody>
</table>

100% 100% 100% 100% 100% 100% 100%

133 160 57 32 14 6 = 402

NOTE: \( X^2 = 90.5668, \) df = 30, \( p < .01 \)
icance in the reported items. Selected significant format
control cross-tabulations are described in Appendix E.

1. Control for Night -- Strongly Agree, Agree
   and Undecided

2. Control for Summer School Course -- Strongly
   Agree and Agree

3. Control for Workshop -- Strongly Agree and
   Agree

4. Control for Clinic -- Strongly Agree and
   Agree

5. Control for System or District-Wide Session
   with a Consultant or Specialist -- Strongly
   Agree, Agree, and Undecided

6. Control for Short Conferences at or near
   My School -- Strongly Agree and Agree

7. Control for Self-instructional Resource/
   Reading Module (Materials) -- Strongly
   Agree, Agree, Strongly Disagree

8. Control for Self-Instructional Module --
   Agree, Undecided, Disagree, Strongly
   Disagree

Geographical Location by University or College Near
My Home

1. Control for Night -- Agree

2. Control for Summer School Course --
   Strongly Disagree

3. Control for Workshop -- Strongly
   Disagree

4. Control for Clinic -- Strongly Agree

5. Control for System or District-Wide
   Session with a Consultant or Specialist --
   Strongly Agree

6. Control for Short Conference at or near
   My School -- Undecided
7. Control for Self-instructional Module (Materials) — Undecided

8. Control for Self-instructional Module — Undecided

Geographical Location by At or Near My School

There were none significant with this inservice education location.

ANALYSIS OF RELATIONSHIPS BETWEEN PROFESSIONAL ASPECTS AND SELECTED VARIABLES

Professional aspects including those variables which related to present position and responsibility, educational background and professional experiences, school information, and background information were correlated with selected variables using Spearman $r_s$. The non-parametric Spearman rank-order correlation statistic was used because it neither depends upon a normal distribution or on the metric quality of interval scales. The procedure requires that the variables be at least ordinal in scale and numeric in type. The SPSS subprogram uses the rankings rather than the absolute values of the variables and computes the coefficient. A variable pair is printed on the computer printout which indicates the Spearman correlation

---

coefficient, the N, and the level of statistical significance. In this program, all variables from 1 to 55 on the questionnaire were correlated with all variables from Inservice Preferences and Possibilities and with each other. The .01 level of significance was used in determining a significant relationship for the following reasons: (1) for obtaining a stronger relationship because many of the variables seemed inherently related, (2) for discriminating among the relationships because many were significant at the .05 level, and (3) for determining meaningful relationships.

Certain relationships were not meaningful because of the rankings of the variable's responses. The purposes of this analysis were to determine whether or not the twelve selected variables were meaningfully related and which variables pertaining to self-improvement (inservice activities attended last year, courses taken in the past 2 years, memberships, subscriptions, publications, and interests, also the relationship of sports coached last year with the other variables). Selected relationships are shown in Table 18 and are described in this analysis. The significant cross-tabulations with the related variables will provide more specific information.

Selected Relationships of the Twelve Factors

1. One's teaching responsibility was related to the teaching level and undergraduate major. Individuals
Table 18

SELECTED RELATIONSHIPS BETWEEN PROFESSIONAL ASPECTS AND SELECTED VARIABLES (N=402)

<table>
<thead>
<tr>
<th>Variable Pair</th>
<th>Correlation Coefficient</th>
<th>Significance Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teaching responsibility with</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Teaching level</td>
<td>0.1302</td>
<td>.004</td>
</tr>
<tr>
<td>2. Undergraduate major</td>
<td>0.1460</td>
<td>.002</td>
</tr>
<tr>
<td>3. Inservice activities last year</td>
<td>-0.1196</td>
<td>.008</td>
</tr>
<tr>
<td>4. School district type</td>
<td>0.1060</td>
<td>.017</td>
</tr>
<tr>
<td>Teaching level with</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Number sports coached last year</td>
<td>0.2933</td>
<td>.001</td>
</tr>
<tr>
<td>6. Courses past 2 years</td>
<td>0.1606</td>
<td>.001</td>
</tr>
<tr>
<td>7. OEA membership</td>
<td>0.1816</td>
<td>.001</td>
</tr>
<tr>
<td>8. School district type</td>
<td>0.2566</td>
<td>.001</td>
</tr>
<tr>
<td>9. School location (urban, etc.)</td>
<td>0.2226</td>
<td>.001</td>
</tr>
<tr>
<td>10. Interested only during season not coaching</td>
<td>0.1125</td>
<td>.002</td>
</tr>
<tr>
<td>Educational level with</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Undergraduate major</td>
<td>0.1551</td>
<td>.001</td>
</tr>
<tr>
<td>12. Number years teaching</td>
<td>0.3757</td>
<td>.001</td>
</tr>
<tr>
<td>13. Publications</td>
<td>0.1670</td>
<td>.001</td>
</tr>
<tr>
<td>14. Courses past year</td>
<td>0.1850</td>
<td>.001</td>
</tr>
<tr>
<td>15. Geographical location</td>
<td>0.1199</td>
<td>.008</td>
</tr>
<tr>
<td>16. Age</td>
<td>0.3759</td>
<td>.001</td>
</tr>
<tr>
<td>17. Sex</td>
<td>0.2232</td>
<td>.001</td>
</tr>
<tr>
<td>18. Interested only if school paid</td>
<td>0.1241</td>
<td>.006</td>
</tr>
<tr>
<td>19. Interested only if paid to attend</td>
<td>0.1225</td>
<td>.007</td>
</tr>
<tr>
<td>Undergraduate major with</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20. Geographical location</td>
<td>-0.1222</td>
<td>.007</td>
</tr>
<tr>
<td>21. Age</td>
<td>0.1548</td>
<td>.001</td>
</tr>
<tr>
<td>22. Sex</td>
<td>0.1302</td>
<td>.004</td>
</tr>
<tr>
<td>23. Interested in serving as coordinator</td>
<td>-0.1428</td>
<td>.002</td>
</tr>
</tbody>
</table>
Table 18, (continued)

<table>
<thead>
<tr>
<th>Variable Pair</th>
<th>Correlation Coefficient</th>
<th>Significance Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Years Teaching with</td>
<td></td>
<td></td>
</tr>
<tr>
<td>23. Subscriptions</td>
<td>0.1355</td>
<td>.003</td>
</tr>
<tr>
<td>24. Publications</td>
<td>0.1755</td>
<td>.001</td>
</tr>
<tr>
<td>25. School district type</td>
<td>-0.1641</td>
<td>.001</td>
</tr>
<tr>
<td>26. School location (urban, etc.)</td>
<td>-0.1259</td>
<td>.006</td>
</tr>
<tr>
<td>27. Age</td>
<td>0.6837</td>
<td>.001</td>
</tr>
<tr>
<td>28. Marital status</td>
<td>-0.1451</td>
<td>.002</td>
</tr>
<tr>
<td>29. Sex</td>
<td>0.1508</td>
<td>.001</td>
</tr>
<tr>
<td>School district type with</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30. School location</td>
<td>0.1452</td>
<td>.002</td>
</tr>
<tr>
<td>31. Age</td>
<td>-0.1648</td>
<td>.001</td>
</tr>
<tr>
<td>32. Interested if staff involved in planning</td>
<td>0.1155</td>
<td>.010</td>
</tr>
<tr>
<td>Geographical location</td>
<td></td>
<td></td>
</tr>
<tr>
<td>33. Interested in serving as coordinator</td>
<td>-0.1127</td>
<td>.012</td>
</tr>
<tr>
<td>34. Interested if I help plan and implement</td>
<td>-0.1135</td>
<td>.011</td>
</tr>
<tr>
<td>School location (urban, etc.)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>35. Interested in attending during season not coaching</td>
<td>0.1500</td>
<td>.001</td>
</tr>
<tr>
<td>Age with</td>
<td></td>
<td></td>
</tr>
<tr>
<td>36. Marital status</td>
<td>-0.1664</td>
<td>.001</td>
</tr>
<tr>
<td>37. Sex</td>
<td>0.1279</td>
<td>.005</td>
</tr>
<tr>
<td>38. Interested only if paid</td>
<td>-0.1103</td>
<td>.014</td>
</tr>
<tr>
<td>Sex with</td>
<td></td>
<td></td>
</tr>
<tr>
<td>39. Interested only if graduate credit</td>
<td>-0.1416</td>
<td>.002</td>
</tr>
<tr>
<td>40. Interested only if school paid all</td>
<td>-0.1382</td>
<td>.003</td>
</tr>
<tr>
<td>41. Interested if paid</td>
<td>-0.1090</td>
<td>.014</td>
</tr>
<tr>
<td>42. Interested only during summer</td>
<td>-0.1147</td>
<td>.011</td>
</tr>
<tr>
<td>43. Interested only during season not coaching</td>
<td>-0.1744</td>
<td>.001</td>
</tr>
</tbody>
</table>
Table 18. (continued)

