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1970
A SURVEY OF TEACHERS' REACTIONS REGARDING UNIVERSITY AND PUBLIC SCHOOL CO-SPONSORED INSTRUCTIONAL ACTIVITIES

DISSERTATION

Presented in Partial Fulfillment of the Requirements for the Degree Doctor of Philosophy in the Graduate School of The Ohio State University

By

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The Ohio State University
1969

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Thanks also to my little girl, Sandi, for the sacrifices a child has to make while her father undertakes a doctoral program.
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# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACKNOWLEDGMENTS</td>
<td>11</td>
</tr>
<tr>
<td>VITA</td>
<td>111</td>
</tr>
<tr>
<td>LIST OF TABLES</td>
<td>vii</td>
</tr>
<tr>
<td>Chapter</td>
<td></td>
</tr>
<tr>
<td>I. INTRODUCTION</td>
<td>1</td>
</tr>
<tr>
<td>Background of The Problem</td>
<td>3</td>
</tr>
<tr>
<td>Statement of The Problem</td>
<td>5</td>
</tr>
<tr>
<td>Definitions of Terms</td>
<td>9</td>
</tr>
<tr>
<td>Design of The Study</td>
<td>10</td>
</tr>
<tr>
<td>Limitations of The Study</td>
<td>16</td>
</tr>
<tr>
<td>Significance of The Study</td>
<td>16</td>
</tr>
<tr>
<td>Organization of The Study</td>
<td>18</td>
</tr>
<tr>
<td>II. REVIEW OF LITERATURE</td>
<td>19</td>
</tr>
<tr>
<td>The Need for Cooperation</td>
<td>19</td>
</tr>
<tr>
<td>Examples of University-School Cooperation</td>
<td>27</td>
</tr>
<tr>
<td>Organizing for Cooperation</td>
<td>34</td>
</tr>
<tr>
<td>III. PRESENTATION OF FINDINGS</td>
<td>39</td>
</tr>
<tr>
<td>Review of The Procedures</td>
<td>39</td>
</tr>
<tr>
<td>Description and Characteristics of The Respondents</td>
<td>40</td>
</tr>
<tr>
<td>Analysis of The Survey Questions</td>
<td>45</td>
</tr>
<tr>
<td>Analysis of The Network Questions</td>
<td>97</td>
</tr>
<tr>
<td>Relationship of Data to Study Questions</td>
<td>106</td>
</tr>
<tr>
<td>IV. SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS</td>
<td>127</td>
</tr>
<tr>
<td>Summary</td>
<td>127</td>
</tr>
<tr>
<td>Conclusions</td>
<td>149</td>
</tr>
<tr>
<td>Recommendations</td>
<td>151</td>
</tr>
</tbody>
</table>
TABLE OF CONTENTS (Continued)