<table>
<thead>
<tr>
<th>Variable Pair</th>
<th>Correlation Coefficient</th>
<th>Significance Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>44. Interested only if received pay credit</td>
<td>-0.1142</td>
<td>.011</td>
</tr>
<tr>
<td>45. Interested in serving as coordinator</td>
<td>-0.1530</td>
<td>.001</td>
</tr>
<tr>
<td>46. Publications</td>
<td>0.1410</td>
<td>.002</td>
</tr>
<tr>
<td>Race with</td>
<td></td>
<td></td>
</tr>
<tr>
<td>47. Interested only if released time</td>
<td>0.1088</td>
<td>.015</td>
</tr>
<tr>
<td>48. Interested, but only during summer</td>
<td>-0.1335</td>
<td>.004</td>
</tr>
<tr>
<td>Number sports coached last year with</td>
<td></td>
<td></td>
</tr>
<tr>
<td>49. Number years teaching</td>
<td>0.1901</td>
<td>.001</td>
</tr>
<tr>
<td>50. OHSAA membership</td>
<td>0.1816</td>
<td>.001</td>
</tr>
<tr>
<td>51. School district type</td>
<td>0.2566</td>
<td>.001</td>
</tr>
<tr>
<td>52. School location (urban, etc.)</td>
<td>0.2226</td>
<td>.001</td>
</tr>
<tr>
<td>53. Interested only if pay scale credit</td>
<td>0.1125</td>
<td>.012</td>
</tr>
<tr>
<td>Courses taken past 2 years with</td>
<td></td>
<td></td>
</tr>
<tr>
<td>54. AAHPER membership</td>
<td>0.1583</td>
<td>.001</td>
</tr>
<tr>
<td>55. Publications</td>
<td>0.1087</td>
<td>.015</td>
</tr>
<tr>
<td>56. Interested in serving as coordinator</td>
<td>-0.1082</td>
<td>.015</td>
</tr>
<tr>
<td>AAHPER membership with</td>
<td></td>
<td></td>
</tr>
<tr>
<td>57. Ohio Association HPER</td>
<td>0.2224</td>
<td>.001</td>
</tr>
<tr>
<td>58. Ohio HSAA</td>
<td>0.1136</td>
<td>.011</td>
</tr>
<tr>
<td>59. Subscriptions</td>
<td>0.3382</td>
<td>.001</td>
</tr>
<tr>
<td>60. Publications</td>
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<td>.001</td>
</tr>
<tr>
<td>61. Inservice activities last year</td>
<td>0.1885</td>
<td>.001</td>
</tr>
<tr>
<td>62. Marital status</td>
<td>0.1886</td>
<td>.001</td>
</tr>
<tr>
<td>63. Sex</td>
<td>-0.1041</td>
<td>.019</td>
</tr>
<tr>
<td>Ohio Association of HPER with</td>
<td></td>
<td></td>
</tr>
<tr>
<td>64. NEA, OEA, and OHSAA memberships</td>
<td>all</td>
<td>.001</td>
</tr>
<tr>
<td>65. Subscriptions</td>
<td>0.3957</td>
<td>.001</td>
</tr>
<tr>
<td>66. Interested only if released time</td>
<td>-0.1188</td>
<td>.009</td>
</tr>
</tbody>
</table>
Table 18. (continued)

<table>
<thead>
<tr>
<th>Variable Pair</th>
<th>Correlation Coefficient</th>
<th>Significance Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>67. Sex</td>
<td>-0.1373</td>
<td>.003</td>
</tr>
<tr>
<td><strong>Inservice activities last year</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>68. Subscriptions</td>
<td>0.1316</td>
<td>.004</td>
</tr>
<tr>
<td>69. Publications</td>
<td>-0.1170</td>
<td>.009</td>
</tr>
<tr>
<td>70. School district type</td>
<td>-0.1112</td>
<td>.013</td>
</tr>
<tr>
<td>71. Interested if graduate credit</td>
<td>0.1244</td>
<td>.006</td>
</tr>
<tr>
<td>72. Interested if school paid all expenses</td>
<td>0.1845</td>
<td>.001</td>
</tr>
<tr>
<td>73. Interested on my own and at own expense</td>
<td>-0.1524</td>
<td>.001</td>
</tr>
<tr>
<td>74. Interested if serving as coordinator</td>
<td>-0.1487</td>
<td>.001</td>
</tr>
<tr>
<td>75. Interested if staff involved in planning</td>
<td>-0.1487</td>
<td>.001</td>
</tr>
<tr>
<td>76. Interested if I help plan and implement</td>
<td>-0.1428</td>
<td>.002</td>
</tr>
</tbody>
</table>

who had physical education only responsibilities taught mostly on the elementary level and majored in physical education without a combination major. The responsibility pattern was also related to school district types since the city and local schools have more teachers and may more often specialize.

2. The teachers with less than a master's degree were generally younger, had less experience, taught in northern and central Ohio, and were female.

3. The number of years teaching was related to educational level. Teachers with less experience (under 5 years) were from local school districts, taught in small
cities/towns or rural areas, were younger and single.

4. Age — Younger teachers under 30 were generally single, had less than a master's degree, were female, had less teaching experience (under 5 years), and had more coaching duties.

Relationships with Organizational Memberships

1. AAHPER membership was related to Ohio Association HPER and Ohio High School Athletic Association memberships, marital status (married), and sex (male since negatively related).

2. Ohio Association of HPER was related to NEA and OEA memberships, marital status, sex (male), and OHSAA membership.

Relationships with Self-Improvement Activities

1. Courses — Generally teachers who took more courses during the past 2 years attained a higher educational level and taught on the secondary level. They belonged to AAHPER and had some publications.

2. Organizational Memberships — Generally teachers who belonged to AAHPER belonged to the corresponding state association (Ohio HPER) and the state's athletic association (OHSAA). Ohio HPER membership correlated highly with NEA and OEA memberships. Sex was negatively significant in its relationship. It seemed to indicate that more of the men belonged to AAHPER than women rather than women
do not belong to AAHPER.

3. **Inservice Activities Attended Last Year** -- Teachers with administrative or athletic director responsibilities tended to belong to AAHPER and attended more inservice activities. They were from local, non-public, or special schools, and seemed more interested in inservice activities with some reimbursement rather than all expenses paid.

4. **Subscriptions and Publications** -- These two variables were both related to the number of courses taken the past 2 years, inservice activities, and AAHPER which tends to support some interest in self-improvement -- those who took more courses generally belonged to AAHPER and other organizations, attended more inservice activities, and therefore, subscribed to more professional journals. Also, they had a greater number of publications which represents a means of self-learning; i.e., reading, research, and reflection about the topic or research. Publications also correlated highly with educational level (more publications, the higher the education level with the later influencing the former), number of years teaching (more years teaching, more publications), and sex (females tended to publish more than the sample's male teachers).

5. **Number of Sports Coached Last Year** -- Generally the relationships indicated that teachers who had no coaching duties or one assignment had 1-5 years teaching experience,
belonged to OHSAA more than other organizations, taught in city or local school districts, and would be more interested in inservice activities if they received pay scale credit.

Relationships with Interests in Inservice Programs

1. Credit Form Relationships: Graduate or Pay Scale -- Graduate credit would be helpful (but not necessarily needed) in interesting teachers who attended few or no inservice activities last year and were female. Pay scale credit would be helpful for teachers who had little or no coaching duties and for teachers who were female.

2. Reimbursement would help interest (but was not necessarily needed) for teachers who were still working towards the master's degree, attended few or no inservice activities last year, were under 30, and male.

3. Time -- Released time was related to race. Season not coaching was related to teaching level, sex (male since a negative relationship); and school location (urban, etc.). Only during the summer was related to sex (negatively), and race.

4. Inservice Education Coordinator -- Negative relationships were noted in undergraduate major, geographical location, and sex. Those teachers who were interested in serving were generally from among those who attended more activities, had more memberships and subscriptions, and took more courses the past 2 years. In checking the cross-tabulations, they were scattered throughout the State, were
from both sexes, attained higher educational levels, and
had more teaching experience.

5. Planning and Involvement -- School district
types and geographical location produced significant re-
lationships with these variables with the former positive
(those from city and local districts) and the latter nega-
tive (southern and central Ohio). Generally teachers who
attended more inservice activities were more interested in
a planning role.

Further analysis of the significant relationships
may be determined by looking at the significant cross-
tabulations with the twelve factors.
CHAPTER V
SUMMARY, FINDINGS, CONCLUSIONS, RECOMMENDATIONS

The primary purpose of this study was to determine the inservice education needs of Ohio's elementary and secondary school physical educators for implementing and improving faculty development programs. Based on a review of the literature related to the problem and an analysis of the physical education teaching status, this study attempted to identify the inservice education needs and analyze those needs in relation to their contributing factors. A questionnaire was developed for identifying the needs and related factors. A survey was completed and the analysis of the instrument's responses may provide a basis for the design of faculty development programs.

Specific purposes of the study were:

1. To determine the inservice education needs assessment of elementary and secondary school physical educators of Ohio.

2. To ascertain the influence of selected factors such as teaching level, type of college attended, educational level, undergraduate major, number of years teaching, school district type, geographical location, school location, marital status, age, sex, and race.

3. To utilize the information derived from the needs assessment and factors in-
fluence analyses for implementing and improving faculty development programs for Ohio physical educators.

4. To suggest a theoretical base for in-service education programs so that programs will have a firm foundation.

5. To develop a theoretical model for in-service education based on the literature and research in order that staff development programs in Ohio might be more coordinated and effective throughout the State.

In general, the study was to assess the inservice education needs and related factors. The physical educators responded to the questionnaire items; some teachers gave comments concerning the rationale for certain responses.

A pilot questionnaire was developed, administered to a small sample, and analyzed. An attempt was made to eliminate questionnaire and design problems, and the final questionnaire was developed from the process. A pre-test was conducted for checking the final instrument.

There were 402 physical educators from the 1974-1975 population of certificated individuals in health and physical education who participated in the study. The population was represented by a stratified randomly selected sample of certificated individuals from each of the five geographical areas of Ohio. The strata were composed of male and female teachers from each level (elementary, middle, junior, and senior high) from each geographical level. The sample was 9.8 percent of the total population of the physical education teachers.
Responses were taken from the questionnaires, coded, keypunched, verified, and printed according to the specifications as programmed by the researcher. Data were compiled and presented using frequencies and percentages. The frequencies and percentages were presented with selected tables in order to give readers of the study an aid in analysis. The data included information on 228 variables pertaining to inservice education needs and related factors. The items were classified according to present position and responsibility, educational background and professional experiences, school and background information, and inservice education preferences and possibilities.

Further analysis was made by cross-tabulations using Chi-square computations. Correlations using non-parametric statistical analyses (Spearman \( r_s \)) were made for determination of significant relationships between selected variables.

**MAJOR FINDINGS**

The findings presented in this section are general in nature and pertain to the questionnaire classifications.

**Present Position and Responsibility**

1. Approximately 72 percent of the physical educators participating in the study have more than one responsibility with health and physical education the most prevalent (29 percent) and followed by physical education only. In addition to teaching, 65 percent of the teachers had coaching duties in one or more sports with three-fourths of them coaching two or more sports.
2. There were 76 percent of the teachers who devoted more than half of their teaching load to physical education teaching. Forty-six percent teach separate classes of boys only or girls only, 16 percent teach coeducational classes only, and 38 percent teach a combination of the two.

3. In approximately 78 percent of the schools where a departmental organization existed, 36 percent did not have a designated chairperson.

4. Many schools have some type of cooperative relationships with a college or university center or program.

5. Most teachers rated their teaching as effective with the recognition that they could be and would like to be more effective. Alternative options would be needed by one-half of the teachers because a second responsibility or job limited their inservice attendance and/or possibilities.

6. There was a significant difference in responses by category of the various teaching levels and inservice education needs pertaining to selected topics, activities, interests, and formats -- a total of 42 different needs proved significant.

7. Eighty percent of the schools had 2 or more teachers in their school, with 52 percent having 2-3, 25 percent 4-6, and 3 percent 7 or more.

Educational Background and Professional Experiences

1. There were 59 percent of the teachers who obtained their Bachelor's degree from a state supported university and 24 percent from a private college. Sixteen percent did not major in physical education or a combination major.

2. Approximately 23 percent have attained a Master's degree plus, 42 percent have less than 6 years teaching experience, and 55 percent obtained their highest degree in 1970 or later.

3. Less than 50 percent belong to a professional physical education organization; about 80 percent subscribe to one or more academic or professional journals.

4. There were 56 percent who have not taken a course in the past two years, 35 percent who have not attended any inservice education activities in physical education during last year, 60 percent indicated that there were no programs
in said activities provided by their school or school district.

5. Almost one-half rated the programs experienced as generally good or better, and over three-fourths felt that inservice education should be a powerful force for facilitating change in physical education.

6. There was a significant difference in responses by category of the selected variables (type of college attended -- 27, educational level attained -- 34, undergraduate major -- 12, and number of years teaching -- 39) and selected inservice education needs as indicated by the numbers for each factor.

School Information

1. A satisfactory sample distribution which varied from 16.4 percent in Southeastern Ohio to 23.6 percent from Central Ohio and which included satisfactory representation from the five school district types and all school levels in a cross-section of locations (urban, rural, etc.) participated in this study and adequately represented the total population of certificated elementary and secondary school physical educators teaching in Ohio.

2. A majority of teachers indicated that their residence generally follows the location of their school and that they travel 5 miles or less to school. There were 28 percent who travelled 11 miles or more. Most appeared willing to travel equal and even greater distances for inservice education activities with 9 willing to drive 20 miles or more provided the conditions were right.

3. In respect to funding for inservice education, 23 percent of the respondents' situations provided released time only, 23 percent no provisions, 44 percent some provisions in form of programs and/or reimbursement (or a combination of the above), and 10 percent do not know.

4. There was a significant difference in responses by category of the selected factors (school district type -- 21, geographical location -- 29, school location -- 22) and selected inservice education needs as indicated by the numbers for each variable.

Background Information

1. Age: Sixty percent were 30 years young or under with 29 percent 25 or under and 31 percent 26-30. Only 6.5
percent of the physical educators were 50 or over.

2. Seventy percent of the teachers are married; over one-half have one or more dependent children.

3. Sex: Of the 402 respondents, 56 percent were female and 44 percent were male.

4. Race: There were 93.8 percent White, 5.5 percent Black, and 0.7 percent Other Minority group teachers in the sample.

5. There was a significant difference in responses by category of the selected factors (age -- 33, marital status -- 5, sex -- 52, and race -- 15) and selected inservice education needs as indicated by the numbers for each variable.

Organization and Administration Topics

1. The topics considered of significant importance for inservice education as determined by a combined percentage of 70 or above in The Critical and Major Importance response categories were Administration of the Total School Physical Education Program, Curriculum Organization and Development, Organization of the Instructional Class, Classroom Management and Control, Budget Systems and Management, Legal Aspects and Liability, Purchase and Care of Equipment and Supplies, Title IX Implications for P. E., Initiating Change and New Programs, and Implementation of Newly Initiated/Emphasized Sports.

2. Topics involved with change, financial, interpersonal relations and leadership appeared most important in terms of their cross-tabulation patterns with the 12 selected factors.

Physical Education Activities

1. The most common activities for which the physical educators had teaching responsibility were basketball (91%), gymnastics (86%), softball (86%), volleyball (81%), track and field (77%), and soccer (73%).

2. The activities for which they had the least responsibility were ice hockey (96%), boating and small crafts (94%), international sports (92%), aquatics -- water games (92%), fencing (91%), lifesaving (91%), skin and scuba diving (86%), martial arts (85%), winter activities (85%), yoga and relaxation activities (85%), handball (84%),
team handball (81%), outdoor pursuits (80%), and field hockey (76%).

3. The ten activities considered most important for inservice education skill workshops or clinics were as follows:

1. Gymnastics (83%)
2. Volleyball, Track and Field (70% each)
3. Basketball (65%), especially for female teachers;
4. Physical Fitness, Aerobics (65%)
5. Perceptual Motor Development (62%)
6. Tennis (61%)
7. Conditioning, Individual Development, Weight Training (61%)
8. Dance, Soccer (58% each)
9. Movement Education (57%)
10. Special Activities -- Adapted Physical Education (56%)

4. There was a direct relationship in the "Yes or No" response and the "Level of Importance" response in most activities.

5. There were many activities (as listed in Chapter IV) which were significant in terms of their cross-tabulations with the selected factors, especially teaching level, sex, type of college attended, and educational level.

Curriculum and Instruction Topics

1. The topics considered significant in importance were curriculum development, teaching strategies and methodologies, teaching innovations, individualized instruction, and making equipment and teaching materials.

2. Curriculum and instruction topics were considered very important by teachers at all teaching levels and for both sexes.

3. There was a significant difference in responses by category in terms of their cross-tabulation patterns with the selected factors, especially age with 5 and number of years teaching with 3.

Evaluation Topics

1. Evaluation of programs, instruction, and students were considered significant in importance. The other topics
2. There was a significant difference in responses by category in terms of the following: Educational Level and Sex -- Research; Undergraduate Major -- Instruction, Students, and Tests; Number Years Teaching -- Instruction and Students; School District Type -- Equipment and Supplies; and School Location -- Teaching Materials and Media.

Programs

1. The topics considered significant in importance were coeducational programs, lifetime sports programs, intramural programs, and innovative activities and programs.

2. Other programs were considered critical to selected teaching levels or groups.

3. There was a significant difference in responses by category in terms of their cross-tabulations with all of the selected variables (except marital status and race) and especially teaching level-4, educational level-4, numbers years teaching-8, school location-7.

General Physical Education Topics

1. The topics considered significant in importance were behavioral problems and disruptive students and injuries -- care, prevention, first aid, and taping.

2. Counselling, drug use and abuse, relationship of physical education and athletics to school and society, girl's competitive sports, and rules and officiating for teachers were indicated as most important or above by 60 percent of the teachers.

3. There was a significant difference in responses by category in terms of their cross-tabulations with all twelve of the selected factors. Rules and officiating for teachers, injuries, and girl's competitive sports were most prevalent.

4. High undecided percentages were obtained for supervision of field based experiences (40%) and research and its practical application (33%).

Interests in Physical Education Inservice Programs

1. Ninety-two percent of the teachers indicated
that they would be interested in attending if it were presented at the proper time and place.

2. Credits in the form of graduate credit or pay scale credit were considered important in influencing attendance, but approximately one-half disagreed with the necessity of credit and one-fourth were undecided.

3. Reimbursement in the form of the school paying all expenses or of the teacher being paid to attend were conditions that carried influence besides credit in some cases, but most stated that it was not expected or necessary in terms of full reimbursement.

4. Released time proved to be a strong motivator for attendance for 71 percent of the teachers. Approximately one-third indicated that they would be interested in attending on their own time and at their own expense if the topic and conditions were right.

5. Specific times (summer and coaching season) were considered important in affecting attendance with the coaching season as the greater of the two (34 percent and 14 percent). Summer employment would severely restrict some formats.

6. One-fourth of the respondents stated that they would be interested in serving as an inservice education coordinator for their school district, slightly over one-half were not interested, and one-fourth were undecided.

7. Planning involvement and professional development (improving competencies) were important elements in creating interest in 36 and 49 percent respectively. Approximately one-third were undecided.

8. There was a significant difference in responses by category in cross-tabulations with all selected factors except undergraduate major and race. Sex had 7 of 12 interests significant, number of years teaching had 6.

Locations for Conducting Inservice Education

1. There were 86 percent of the respondents who agreed or strongly agreed that the most beneficial location was at or near their local school site, 73 percent at a university or college site near their home which offers a master's degree in physical education and 45 percent at The Ohio State University. Many indicated that selected topics, formats, and conditions would influence their attendance at The Ohio State University. Twenty percent
were undecided about Ohio State.

2. There was a significant difference in responses by category in the cross-tabulations with the following selected factors: Educational Level and Race -- at or near my local school site, Age -- at Ohio State University, Sex -- at a university or college site near home, and Geographical Location -- at Ohio State University and at a university or college site near home.

3. There was a significant difference in response patterns in the cross-tabulations with control for each format value with all eight formats for The Ohio State University and the university or college site. There were none significant for at or near my local school site. Most agreed that the local site was most beneficial, but the response pattern did not show significant in the three-way cross-tabulations.

Formats for Inservice Education

1. Short-term formats were preferred with the following percentage rankings:

1 -- Clinic (1-2 days) with 89 percent in the SA and A categories
2 -- System or district sessions with a consultant or specialist and Short conferences at or near my school (2-5 hours) both with 73 percent in SA and A
3 -- Workshops (1-2 weeks) -- 65 percent in SA and A
4 -- Summer school course with 52 percent in SA and A
5 -- Night course with 43 percent in SA and A
6 -- Self-instructional modules of the two forms with 39 percent each in SA and A.