APPENDIX

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>154</td>
</tr>
<tr>
<td>B</td>
<td>158</td>
</tr>
<tr>
<td>C</td>
<td>172</td>
</tr>
<tr>
<td>D</td>
<td>174</td>
</tr>
<tr>
<td>BIBLIOGRAPHY</td>
<td>177</td>
</tr>
<tr>
<td>Table</td>
<td>Page</td>
</tr>
<tr>
<td>-------</td>
<td>------</td>
</tr>
<tr>
<td>1. Responses of teachers and administrators as to which of the five institutions will be most active in research, development, and dissemination of innovations</td>
<td>14</td>
</tr>
<tr>
<td>2. Responses of teachers and administrators as to which of the eight reasons accounts for the research-to-practice gap</td>
<td>15</td>
</tr>
<tr>
<td>3. Number and percentage of administrators and teachers responding to questionnaire by each school district</td>
<td>40</td>
</tr>
<tr>
<td>4. Number of grade level and elementary subject area responses</td>
<td>42</td>
</tr>
<tr>
<td>5. Number of secondary responses grouped by subject area taught by the respondents</td>
<td>42</td>
</tr>
<tr>
<td>6. The salary distribution of all the respondents</td>
<td>44</td>
</tr>
<tr>
<td>7. Number of elementary and secondary teachers with varying pupil loads</td>
<td>45</td>
</tr>
<tr>
<td>8. Responses of teachers and administrators as to which of the five institutions will be most active in research, development, and dissemination of innovations</td>
<td>47</td>
</tr>
<tr>
<td>9. Responses by number and percentage of elementary, secondary, and K-12 level teachers as to which of the five institutions are expected to be most active in research, development, and dissemination of innovations</td>
<td>48</td>
</tr>
<tr>
<td>10. Responses by number and percentage of groupings by years of experience as to which of the five institutions will provide the most leadership in research, development, and dissemination of innovations</td>
<td>50</td>
</tr>
<tr>
<td>Table</td>
<td>Description</td>
</tr>
<tr>
<td>-------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>11.</td>
<td>Responses by number and percentage of age groupings as to which of the five institutions will provide the most leadership in research, development, and dissemination of innovations</td>
</tr>
<tr>
<td>12.</td>
<td>The number and percentage of the responses by tenure and nontenure respondents as to which institution will give the most leadership in research, development, and dissemination of innovations</td>
</tr>
<tr>
<td>13.</td>
<td>Responses by number and percentage of the groupings by occupational aspirations as to which institution will be most active in research, development, and dissemination of innovations</td>
</tr>
<tr>
<td>14.</td>
<td>The number and percentage of the responses by the years in the Network subgroups as to which institution will be most active in promoting research, development, and dissemination of innovations</td>
</tr>
<tr>
<td>15.</td>
<td>Variables that were significant at either the .01 or .05 level of significance</td>
</tr>
<tr>
<td>16.</td>
<td>The number and percentage of the responses by administrative subgroups as to which of the eight reasons accounts for the research-to-practice gap</td>
</tr>
<tr>
<td>17.</td>
<td>The number and percentage of the responses by grade levels taught as to which of the eight reasons best explains the research-to-practice gap</td>
</tr>
<tr>
<td>18.</td>
<td>Amount of agreement by number and percentage of the teachers and administrators as to whether a major function of administration is providing an environment conducive to professional growth for the teachers</td>
</tr>
<tr>
<td>19.</td>
<td>Reaction of the respondents by academic degrees as to whether a major function of administration is providing an environment conducive to growth for the teachers</td>
</tr>
<tr>
<td>Table</td>
<td>Description</td>
</tr>
<tr>
<td>-------</td>
<td>------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>20.</td>
<td>Rank order of amount of agreement by the respondents as to whether most universities consider community service a major university responsibility</td>
</tr>
<tr>
<td>21.</td>
<td>Categories whose subgroups were significant regarding the assumption that education is a behavioral science, and consequently is amenable to research</td>
</tr>
<tr>
<td>22.</td>
<td>Rank order of responses regarding universities exceeding public schools in ability to conduct research</td>
</tr>
<tr>
<td>23.</td>
<td>Number and percentage of the teachers' and administrators' responses regarding individualization of in-service education</td>
</tr>
<tr>
<td>24.</td>
<td>Number and percentage of responses by occupational aspirations as regards individualization of in-service education</td>
</tr>
<tr>
<td>25.</td>
<td>Rank order of total sample responses as regards the changing nature of educational needs of youth</td>
</tr>
<tr>
<td>26.</td>
<td>Number and percentage of responses by teachers and administrators regarding the increasing need for in-service training in areas like drugs, narcotics, alcohol, sex, and pollution of our natural resources</td>
</tr>
<tr>
<td>27.</td>
<td>Rank order of total sample responses as regards the need for in-service education in the use of new educational technology</td>
</tr>
<tr>
<td>28.</td>
<td>Number and percentage of responses by teachers and administrators regarding the need for in-service in educational technology</td>
</tr>
<tr>
<td>29.</td>
<td>Number and percentage of responses by elementary, secondary, and K-12 teachers regarding the need for in-service education in the new technology</td>
</tr>
<tr>
<td>Table</td>
<td>Description</td>
</tr>
<tr>
<td>-------</td>
<td>-------------</td>
</tr>
<tr>
<td>30.</td>
<td>Rank order of total sample responses regarding desirability of off-campus university courses</td>
</tr>
<tr>
<td>31.</td>
<td>Categories whose subgroups' responses varied significantly regarding the desirability of off-campus courses</td>
</tr>
<tr>
<td>32.</td>
<td>Number and percentage of responses by age subgroups regarding the desirability of offering some graduate courses off campus in public school buildings</td>
</tr>
<tr>
<td>33.</td>
<td>Reaction of tenure and nontenure teachers toward having some graduate courses offered in public school buildings</td>
</tr>
<tr>
<td>34.</td>
<td>Reaction by occupational aspirations toward having some graduate courses offered in public school buildings</td>
</tr>
<tr>
<td>35.</td>
<td>Number and percentage of responses by years in the Network as regards the desirability of some off-campus graduate courses being offered in public school buildings</td>
</tr>
<tr>
<td>36.</td>
<td>Responses by number and percentage by the teachers and administrators toward the need for a change in teacher understandings, skills, and attitudes if curriculum development and change occur</td>
</tr>
<tr>
<td>37.</td>
<td>Number and percentage of responses by tenure and nontenure educators regarding the need for change in teacher understandings, skills, and attitudes if curriculum development and change are to occur</td>
</tr>
<tr>
<td>38.</td>
<td>Reaction of respondents, by years in the Network, regarding the need for teacher changes in understandings, skills, and attitudes if curriculum development and change are to occur</td>
</tr>
<tr>
<td>Table</td>
<td>Description</td>
</tr>
<tr>
<td>-------</td>
<td>--------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>39</td>
<td>Reaction of the respondents by academic degrees regarding the desirability of teacher involvement in curriculum development being a part of the regular school day rather than an extended work day</td>
</tr>
<tr>
<td>40</td>
<td>Rank order of all responses regarding the effectiveness of an in-service program being dependent on the incentives offered to the teachers</td>
</tr>
<tr>
<td>41</td>
<td>Responses by number and percentage of the teachers and administrators regarding incentives favorably affecting in-service programs</td>
</tr>
<tr>
<td>42</td>
<td>Reaction of administrative subgroups regarding the importance of incentives as they affect in-service</td>
</tr>
<tr>
<td>43</td>
<td>Number and percentage of responses by sex regarding the school board's responsibility to develop policies that will encourage in-service education of its staff</td>
</tr>
<tr>
<td>44</td>
<td>Number and percentage of responses by years in the Network regarding the desirability of the board's assuming responsibility to write policies that will encourage in-service education of its staff</td>
</tr>
<tr>
<td>45</td>
<td>Rank order of responses of the total sample regarding the desirability of a board's developing policies that would require in-service education of its staff</td>
</tr>
<tr>
<td>46</td>
<td>Responses by number and percentage of the teachers and administrators regarding the desirability of a board's writing a policy requiring in-service education of its staff</td>
</tr>
<tr>
<td>47</td>
<td>Number and percentage of the responses by sex regarding the desirability of the board's requiring in-service education of its staff</td>
</tr>
</tbody>
</table>
LIST OF TABLES (Continued)