2. Time, topic, distance, and conditions were indicated as strong determiners of the format.

3. Self-instructional modules of the two forms had slightly over one-fourth in the undecided category. These alternative forms of inservice education seemed acceptable, but showed uncertainty because of credit and other problems.

4. There was a significant difference in responses by category in the cross-tabulations with the following
selected factors: Teaching Level -- workshop and self-instructional module (SIMS), Number Years Teaching -- summer course and workshop, School District Type -- workshop, Geographical Location -- summer school course, Sex -- system or district session with a consultant and short conferences, and Age -- summer course, clinic, system or district session, short conferences, and SIMS.

5. There was a significant difference in the three-way cross-tabulations as described in Locations' Finding # 3.

Preferences for Inservice Education

1. Each preference (see Table 15) verified agreement with selected variables pertaining to location, distance, format, interests, needs and change to a very high degree (71 to 92 percent in SA and A categories).

2. The responses indicated that the teachers recognize the need for change throughout one's career, prefer options with credit for meeting those needs, and prefer attending the university or college site nearest their home (or other site within 20 miles) for short term activities aimed at their needs or professional problems.

3. There was a significant difference in responses by category in the cross-tabulations with the following selected factors: Educational Level -- prefer university or college near home and credits, Undergraduate Major -- prefer activities which meet my needs and problems, Number of Years Teaching -- prefer credits and activities which meet my needs and problems, Sex -- prefer short term activities, Race -- prefer 20 miles or less and activities which meet my needs and problems.

General Findings Related to the Cross-Tabulations and Non-Parametric Correlations

Many variables were found significant in both statistical analyses. While the relationships are meaningful, specific cross-tabulations should be evaluated for determining where the significance lies. The non-parametric correlations, without a cross-tabulation check, should be viewed as a strong relationship.
CONCLUSIONS

Predicated on the statement of the problem, the hypotheses of the study, and the findings of the study, conclusions were made concerning the inservice education needs assessment of the elementary and secondary school physical educators in Ohio. Hypothesis 8 was supported by the review of the literature and research (Chapter II); hypothesis 7 was supported by induction based on inspection and percentage analysis of the physical education activities teaching responsibility and level of importance responses (Chapter IV). Hypotheses 1 through 6 were supported by the analysis of data (Chapter IV). For this study, the hypothesis will relate to each inservice education need (each topic, activity, interest, location, format, and preference). The Major Findings have indicated the significant needs as related to the selected factors; the Conclusions will refer to significant items in general.

Hypothesis 1

It is possible to identify and assess the inservice education needs of the physical educators as related to the selected factors. In addition, various descriptive variables will be discovered which will relate to the characteristics of that sample. The findings related to this hypothesis were determined by analyzing the cross-tabulations of each selected factor (variable) with each
inservice education need and by using the Chi-square statistic as the significance test for each relationship. As indicated by the responses to the questionnaire items and indicated by the study, the following conclusions are perceived:

1. Within the framework of this study, it has been determined that there is a significant difference in responses by category of selected factors as they relate to the inservice education needs of Ohio elementary and secondary school physical educators. The variables which were found significant beyond the .05 level of significance have been reported and summarized.

2. Descriptive characteristics concerning the sample respondents and their teaching situations were determined and found to be satisfactorily representative of the population which they represent. A description of the sample has been reported in the Analysis of Data and summarized in the Major Findings.

The following statements represent the conclusions from each of the twelve variables as analyzed and determined significant:

**Teaching Level.** There was a significant difference between the teaching levels of the physical educators and their inservice education needs. All levels reflected needs in topics, activity teaching responsibility, activity importance levels, interests, and formats. Forty-two needs were found significant.

**Type of College Attended (Bachelor's degree obtained).** There was a significant difference between the type of college attended and inservice education needs in activity
teaching responsibility (only two), activity importance
levels, topics, and interests (only one).

Educational Level Attained. There was a significant
difference between the educational level attained and in-
service education needs in topics, activity teaching re­
sponsibility (4), activity importance levels, interests,
location (1), and preferences.

Undergraduate Major. There were a total of twelve
significant in this factor: activity teaching responsi­
bility (dance only), activity levels of importance (archery,
basketball, dance), topics, and preferences (1).

Number of Years Teaching. There was a significant
difference in number of years teaching and inservice ed­
ucation needs in activities (basketball teaching responsi­
bility and track and field importance levels), topics,
interests, formats, and preferences.

School District Type. There was a significant dif­
ference in school district type and inservice education
needs in topics, activities (teaching responsibility and
importance levels), interests (1), and formats (1).

Geographical Location. There was a significant
difference in geographical location and inservice education
needs in activity teaching responsibility, activity im­
portance levels (gymnastics, softball), topics, interests
(1), locations, and formats (1).

School Location (Urban, Etc.). There were dif­
ferences in topics, activity teaching responsibility
(archery, dance, track and field), activity importance
levels (conditioning only), and interests.

Age. There was a significant difference between
age and inservice education needs in topics, activity
teaching responsibility (basketball, dance, gymnastics,
skin and scuba diving, track and field), activity im­
portance level (dance), interests (1), location (O.S.U.),
and formats.

Marital Status. This factor produced the least
number of significant differences: topics (leadership,
initiating change or new programs, girl's competitive
sports), activity importance level (gymnastics), and in­
terests (on my own time and at my own expense).

Sex. Sex resulted in the largest number of dif­
ferences including topics, activity teaching responsibility,
activity importance levels, interests (7 out of 12), loca-
tions (at university or college near home), formats (system or district sessions and short conferences), and preferences (short term activities). A total of 52 needs were found significant.

Race. There were 15 different significant needs in Race including topics, activity teaching responsibility (special games, winter activities), activity importance levels (field hockey, handball, international sports, volleyball), locations (at or near school site), and preferences.

Hypothesis 2

There was a significant difference in responses by category of the physical educators from the five geographical areas of Ohio and the location of inservice education programs in two of the three locations: (1) At The Ohio State University and (2) At or near a university or college site near my home which offers a master's degree in physical education.

Hypothesis 3

There was a significant difference in responses by category of the physical educators from the five geographical areas of Ohio and inservice education formats as listed in the three-way cross-tabulations (at The Ohio State University and at a university or college site near my home) and with the following selected factors:

- Teaching Level -- Workshop, SIMS
- Number Years Teaching -- Summer School Course and Workshop
- School District Type -- Workshop
- Geographical Location -- Summer School Course
- Age -- Summer Course, Clinic, System or District Sessions with a consultant, Short Conferences, SIMS
Hypothesis 4

There was a significant difference in responses by category of the physical educators teaching level and inservice education topic needs in all topic classifications (Organization and Administration, Activities, Curriculum and Instruction, Evaluation of, Programs, and General Physical Education Topics) and in both activity response columns (Teaching Responsibility and Topic Importance Levels). It was determined that each teaching level has its own special activity needs and that all levels have common needs. The evidence supported the proposition that both special and common needs should be experienced in inservice activities for optimal effectiveness in change.

Hypothesis 5

There was a significant difference in responses by category of the physical educators sex and inservice education needs in all topic classifications. As summarized under Hypothesis One's selected factors, sex produced the largest number of significant needs (52). It was determined that each sex does have its needs for activities more traditional to that sex, but the results indicated that those differences are diminishing. The female teachers (males also) want to broaden their knowledge of activities which they have not experienced (football, handball, team hand-
ball, and a few wrestling). The evidence supported the proposition that both men and women physical educators desire to learn about different activities for improving their teaching efficiency. Modern trends and occurrences in physical education and athletics appear supportive of the proposition. Inservice education activities in the form of skill workshops and clinic (coeducational and some separate) should provide the impetus with self-directed efforts toward change.

Hypothesis 6

There was a significant relationship between professional aspects and selected variables. The significant and meaningful relationships at or beyond the .01 level have been summarized and reported in Chapter IV. The relationships between the twelve factors (including relationships with each other) and the selected variables (including those items relating to self-improvement activities) indicate that there are many strong relationships which should be specifically identified and assessed by investigating the cross-tabulations in this study. Generally each factor had significant intercorrelations with each other and with selected self-improvement variables. Also, each self-improvement variable had significant relationships with each other. The evidence indicated that certain professional aspects (especially teaching level, educational level, number of years teaching, age, and school district type)
are strongly associated with one's professional activities which may contribute to change (inservice activities, courses taken, memberships, subscriptions, and publications). The associations in respect to interests suggested clues for indicating needs which might be employed in inservice education decision making. A prediction formula for inservice education needs might include some combination of the following variables: age, sex, number of years teaching, educational level, teaching responsibilities and/or duties, memberships, and inservice activities attended. A multiple-regression analysis program should be completed for possible application as an inservice education needs equation.

**Hypothesis 7**

There was a significant relationship between the teaching responsibility in a particular activity and the inservice level of importance for that activity. Generally a high percentage response in teaching responsibility was directly related to a high importance level for that activity; a low percentage response percentage produced a low importance level. The relationship seemed verified in 18 of the 21 activities considered significant. Most activities with low "No" percentages in teaching responsibility had a "no importance" percentage above 30 which supported the generalization. Activities with 60-40 and 40-60 splits (plus or minus 10 percentage points) had a combined percentage rating of 35-65 in the "critical and
most importance" categories with the exception of baseball and wrestling. Most activities (13 out of 15 including the activities significant in "No" teaching responsibility) had a combined "CI and MI" category percentage below 35 with the exceptions of martial arts and outdoor pursuits. Therefore, by induction based on inspection and percentage analysis, the proposition is supported as a significant relationship. In toto, there were 21/38 activities considered significant in one or both response columns.

Hypothesis 8

There was a significant relationship between in-service education and change as a theoretical base for a model as indicated by the literature review and selected findings. As defined in this study, change is the improvement and/or maintenance of quality teaching performance. It is a theoretical concept, involved with adaptation to something different or new and concerned with the teaching behavior of physical educators. Inservice education has been defined as an organized effort to provide educational experiences that contribute to the professional or occupational growth and competence of members of the physical education instructional staff during the time of their service to the school system or school. It implies a continuous program of self-development throughout one's professional career. The literature and research cited in Chapter II supported the proposition that inservice edueca-
tion can and does positively and significantly affect change.