Table                                                                 Page

48. Rank order of all responses regarding the extent to which the Radio-Telephone Network was uniquely informative.............. 98

49. Responses by number and percentage of the teachers and administrators regarding the extent to which the Network was informative to the participants............................... 99

50. Number and percentage of responses by elementary, secondary, or K-12 teachers regarding the amount of agreement that the Network provided information to the participants that otherwise would not have been available................................. 99

51. Number and percentage of responses, by years in the Network, regarding whether the Network provided information that otherwise would not have been available................. 101

52. Categories whose subgroups were significant, most positive subgroup, total reaction of categories, and answer most prevalent regarding beneficial effects of the Network involving cooperative planning................................. 102

53. An analysis of the significant categories regarding the effectiveness of the Network speakers in imparting new understandings........... 103

54. An analysis of the significant categories regarding the appropriateness of the Network content.......................................................... 104

55. An analysis of the significant categories as regards the effective management of the technological aspects of the Network........... 105

56. An analysis of the significant categories as regards the appropriateness of the Network's program format............................................ 106

57. A listing of all the categories that had subgroup responses significant to one or more of the twenty-four survey questions in the questionnaire........................................ 111
<table>
<thead>
<tr>
<th>Table</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>58.</td>
<td>A comparison of the responses of the elementary, secondary, and K-12 teachers to those survey questions with which they were significantly different</td>
<td>113</td>
</tr>
<tr>
<td>59.</td>
<td>A comparison of the teachers' and administrators' responses to the survey questions with which a significant difference existed</td>
<td>114</td>
</tr>
<tr>
<td>60.</td>
<td>Analysis of significance with the survey questions according to years of experience</td>
<td>115</td>
</tr>
<tr>
<td>61.</td>
<td>Analysis of significance with the survey questions according to sex</td>
<td>116</td>
</tr>
<tr>
<td>62.</td>
<td>Analysis of significances with the survey questions according to academic degrees</td>
<td>117</td>
</tr>
<tr>
<td>63.</td>
<td>Analysis of significances with the survey questions by tenure status</td>
<td>118</td>
</tr>
<tr>
<td>64.</td>
<td>Analysis of significances with the survey questions by salary</td>
<td>120</td>
</tr>
<tr>
<td>65.</td>
<td>Frequency that occupational aspirations subgroups were most in agreement with the survey questions</td>
<td>123</td>
</tr>
<tr>
<td>66.</td>
<td>Number of times the respondents, by years of participation in the Network, were more in agreement with the survey questions</td>
<td>124</td>
</tr>
<tr>
<td>67.</td>
<td>Analysis of responses with the survey questions by age subgroups</td>
<td>125</td>
</tr>
<tr>
<td>68.</td>
<td>Administrative responses</td>
<td>131</td>
</tr>
<tr>
<td>69.</td>
<td>Number of significant and nonsignificant categories for the twenty-four survey questions</td>
<td>134</td>
</tr>
<tr>
<td>70.</td>
<td>Chi squares of profile items (Part I, 2-18) with questions (Part II, A 1-18 &amp; B, 1-6)</td>
<td>158</td>
</tr>
</tbody>
</table>
CHAPTER I

INTRODUCTION

During the school year 1964-1965 the College of Education of The Ohio State University, in cooperation with twelve Ohio public school systems, launched a "Radio-Telephone Network." The school year 1967-1968 was the fourth year of operation and the year that this survey was conducted. There were fifteen districts in the Network.

Briefly, the nature of the Network is a series of approximately six broadcasts per year originating from the radio station WOSU-FM, Columbus, Ohio, and sponsored by the College of Education of The Ohio State University in cooperation with fifteen Ohio school districts. The broadcasts include a twenty-minute presentation by a speaker or panel to the participating school systems via FM transmission. After the presentation, there is a live discussion period. Utilizing telephone technology, live questions are presented to the speaker who then reacts to them. The questions and answers can be heard by all the participants. The fifteen cooperating school systems have a total staff of approximately 3,809 teachers, 218 administrators, and 95,912 students dispersed throughout 44 secondary buildings.
and 111 elementary buildings. The average student enrollment per district is 6,394.

During the school year 1965-66, the writer served as an administrative associate for Dr. William B. McBride, Assistant Dean, Field Relations, College of Education, The Ohio State University. In this capacity the writer received first-hand experience with the Radio-Telephone Network. This experience provided the motivation and insight necessary to pursue this study.

This study is an attempt to survey the administrative and teaching staffs of the fifteen school districts regarding their attitudes toward cooperative instructional projects between public schools and institutions of higher learning.