The positive responses in the recognition that inservice education should be a powerful force for facilitating change suggests agreement with the relationship. The relationship among the variables has to be established or proven. The change proposition has been initiated in that the relationships between the inservice education needs and selected variables have been tested and verified by the hypotheses and findings of this study. Therefore, the primary step in the formulation of a theoretical model has been established. The propositions for a model based on the change elements need to be examined and proven. If the set of propositions are interrelated (a proposition taken to mean a verified statement of relationship between variables), the testing of the theoretical model may begin.¹ This study has attempted to initiate the primary step by the needs assessment of the elementary and secondary school physical educators of Ohio.

RECOMMENDATIONS

Based on the conclusions of and the evidence presented in this study, the following recommendations are

¹Forcese and Richer, "Models, Hypotheses, and Theory," Social Research Methods, pp. 37-51. This discussion was based on information obtained from the chapter cited.
made to provide impetus for possible improvements in the professional development programs for elementary and secondary school physical educators of Ohio.

1. More emphasis should be placed on intensifying inservice education efforts for physical education in an effective and coordinated manner throughout the State of Ohio, whereby greater depth, continuity, direction, accessibility, and participation may be realized.

2. Programs employing all locations and formats should be implemented and/or improved. Programs should be carefully screened and assessed for insuring that contemporary needs are being met.

3. Leadership in the development and implementation of the inservice model should be provided in cooperation and in conjunction with school personnel from the State Department (all divisions in general and the HPER Section in particular), geographical areas, school systems, or a particular school. Programs and the leadership for their development and conduct should be initiated and sustained by the constituents involved in the specific activities. Change agents/teacher facilitators in physical education should be trained and should function as inservice education coordinators in each school district.

4. The Physical Education Division of The Ohio State University's School of Health, Physical Education, and Recreation (also in conjunction with the College of Education's Committee) should be cooperatively involved in meeting the inservice education needs of Ohio's elementary and secondary school physical educators and in fulfilling an active roll in the inservice education function.

5. Programs should incorporate teacher centered, material oriented, and job related approaches. All formats and locations should be accessible in order that the inservice design has these components: self-choice, alternative options, active learning, evaluation procedures, and feedback for teachers.

6. The conclusions of the Fox-Foley Report have been verified and its recommendations are endorsed in respect to physical education teachers. Selected practices and models have been suggested in this study which might be applied. Released time formats, adequate funding, short term activities, equal opportunity, and credit forms are recommended as part of the total design. The existing
structural organization of the Ohio Department of Educa-
tion redesign and renewal program should be modified and
integrated with allowances for flexibility and specificity
for school district needs. The 52 teacher education in-
stitutions, the 12 higher education institutions which
offer a master's degree in physical education, the 9 or
more regional centers of the State Department, and the
617 school districts of Ohio should each have some func-
tion.

7. A credit consortia with the 12 universities
and colleges offering a master's degree in physical edu-
cation should be developed along with geographically
located professional growth centers for physical educa-
tion. Credits for alternative forms of professional
development activities should be determined and integrated
with traditional graduate credits for enabling teacher
growth and development while being employed. The premium
should be placed on continuous professional development
throughout one's teaching career and should be required as
supplementary means for change in addition to advanced
degrees. Another form of graduate education would be de-
veloped and integrated with the traditional mode.

8. A primary and important step for the implementa-
tion and improvement of inservice education should involve
some form of needs assessment in order that planned change
and its activities may be aimed at the professional needs
and problems of the individuals involved. Such variables
as age, teaching level, sex, number of years teaching, in-
service or educational activities experienced, memberships,
and other factors might be utilized as possible needs pre-
dictors for a school district.

9. Further research is recommended and should address
the following possibilities:

a. Experimental research in the evaluation
of selected inservice education pro-
grams and the effect on change (improving
teaching performance) in physical educa-
tion teachers.

b. Continued investigations in the needs
assessment of all constituencies
(teachers, students, and administrators)
involved in a geographical area or school
system for evaluating pre-and post-test
treatments in the respective behaviors of
the groups.

c. Needs assessment analysis of a cluster
sample for identification and implementation of inservice education activities in physical education; i.e., a school district, combination of districts, or a geographical area.

d. Additional studies for refining and validating this instrument for possible future use. Would another sample generate similar results?

e. Needs assessment analysis of selected subgroups in physical education and athletics; i.e., administrators, specific teaching specialties, coaches, athletic directors, athletic trainers, paraprofessionals, and inactive teachers who are returning to teaching or seeking certification.

f. Descriptive and prescriptive studies for the development of models and efficacy studies for evaluating them.

g. Cost analyses studies on the economics of inservice education models and formats. What are the costs of such programs, what are the results, and how do they compare in terms of the planning approach?

h. Prescriptive studies on feedback to pre-service from inservice education problems and vice versa.

i. Socio-psychological studies on the behaviors of selected types of teachers (the experienced versus the inexperienced, the effective versus the ineffective, and others) and the determinants/effects of selected constituencies upon teacher performance (administrators, teachers, or students as change agents or causes for specific behavior).

j. Behavioral modification studies on the performance effects of selected modifiers; i.e., a study of student influence on teaching behavior or of student behavior as modifier for teacher performance.

In view of the findings of this study and the review
of the literature, it would appear that physical educators must no longer rely on investigations outside of the field for inservice education knowledge and research. Physical educators interested in change (improving and/or maintaining quality teaching performance) could add much needed knowledge to this area through socio-psychological analyses of teacher behavior.
APPENDIX A

LETTERS REQUESTING PARTICIPATION
IN THE PILOT STUDY AND
THE FINAL STUDY
A Letter to Ohio Physical Educators:

The need for in-service education for public and private school teachers has been a concern for many years. In the present educational setting, the need for staff development for the purpose of upgrading the quality of teaching has increased dramatically and will play a key role in future educational development. The School of Health, Physical Education, and Recreation is endeavoring to identify the physical education areas of greatest concern to school systems, and physical educators which might be explored through some form of in-service education. If these concerns can be pinpointed and defined, the School is interested in determining the best method(s) for staff development and ultimately offering meaningful in-service programs.

The Physical Education Division of the School of Health, Physical Education, and Recreation at The Ohio State University is sponsoring this needs assessment research among Ohio physical educators to help define the nature of the need for in-service education in the state. A meaningful program will respond to the needs of the teachers and their problems which they perceive are most important. Thus, it is input from school personnel which will serve as the basis for conceptualizing and structuring an in-service effort.

For the purpose of this study, “in-service education” has been defined as follows: an organized effort to provide educational experiences that contribute to the professional or occupational growth and competence of members of the physical education instructional staff during the time of their service to the school system or school. It implies a continuous program of self-development throughout one’s professional career. Among these activities are workshops, demonstrations, seminars, study groups, clinics, courses for credit, conferences, practicums, observations, visitations, self-instructional materials and modules, and others.

A sample of teachers from randomly selected school districts and schools of the five geographical districts, has been selected to be polled for this needs assessment. Teachers from elementary, middle, junior, and senior high schools are included. Your name has been chosen as one from a sample list of schools from each of the five districts.

We would appreciate your cooperation in completing the enclosed pilot instrument and returning it to the School of Health, Physical Education, and Recreation as soon as possible. An envelope is enclosed for your convenience.

With thanks for your cooperation,

Sincerely yours,

Edward Coates, Ph.D.
Dissertation Adviser

Jerry Acanfora, M.Ed.
Ph.D. Candidate

School of Health, Physical Education, and Recreation
332 West 17th Avenue
Columbus, Ohio 43210
Phone (614) 422-2504
THE OHIO STATE UNIVERSITY
February 5, 1975

Dear Colleague:

The Physical Education Division of the School of Health, Physical Education, and Recreation at The Ohio State University is very interested in developing and promoting inservice education activities for Ohio's elementary and secondary school physical educators. This questionnaire is designed to ascertain your needs and interests so that programs may be initiated which will be most beneficial to you and your school system. A meaningful program will respond to the needs of the teachers and their problems which they perceive are most important. Thus, it is input from school personnel which will serve as the basis for conceptualizing and structuring an inservice effort. The value of this survey and the worth of its findings are dependent on your cooperation and willingness in answering the questionnaire. We believe that the importance of the study will justify the time you give it.

For the purpose of this study, "inservice education" has been defined as follows: an organized effort to provide educational experiences that contribute to the professional or occupational growth and competence of members of the physical education instructional staff during the time of their service to the school system or school. It implies a continuous program of self-development throughout one's professional career. Among these activities are workshops, demonstrations, seminars, study groups, clinics, courses for credit, conferences, practica, observations, visitations, self-instructional materials and modules, and others.

A stratified randomly selected sample of physical educators from the current state department list of certificated individuals from each of the five geographical areas of Ohio has been selected to be polled for this needs assessment. Teachers from elementary, middle, junior, and senior high schools are included. Your name has been chosen as one from the sample list of teachers from the school districts of Ohio.

We would appreciate your cooperation in completing the enclosed questionnaire and returning it to the School of Health, Physical Education, and Recreation as soon as possible. An envelope is enclosed for your convenience. We assure you that your answers will be held in confidence. The results of the study will be reported in an appropriate manner.

Thank you for your cooperation!

Sincerely yours,

Jerry Ascenfora
Jerry Ascenfora, M.Ed.
Ph.D. Candidate

Edward Castles
Castles, Ph.D.
Dissertation Advisor

Charles H. Hurd
Charles H. Hurd, Ph.D.
Physical Education
Division Chairman

The Ohio State University
School of Health, Physical Education, and Recreation
337 West 17th Avenue
Columbus, Ohio 43210
Phone (614) 688-2504
APPENDIX B

QUESTIONNAIRE USED IN THE STUDY
QUESTIONNAIRE: INSERVICE NEEDS ASSESSMENT OF OHIO ELEMENTARY AND SECONDARY SCHOOL PHYSICAL EDUCATORS

MARKING INSTRUCTIONS

Your cooperation in answering this questionnaire will be greatly appreciated. Please circle the number of the response that best represents you or your situation. Your careful observance of these simple rules will be most helpful.

Use a pencil.
Circle the number of the response that best represents you. Erase completely any answer you wish to change.
Comment or indicate any information or items you feel might be helpful in the margin or space provided.
Circle all that apply where indicated.

PRESENT POSITION AND RESPONSIBILITY

1. What is(are) your teaching responsibility(responsibilities)?
   1 Physical Education only
   2 Physical Education and Health
   3 Physical Education and Intramurals
   4 Physical Education and Athletic Director
   5 Physical Education and other subject(s)
   6 Other

2. At what level do you teach?
   1 Elementary
   2 Middle School
   3 Junior High

3. Whom do you teach?
   1 Boys only
   2 Girls only
   3 Co-ed classes only
   4 Separate and Co-ed classes
   5 Other

4. What percentage of your total teaching load is devoted to physical education teaching?
   1 0-25%
   2 26-50%
   3 51-75%
   4 76-89%
   5 90-99%
   6 100%

5. How many sports do you coach during the school year?
   1 None
   2 One
   3 Two
   4 Three
   5 Four

6. What was the last year that you coached?
   1 Never coached
   2 This year
   3 1970-1973
   4 1965-1969
   5 1960-1964
   6 1959-or before

7. How many years have you been employed at this school?
   1 1 year or less
   2 2-5 years
   3 6-12 years
   4 13-19 years
   5 20 years or over

8. Are you tenured?
   1 Yes
   2 No
   3 Uncertain
   4 Tenure is not given in our school district

9. How is the physical education department in your school organized?
   1 Ken and Women separate with no chairperson
   2 Ken and Women separate with one chairperson
   3 Ken and Women separate with one chairperson for each
   4 Co-Educational with no chairperson
   5 Co-Educational with one chairperson
   6 Other (elementary or other situation not appropriate for departmental organization)

10. Is the physical education program in your school elective or required?
    1 Elective only
    2 Required only
    3 Combination of elective and required

11. Roughly how many regular, full-time faculty members does your school have this year in physical education?
    1 1 only—you
    2 2-3
    3 4-6
    4 7 or more

12. How is the chairperson of your department selected/appointed?
    1 Selected by administration
    2 Elected from among members
    3 No chairperson
    4 Other
13-17. What types of cooperative relationships does your school have with any college or university center or program? (Mark all that apply.)

<table>
<thead>
<tr>
<th>Type of Cooperative Relationship</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>13. None</td>
<td></td>
</tr>
<tr>
<td>14. Student teachers</td>
<td></td>
</tr>
<tr>
<td>15. Student aids</td>
<td></td>
</tr>
<tr>
<td>16. Field experience</td>
<td></td>
</tr>
<tr>
<td>17. Other (please specify)</td>
<td></td>
</tr>
</tbody>
</table>

18. How do you rate your teaching effectiveness?

<table>
<thead>
<tr>
<th>Rating</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very effective</td>
<td>1</td>
</tr>
<tr>
<td>Fairly effective</td>
<td>2</td>
</tr>
<tr>
<td>Effective</td>
<td>3</td>
</tr>
<tr>
<td>Need to be more</td>
<td>4</td>
</tr>
</tbody>
</table>

19. If you were to begin your career again, would you still want to be a physical education teacher?

<table>
<thead>
<tr>
<th>Answer</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Definitely yes</td>
<td>1</td>
</tr>
<tr>
<td>Probably yes</td>
<td>2</td>
</tr>
<tr>
<td>Definitely no</td>
<td>3</td>
</tr>
<tr>
<td>Uncertain</td>
<td>4</td>
</tr>
</tbody>
</table>

20. Do you have a second responsibility or position which would limit your in-service attendance and/or possibilities?

<table>
<thead>
<tr>
<th>Responsibility</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>1</td>
</tr>
<tr>
<td>No</td>
<td>2</td>
</tr>
<tr>
<td>Uncertain</td>
<td>3</td>
</tr>
</tbody>
</table>

Educational Background and Professional Experiences

<table>
<thead>
<tr>
<th>Response</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Most aptly describes you</td>
<td>1</td>
</tr>
</tbody>
</table>

21. From what type of college did you obtain your bachelor's degree?

<table>
<thead>
<tr>
<th>Type of College</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>A state supported university</td>
<td>1</td>
</tr>
<tr>
<td>A state supported college</td>
<td>2</td>
</tr>
<tr>
<td>A private university</td>
<td>3</td>
</tr>
<tr>
<td>A private college</td>
<td>4</td>
</tr>
<tr>
<td>Other</td>
<td>5</td>
</tr>
</tbody>
</table>

22. What educational level have you attained?

<table>
<thead>
<tr>
<th>Level</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than Bachelor's degree</td>
<td>1</td>
</tr>
<tr>
<td>Bachelor's degree</td>
<td>2</td>
</tr>
<tr>
<td>Bachelor's + 30 credits or more</td>
<td>3</td>
</tr>
<tr>
<td>Master's degree</td>
<td>4</td>
</tr>
<tr>
<td>Master's + 30 credits or more</td>
<td>5</td>
</tr>
<tr>
<td>Ph.D., Ed.D., P.E.D. (Doctorate)</td>
<td>6</td>
</tr>
</tbody>
</table>

23. What was your undergraduate major?

<table>
<thead>
<tr>
<th>Major</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical education</td>
<td>1</td>
</tr>
<tr>
<td>Physical education and health</td>
<td>2</td>
</tr>
<tr>
<td>Physical education and recreation</td>
<td>3</td>
</tr>
<tr>
<td>Physical education, health, and recreation</td>
<td>4</td>
</tr>
<tr>
<td>Recreation</td>
<td>5</td>
</tr>
<tr>
<td>Other (please specify)</td>
<td>6</td>
</tr>
</tbody>
</table>

24. In what year did you obtain your highest degree?

<table>
<thead>
<tr>
<th>Year</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>1960 or before</td>
<td>1</td>
</tr>
<tr>
<td>1961-1969</td>
<td>4</td>
</tr>
<tr>
<td>1970 or later</td>
<td>6</td>
</tr>
<tr>
<td>1950-1959</td>
<td>3</td>
</tr>
</tbody>
</table>

25. How many years have elapsed between obtaining your bachelor's degree and your highest degree?

<table>
<thead>
<tr>
<th>Years</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-3</td>
<td>1</td>
</tr>
<tr>
<td>4-9</td>
<td>2</td>
</tr>
<tr>
<td>10 years or over</td>
<td>3</td>
</tr>
</tbody>
</table>

26. How many years have you been teaching?

<table>
<thead>
<tr>
<th>Years</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 year or less</td>
<td>1</td>
</tr>
<tr>
<td>2-5 years</td>
<td>2</td>
</tr>
<tr>
<td>6-12 years</td>
<td>3</td>
</tr>
<tr>
<td>13-19 years</td>
<td>4</td>
</tr>
<tr>
<td>20 years or over</td>
<td>5</td>
</tr>
</tbody>
</table>

27. How many courses have you taken during the past two years?

<table>
<thead>
<tr>
<th>Courses</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>1</td>
</tr>
<tr>
<td>1-3</td>
<td>2</td>
</tr>
<tr>
<td>4-6</td>
<td>3</td>
</tr>
<tr>
<td>7-9</td>
<td>4</td>
</tr>
<tr>
<td>10 or more</td>
<td>5</td>
</tr>
</tbody>
</table>

28. Are you a member of any of the following organizations? (Mark all that apply.)

<table>
<thead>
<tr>
<th>Organization</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>American Alliance of Health, Physical Education, and Recreation (AAHPER)</td>
<td>26</td>
</tr>
<tr>
<td>Ohio Association of Health, Physical Education, and Recreation (PHAER)</td>
<td>27</td>
</tr>
<tr>
<td>National Education Association (NEA)</td>
<td>31</td>
</tr>
<tr>
<td>Ohio Teachers Association (OTA)</td>
<td>32</td>
</tr>
<tr>
<td>Ohio High School Athletic Association (OHSHA)</td>
<td>33</td>
</tr>
<tr>
<td>National Coaching Association (NCA)</td>
<td>34</td>
</tr>
<tr>
<td>Local or state association or union of teachers</td>
<td>35</td>
</tr>
<tr>
<td>Association limited to teachers at your institution</td>
<td>36</td>
</tr>
</tbody>
</table>

29. How many academic or professional journals do you subscribe to?

<table>
<thead>
<tr>
<th>Journals</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>1</td>
</tr>
<tr>
<td>1-2</td>
<td>2</td>
</tr>
<tr>
<td>3-4</td>
<td>3</td>
</tr>
<tr>
<td>5-6</td>
<td>4</td>
</tr>
<tr>
<td>7 or more</td>
<td>5</td>
</tr>
</tbody>
</table>

30. How many articles or other publications have you had published in academic or professional journals?

<table>
<thead>
<tr>
<th>Publications</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>1</td>
</tr>
<tr>
<td>1-2</td>
<td>2</td>
</tr>
<tr>
<td>3-4</td>
<td>3</td>
</tr>
<tr>
<td>5-6</td>
<td>4</td>
</tr>
<tr>
<td>7 or more</td>
<td>5</td>
</tr>
</tbody>
</table>

31. Do your interests lie primarily in teaching or coaching?

<table>
<thead>
<tr>
<th>Interests</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very heavily in teaching</td>
<td>1</td>
</tr>
<tr>
<td>In both, but leaning toward teaching</td>
<td>2</td>
</tr>
<tr>
<td>In both, but leaning toward coaching</td>
<td>3</td>
</tr>
<tr>
<td>Very heavily in coaching</td>
<td>4</td>
</tr>
</tbody>
</table>
40. How many inservice education activities in physical education have you attended last year?
1 None  4 8-13
2 1-3  5 14 or more
3 4-7

41. Does your school or school system provide any inservice education activities in physical education as part of a school or district-wide program?
1 Yes  3 Uncertain
2 No

42. How do you rate inservice education programs in physical education which you have experienced?
1 Excellent generally  4 Poor generally
2 Good generally  5 Undecided
3 Fair generally

43. Do you feel that inservice education should be a powerful force for facilitating change (improving and/or maintaining quality teaching performance) in physical education?
1 Yes  3 Undecided
2 No

School Information
Please indicate the response which best describes your situation by circling the appropriate number.