The original goals of the Radio-Telephone Network were two-fold:

1. To check the feasibility of having a Radio-Telephone Network, and
2. To bring in-service activities in the form of university authorities to the public schools.

After four years of operation, the goals of the Network have been accomplished very well.

It is assumed that these Network experiences will have influenced the Network members' attitudes toward cooperative in-service activities in general. In addition, it is believed by the writer that this Network group would,
due to its involvement in a cooperative in-service project with an institution of higher learning, make a good survey group for this study which surveys opinion regarding cooperative in-service activities.

**Background of The Problem**

There is an increasing need for today's educators to explore the full potential of the gains that can be made by greater cooperation between public schools and institutions of higher learning. Schools and departments of education within universities and colleges can no longer be concerned only with pre-service activities. Education in recent years has increased in complexity and scope to the extent that life-long cooperation needs to exist between public school teachers individually and collectively via their schools with institutions of higher learning. The writer is not inferring that this concept is new, but only suggesting that the tempo of cooperation be drastically increased. There are numerous reasons for greater cooperation:

1. The colossal growth in subject matter content, especially in the natural and behavioral\(^1\) sciences;

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2. The tremendous proliferation of educational hardware.\textsuperscript{2,3} Computer-assisted instruction (CAI)\textsuperscript{4} is requiring greater cooperation with universities: such aids as dial-access TV,\textsuperscript{5} talking typewriters,\textsuperscript{6} and evaluative systems such as Comprehensive Random Achievement Monitor (CRAM),\textsuperscript{7} budget devices like School Organization Budget Planning System (S-PLAN),\textsuperscript{8} all require more consultative help from universities.

3. Increased amounts of Federal aid requiring expertly prepared program proposals;

4. Delegation of State Department controls over program proposals to local colleges and universities;\textsuperscript{9}


\textsuperscript{3}"When Media Serve People," Educational Leadership, XXIII (March, 1966), 437-523.


\textsuperscript{5}"How Schools Use New Technology for Instruction," Nation's Schools, LXXX (October, 1967), 68-73.

\textsuperscript{6}"Typewriters Talk--Children Listen," Nation's Schools, LXXX (October, 1967), 64-65.

\textsuperscript{7}Donald DeLay, "Are You Ready to SPLAN and CRAM?" Nation's Schools, LXXX (October, 1967), 66-67.

\textsuperscript{8}Ibid.

5. The need for public school involvement in field testing and feedback of research being done by universities and colleges; and among others
6. The increased emphasis being placed on student teaching experiences.

In short, public schools need the in-service and consultative assistance of college and university personnel, and the researchers of institutions of higher learning need the laboratory setting that can be provided by the public schools for field testing of research hypotheses with the resultant feedback.

**Statement of The Problem**

A school system may rightfully be classified as a complex organization\(^{10}\) existing in an ever increasing complex society. It is the belief of this writer that this increasing complexity of school operations necessitates an increase in cooperative endeavors between public schools and universities.

This study explored the attitudes of thirteen school systems (two districts did not respond in time to participate in the study) toward cooperative in-service activities in general and toward the Radio-Telephone Network in particular. The scope of this study can be illustrated by the figure below.

Fig. 1.—A schematic representation of three levels of in-service activity

Circle A represents the Radio-Telephone Network which is only one type of a cooperative in-service activity. Both A and B are only part of the total dimension of in-service activity. This study cuts through all three levels but concentrates on the Network and cooperative in-service activity. It is difficult, however, to avoid some reference to in-service in general.

The major questions with which this study is concerned are:

1. What are some of the attitudes of the staff members of the thirteen school districts toward university and college/public school co-sponsored instructional projects?

2. What are some of the attitudes of the staff toward the Radio-Telephone Network?
3. Is the Network more apropos for a particular group or groups?