44. School District Type
1 City  4 Non-Public
2 Exempted Village  5 State Supported or Special purpose
3 Local

45. School Location
1 Northeast Ohio  4 Southeast Ohio
2 Northwest Ohio  5 Southwest Ohio
3 Central Ohio

46. What budget provision does your school system make for inservice education?
1 Budget item for program only
2 Budget item for program and reimbursement
3 Reimbursement only (including tuition remission or credit)
4 Released time only
5 No provisions
6 Other (specify)

47. School Type
1 Senior High (Grades 10-12 or 9-12)
2 Junior High (Grades 7-9 or 7-8)
3 Middle School (Grades 5-8) (6-8)
4 Elementary School (Grades K-6) (K-8)
5 Other (please specify)

48. Location of your school
1 Urban  4 Small city
2 Urban-Inner City  5 Town or Village
3 Suburban  6 Rural

49. Where is your residence located?
1 City  4 Small city
2 Inner City  5 Town or Village
3 Suburb  6 Rural

50. How many miles do you travel to school (one way)?
1 0-2  4 11-15
2 3-5  5 16 or more
3 6-10

Background Information
51. What was your age as of your last birthday?
1 Under 25  4 40-49
2 26-29  5 50 or over
3 30-39

52. What is your marital status?
1 Married  3 Single
2 Separated/Divorced  4 Widowed

53. How many dependent children do you have?
1 None  3 Two
2 One  4 Three or more

54. What is your sex?
1 Female  2 Male

55. What is your race?
1 White/Caucasian
2 Black/African-American
3 Oriental-American
4 Chicano/Mexican-American/Spanish-American
5 Other
### INSERVICE EDUCATION TOPICS

Please rate in importance the following topics which must represent your own needs for inservice education.

<table>
<thead>
<tr>
<th>CR</th>
<th>NI</th>
<th>U</th>
<th>LI</th>
<th>NT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

1. Critical importance (CI)
2. Major importance (MI)
3. Undecided or neutral (U)
4. Little importance (LI)
5. No importance (NI)

56-76, Selected topics: Organization and Administration Topics

<table>
<thead>
<tr>
<th>CR</th>
<th>NI</th>
<th>U</th>
<th>LI</th>
<th>NT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

56. Organizational patterns for physical education

1. Guidelines for administrative planning

57. Administration of the total school physical education program

58. Curriculum organization and development

59. Administrative theory and its application to physical education

60. Public relations, school-community relations

61. Human relations

62. Organization of the instructional class

63. Classroom management and control

64. Administrative control of interscholastic athletics - Colle High School Athletic Association - National Federation - NCAA

65. Title IX Implications for physical education

66. Administration of the State Department of Health, Physical Education, and Recreation - an overview

67. Budget systems and management

68. Legal aspects and liability

69. Facilities planning

70. Purchase and care of equipment and supplies

71. Title IX implications for physical education

72. Implementation of newly initiated/ emphasized sports

73. Leadership in the P.E. Department

74. Initiating change or new programs

75. Promoting Inservice Education

76. Differentiated Staffing and Procedures

77-80, For Coding Purposes Only
81-156. Activities

If skill workshops or clinics in the below listed activities were available as part of an inservice education program (covering skill development, strategies, rules/officiating, and methods/techniques of teaching) which would be important to you? Please rate in importance each of the following activities which best represents your own PERSONAL NEEDS for inservice education by responding in each column. Rate the second column according to the scale listed below:

1 Critical Importance (XI)
2 Major Importance (MI)
3 Undecided (U)
4 Little Importance (LI)
5 No Importance (NI)

<table>
<thead>
<tr>
<th>Activities</th>
<th>I. Any teaching responsibility?</th>
<th>II. Skills, Strategies, Methods/Techniques</th>
</tr>
</thead>
<tbody>
<tr>
<td>81-2. Aquatics-Water Games</td>
<td>1 2</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>83-5. Archery</td>
<td>1 2</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>85-6. Badminton</td>
<td>1 2</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>87-9. Basketball</td>
<td>1 2</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>92-99. Baseball</td>
<td>1 2</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>91-2. Bowling and Small Crafts</td>
<td>1 2</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>93-4. Bowling</td>
<td>1 2</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>95-6. Conditioning, Individual Development, Weight Training</td>
<td>1 2</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>97-8. Dance</td>
<td>1 2</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>99-100. Fishing</td>
<td>1 2</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>101-3. Field Hockey</td>
<td>1 2</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>105-6. Golf</td>
<td>1 2</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>107-9. Gymnastics, Tumbling, Apparatus</td>
<td>1 2</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>109-10. Handball</td>
<td>1 2</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>111-12. Ice Hockey</td>
<td>1 2</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>115-16. Lifesaving</td>
<td>1 2</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>117-18. Martial Arts-Judo, Karate, Self-Defense</td>
<td>1 2</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>119-20. Movement Education</td>
<td>1 2</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>121-22. Outdoor Pursuits-Camping, Cycling, Hiking, and Backtracking, and Others</td>
<td>1 2</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>123-34. Perceptual Motor Development</td>
<td>1 2</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>125-35. Physical Fitness, Aerobics</td>
<td>1 2</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>127-28. Racquet Games-Paddleball, Squash, Table Tennis</td>
<td>1 2</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>129-30. Skin and Scuba Diving</td>
<td>1 2</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>131-32. Soccer</td>
<td>1 2</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>133-34. Softball</td>
<td>1 2</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>135-35. Special Activities-Adapted P.E.</td>
<td>1 2</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>137-38. Special Activities-Elementary P.E.</td>
<td>1 2</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>139-40. Special Games-Floor Hockey, Speedball</td>
<td>1 2</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>141-42. Swimming and Diving</td>
<td>1 2</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>143-44. Tennis</td>
<td>1 2</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>147-48. Track and Field</td>
<td>1 2</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>149-50. Volleyball</td>
<td>1 2</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>151-52. Winter Activities-Skating, Skiing</td>
<td>1 2</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>153-54. Wrestling</td>
<td>1 2</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>155-56. Yoga and Relaxation Activities</td>
<td>1 2</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>157-60. For Coding Purposes Only</td>
<td>-OVER-</td>
<td></td>
</tr>
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</table>
### 161. Curriculum and Instruction Topics

<table>
<thead>
<tr>
<th>CT</th>
<th>MT</th>
<th>U</th>
<th>LX</th>
<th>NT</th>
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<tr>
<td>1 2 3 4 5</td>
<td>1</td>
<td>Curriculum development</td>
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<tr>
<td>1 2 3 4 5</td>
<td>2</td>
<td>Teaching strategies and methodology</td>
<td></td>
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</tr>
<tr>
<td>1 2 3 4 5</td>
<td>3</td>
<td>Teaching innovations</td>
<td></td>
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</tr>
<tr>
<td>1 2 3 4 5</td>
<td>4</td>
<td>Use of media and technology</td>
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</tr>
<tr>
<td>1 2 3 4 5</td>
<td>5</td>
<td>Use of instructional materials</td>
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<td>1 2 3 4 5</td>
<td>6</td>
<td>Individualized instruction</td>
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</tr>
<tr>
<td>1 2 3 4 5</td>
<td>7</td>
<td>Contract teaching and contingency management</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 2 3 4 5</td>
<td>8</td>
<td>Maximum utilization of staff</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 2 3 4 5</td>
<td>9</td>
<td>Use of community resources</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 2 3 4 5</td>
<td>10</td>
<td>Taking equipment and teaching materials</td>
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### 162. Evaluation of

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>1 2 3 4 5</td>
<td>11</td>
<td>Programs</td>
<td></td>
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<tr>
<td>1 2 3 4 5</td>
<td>12</td>
<td>Teachers</td>
<td></td>
<td></td>
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<tr>
<td>1 2 3 4 5</td>
<td>13</td>
<td>Instruction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 2 3 4 5</td>
<td>14</td>
<td>Students</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 2 3 4 5</td>
<td>15</td>
<td>Teaching materials and media</td>
<td></td>
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</tr>
<tr>
<td>1 2 3 4 5</td>
<td>16</td>
<td>Tests</td>
<td></td>
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<tr>
<td>1 2 3 4 5</td>
<td>17</td>
<td>Grading and marking procedures</td>
<td></td>
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<tr>
<td>1 2 3 4 5</td>
<td>18</td>
<td>Equipment and supplies</td>
<td></td>
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</tr>
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<td>1 2 3 4 5</td>
<td>19</td>
<td>Physical fitness and measurement of</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 2 3 4 5</td>
<td>20</td>
<td>Research</td>
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<td></td>
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</tbody>
</table>

### 163. Programs

<table>
<thead>
<tr>
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<th>U</th>
<th>LX</th>
<th>NT</th>
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</thead>
<tbody>
<tr>
<td>1 2 3 4 5</td>
<td>21</td>
<td>Co-educational programs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 2 3 4 5</td>
<td>22</td>
<td>Elementary P.E. programs-importance, implementation, and practices of</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 2 3 4 5</td>
<td>23</td>
<td>Middle school programs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 2 3 4 5</td>
<td>24</td>
<td>Lifetime sports programs</td>
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</tr>
<tr>
<td>1 2 3 4 5</td>
<td>25</td>
<td>Intramural programs</td>
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</tr>
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<td>1 2 3 4 5</td>
<td>26</td>
<td>Recreational programs</td>
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<td></td>
</tr>
<tr>
<td>1 2 3 4 5</td>
<td>27</td>
<td>Adapted physical education programs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 2 3 4 5</td>
<td>28</td>
<td>Outdoor education programs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 2 3 4 5</td>
<td>29</td>
<td>Innovative activities and programs</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 164. General Physical Education Topics

<table>
<thead>
<tr>
<th>CT</th>
<th>MT</th>
<th>U</th>
<th>LX</th>
<th>NT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3 4 5</td>
<td>30</td>
<td>Body management programs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 2 3 4 5</td>
<td>31</td>
<td>Interval training activities and programs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 2 3 4 5</td>
<td>32</td>
<td>Community resources and their utilization in P.E. programs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 2 3 4 5</td>
<td>33</td>
<td>Elementary and junior school athletic programs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 2 3 4 5</td>
<td>34</td>
<td>Senior high school athletic programs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 2 3 4 5</td>
<td>35</td>
<td>Other (please specify)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### INSERVICE PREFERENCES AND POSSIBILITIES

Please indicate your agreement or disagreement with each of the following statements.

- 1 Strongly agree
- 2 Agree
- 3 Undecided
- 4 Disagree
- 5 Strongly disagree

#### 165. Interests in Physical Education Inservice Programs

<table>
<thead>
<tr>
<th>SA</th>
<th>AU</th>
<th>RD</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3 4 5</td>
<td>48</td>
<td>I would be interested in attending an inservice education program if it were presented at the proper time and place.</td>
<td></td>
</tr>
</tbody>
</table>
167. **Format for conducting inservice education.**

**KINDLY RATE EACH ITEM BY INDICATING YOUR AGREEMENT OR DISAGREEMENT FOR INSERVICE EDUCATION IN THE FOLLOWING FORMATS:**

<table>
<thead>
<tr>
<th>SA A U D SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>60. Night course</td>
</tr>
<tr>
<td>61. Summer school course</td>
</tr>
<tr>
<td>62. Workshop (1-2 weeks)</td>
</tr>
<tr>
<td>63. Clinic (1-2 days)</td>
</tr>
<tr>
<td>64. System or district-wide session with a consultant or specialist</td>
</tr>
<tr>
<td>65. Short conferences at or near my school (2-5 hrs.)</td>
</tr>
<tr>
<td>66. Self-instructional resource/reading module (materials)</td>
</tr>
<tr>
<td>67. Self-instructional module</td>
</tr>
</tbody>
</table>

168. **Preferences for Inservice Education Activities**

<table>
<thead>
<tr>
<th>SA A U D SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>71. I would prefer to attend the university or college nearest my home for inservice education.</td>
</tr>
<tr>
<td>72. I would prefer to travel 20 miles or less for inservice education activities.</td>
</tr>
<tr>
<td>73. I would prefer to attend short term activities for inservice education.</td>
</tr>
<tr>
<td>74. I would prefer to attend inservice education activities if they were considered credits toward advanced degrees and professional growth credits.</td>
</tr>
<tr>
<td>75. I would prefer to participate in inservice education activities which meet my needs and professional problems.</td>
</tr>
<tr>
<td>76. I would prefer to select my inservice education activities from the many possible options, but with the realization that change (improving and/or maintaining quality teaching performance) is a process which should continue throughout my professional career.</td>
</tr>
</tbody>
</table>

**77-80. For coding purposes only**

**THESE ARE NOT TO BE CROSSED OUT OR ALTERED**

**If you have any comments or suggestions which might be helpful for this study, will you please indicate them in the space provided on the reverse side of this page.**

Jerry Acanfora
The Ohio State University
Physical Education-337 W. 17th Avenue
Columbus, Ohio 43201
APPENDIX C

REQUEST FOR INFORMATION
FROM STATE DEPARTMENT
INFORMATION REQUEST

Date: 1/5/75

1. Requesting Individual and/or Agency:
   a. Name, Title - Jerry Acanfora, Graduate Teaching Associate at The Ohio State University.
   b. Address - Physical Education, 337 W. 17th Avenue, Columbus, Ohio 43210
   c. Phone No. (Include area code) - 614-422-7237

2. Description of Request:
   a. Nature of Information Desired - The names and addresses of elementary and secondary school physical educators of Ohio are desired. The tentative sample as indicated in Sample Desired in requested. A questionnaire will be sent to determine the inservice education needs assessment of the population. Sample Desired: A stratified randomly selected sample of elementary and secondary school physical educators from the current state department list of certificated individuals from each of the five geographical areas of Ohio. A random selection of names (every 5th or approximately 20% of the target population).
   b. Medium Desired (address labels, listing, etc.) - 1. a list of the names and addresses of the sample, 2. address labels and possibly follow-up labels.

3. Purpose: State the specific purpose for the requested information.
   The sample will be utilized to represent the population of elementary and secondary school physical educators of Ohio. A questionnaire for determining the inservice education needs assessment of said physical educators will be sent to each individual of the sample. Selected individuals from selected areas of district may be interviewed as part of the study. The study in being conducted to complete the dissertation requirements for the Ph.D.

* Continued on back. (Over)
* from each level—elementary, middle, junior, and senior high school teachers from each county of each geographical area. (Possibly every 5th from the female and male listing of teachers, if the cost is reasonable.)

4. Certification of User:

"I certify that the information requested above will be used exclusively for the purpose(s) stated above, and that I will not transfer the information to another party or to another computerized data system."

Signature: [Signature]

Title: [Title]

Associate, The Ohio State University

5. Mailing Contents:

If the above information is to be used for mailing purposes, please enclose a complete copy of the contents of such mailing. A cover letter and pilot questionnaire with some changes are enclosed. The final questionnaire is being developed from the pilot.

6. Return Address:

Please return this completed request form and any enclosures to the following address:

Dan L. Brown, Chief
Statistical Reports Section
Division of Computer Services and Statistical Reports
Ohio Department of Education
400 S. Front Street
Columbus, Ohio 43215

7. For Ohio Department of Education Use Only:

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________
APPENDIX D

STATISTICS INCLUDED IN THE SPSS PROGRAMS USED
APPENDIX D

STATISTICS INCLUDED IN THE SPSS PROGRAMS USED

PROGRAM 1-1

Codebook Variables 001 to 228
Statistics All-included

- Mean
- Standard Deviation
- Mode
- Skewness
- Kurtosis
- Median
- Minimum
- Variance
- Maximum
- Range
- Standard Error

Also included for each variable --

- Value
- Absolute Frequency
- Relative Frequency (percent)
- Adjusted Frequency (percent)
- Cumulative Frequency (percent)

PROGRAM 1-2

Crosstabs-for Results of Question #1
Crosstabs-Variable 001 by Variable 013 to Variable 185 (for all 12 selected factors)

Statistics 1 -- included printout of two-way crosstabs with count, row percent, column percent, and total percent for each cell. Also row, column, and total percents for table. Chi-square with its degrees of freedom and significance level.

PROGRAM 2

Crosstabs-Geographical location by OSU to school site
Geographical location by OSU to school site by night course to self-instructional module

Statistics 1 -- produced 2-and 3-way crosstabulation tables with data as listed in 1-2 for each control value of the format variables.
APPENDIX D (continued)

PROGRAM 3

Non-Parametric Correlations Variables
001 to 084 with appropriate breakdown for computer capacity
APPENDIX E

SELECTED DATA STATEMENTS AND TABLES ON SIGNIFICANT CROSS-TABULATIONS
APPENDIX E

SELECTED DATA STATEMENTS AND TABLES
ON SIGNIFICANT CROSS-TABULATIONS

TEACHING LEVEL

Teaching Responsibility

Of the activities which proved significant, the following are taught mostly at the indicated level:

1. Elementary -- Basketball, Dance, Movement Education, Perceptual Motor Development, Special Activities -- Adapted P. E., Special Activities -- Elementary P. E.

2. Middle -- All of the above listed activities plus Conditioning, Bowling, Badminton.

3. Junior and Senior High -- Archery, Badminton, Basketball, Bowling, Conditioning, Golf, Tennis, Racquet Games, Tennis, Special Activities -- Adapted P. E.

Only a small number of respondents taught Boating and Small Crafts, Fencing, Swimming and Diving.

Level of Importance

Of the activities which proved significant in level of importance, the following are most important at the indicated level:

1. Elementary -- Dance, Movement Education, Perceptual Motor Development, Special Activities -- Adapted and Elementary P. E.; Bowling, Conditioning, Racquet Games, and Tennis were important to approximately one-fourth of the elementary teachers.

2. Middle -- All of the above listed activities were important plus Badminton, Tennis.

3. Junior and Senior High -- Archery, Badminton, Bowling, Conditioning, Golf, Special Activities -- Adapted P. E., Racquet Games,
APPENDIX E (continued)

Tennis, and Dance (female teachers).

Boating and Small Crafts, Fencing, and Swimming and Diving were important to a small percentage.
Table 19. TEACHING LEVEL TOPIC SUMMARY

<table>
<thead>
<tr>
<th>Selected Topic</th>
<th>Elementary</th>
<th>Middle</th>
<th>Junior</th>
<th>Senior</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Administrative Control of Interscholastic Athletics</td>
<td></td>
<td></td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2. Title IX Implications</td>
<td></td>
<td></td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>3. Implementing Newly Initiated/Emphasized Sports</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>4. Leadership in P. E. Department</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>5. Grading and Marking Procedures</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>6. Elementary P. E. Programs</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>7. Middle School Programs</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>8. Body Management Programs</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>9. Senior H. S. Athletic Programs</td>
<td></td>
<td></td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>10. Drug Use and Abuse</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>11. Physical Cond. - Heat Stress, Training Systems, Etc.</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>12. Girl's Competitive Sports</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

NOTE: The importance level of the topics have been rated 1 and 2 according to the following criteria: 1 = a combined percentage of 70 or above for that teaching level, 2 = a combined percentage of 50-69 for the specific teaching level. If a number is not indicated, it signifies that the topic is relatively unimportant at that teaching level.
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and the Area Movement for Educationally New Dimen­
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