4. Are there certain variations in the program that would make the Network more effective from the teachers' viewpoints?

5. Are there significant differences in reactions to the twenty-four survey questions among the various subgroups?

6. How does each school district's reaction compare with the other twelve districts?

7. How do the elementary school teachers' reactions compare with the secondary school teachers' answers to all of the survey questions?

8. How do the teachers' replies to the survey questions compare with the administrators' responses to the survey questions?

9. Is there a significant difference in the answers according to years of teaching experience?

10. Is there a significant difference in the answers according to sex?

11. Do the answers grouped by academic degrees held by the respondents have significant differences?

12. Does tenure versus nontenure have an association with the responses?
13. Is there a significant difference in the replies of the respondents to the survey questions according to fields of specialization?

14. Is there a significant difference in the responses to all the survey questions by salary?

15. Does teacher-pupil load have an association?

16. Does the marital status of the respondents show a significant difference in answers?

17. Do the occupational aspirations show significant differences?

18. Does grouping by years of participation in the Network have an association?

19. Does grouping by age of respondents indicate a significant difference in the responses to the survey questions?

20. What implication does the study have for administrators--both college and public school--regarding cooperative in-service programs?

These questions will be analyzed according to various subgroups within the total population; for example, comparing the answers of the teachers with those given by the administrators.

It is the hope of the writer that this study will contribute to a better understanding of the attitudes of public school personnel regarding cooperative in-service activities.
Definitions of Terms

Radio-telephone.—Radio-telephone refers to FM transmission used to send the program out to the teachers. Regular telephone hookups are used to send the questions back to the broadcast site—Radio Station WOSU, Columbus, Ohio.

Instructional projects.—Instructional projects are those projects designed primarily for their impacts upon the instructional and learning aspects of the school milieu.

Participants.—Administrators, teachers, counselors, and all other professional personnel are included as participants in the study.

School.—The school consists of the attendance unit in which the teachers instruct and also at times refers to the total district. The writer will indicate which he is referring to at the particular time. In all cases, reference is being made to public schools and not to private or parochial schools.

Individual attributes.—Individual attributes include ascribed and achieved factors. Ascription refers to heredity and inherited influences whereas achieved refers to degrees earned, experience, etc.

Subgroups.—In this study subgroups refer to classification of the respondents into such categories as: teachers; administrators; school district; elementary,
secondary, or K-12; experience; subject area; etc., including all eighteen items of Part I of the questionnaire.

**Design of The Study**

**Securing the cooperation of the participants**

The superintendents of the Radio-Telephone Network, while attending, on campus, an organizational meeting for the Network, were asked to participate in this study. Dr. William B. McBride received approval and cooperation from the group at this meeting held in the spring of 1967. Dr. McBride followed up this verbal request for participation in the study by sending to the superintendents a letter asking formal approval regarding participation in the study. The letter also included a typed copy of the questionnaire that would be used. A copy of the letter can be found in Appendix D of this study.

The writer followed up the letter by a telephone call to each superintendent. After about three weeks a reminder post card was sent to four districts that had not responded. A copy of the post card is located in Appendix D.

**Data collection**

It was desirable that all of the fifteen school districts participate in the study. Thirteen districts returned the questionnaires in time for use, and two
districts responded too late to be included in the population.

A local commercial printer was used to print the questionnaires.

Sample population and sample size.—The writer surveyed half of the teachers in each district and all of the administrators. The respondents were chosen randomly by having the principals select every other teacher from alphabetical lists of staff members. Had a 100 per cent response occurred for the thirteen districts, there would have been sample sizes of approximately 1,686 teachers and 190 administrators serving about 84,328 students housed in 96 elementary buildings and 38 secondary buildings. Average pupil enrollment per district was 6,487 students.\footnote{Educational Directory (Columbus, Ohio: State of Ohio, Department of Education, 1967-1968).}

Questionnaire.—The questionnaire was organized into two sections: Part I has eighteen questions relating to nonjudgmental data such as age, sex, experience, etc.; Part II consists of twenty-four questions and involves judgmental answers by the respondents. A copy of the questionnaire is found in Appendix A.

Recognizing that the percentage of return of a questionnaire is highly correlated with ease in answering, the questionnaire was designed so that all answers could be indicated by a check mark by the respondents. The
questionnaire items were coded to enable a key puncher to key punch IBM cards directly from the questionnaires and thereby permit electronic data processing to be used.

Data analysis

As stated above, the data were electronically processed by an IBM 306 computer, located in the computer center at Clarion State College, Clarion, Pennsylvania.

The data required special computer programming utilizing chi squares, frequencies, and percentages.

Chi square analysis.—The chi square may be used as a test of significance when the data are expressed in frequencies. These data were collected in frequencies. Siegel describes the use of chi squares for analyzing responses as related to various categories: "e.g., persons may be categorized according to whether they are 'in favor of,' 'indifferent to,' or 'opposed to' some statement of opinion, to enable the researcher to test the hypothesis that these responses will differ in frequency." The data in this study were very amenable to the use of chi squares.

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The eighteen items of Part I of the questionnaire constituted the subgroups of the study. The answers to all but one of the Part II questions were on a five point scale. This resulted in contingency tables ranging in size from two-by-five to nine-by-eight.

As an example of the use of chi squares in this study, item 2 of Part I is analyzed with question 1 of Part II:

Part I, item 2. Teacher or administrator

1 - Teacher

2 - Administrator

Part II, question 1. Which single group do you believe will, in the future, give the most leadership and impetus to research, development, and dissemination of innovation?

1 - Private Foundations

2 - U. S. Office of Education

3 - Colleges and universities

4 - State Departments of Education

5 - Public School Districts

Table 1 illustrates this chi square analysis.

Using the formula \( x^2 = \sum \frac{(O-E)^2}{E} \) \(^\text{14}\) the chi square was found to be 12.17 with 4 degrees of freedom. This value is greater than 9.49 at the 5 per cent level. The null hypothesis \( (H_0) \) of no difference, therefore, must be rejected in favor of the alternative hypothesis \( (H_1) \) that there is a significant difference in the way the two groups--teachers and administrators--reacted to question 1. An example of the calculations involved in this chi square value (12.17) is found in Appendix C of this study.

\(^\text{14}\)Downie and Heath, \textit{op. cit.}, p. 162.
TABLE 1.—Responses of teachers and administrators as to which of the five institutions will be most active in research, development, and dissemination of innovations

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<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Private Foundations USOE</td>
<td>1</td>
<td>USOE Colleges and Univ.</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>Total</td>
<td>302</td>
<td>106</td>
<td>334</td>
<td>106</td>
<td>129</td>
<td>977</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Colleges and Univ. State Depts. of Educ.</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>State Depts. of Educ.</td>
<td>4</td>
<td>5</td>
<td>Total</td>
<td>302</td>
<td>106</td>
<td>334</td>
<td>106</td>
<td>129</td>
<td>977</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public School Dist. Total</td>
<td>5</td>
<td>Total</td>
<td>11</td>
<td>12</td>
<td>18</td>
<td>90</td>
<td>90</td>
<td>111</td>
<td>887</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

Another example of the chi square may be observed by looking at Table 2 which is a chi square tabulation of item 2 again, but this time with question 2 of Part II.

**Part II, question 2.** Which of the following statements do you believe best explains the reason for the large time gap between research findings and their acceptance into practice?

- **1** - Public school teachers were not sufficiently involved in the original planning and design of the research
- **2** - Inadequate dissemination of the results by the researchers
- **3** - Lack of understanding of the research findings by school administrators and teachers
- **4** - Lack of school funds for public schools to implement the research findings
- **5** - Lack of community and board support
- **6** - Apathy on the part of the teachers
- **7** - Lack of true leadership by public school administrators
- **8** - Disregard of the validity and reliability of the research findings by public school people
TABLE 2.—Responses of teachers and administrators as to which of the eight reasons accounts for the research-to-practice gap

<table>
<thead>
<tr>
<th></th>
<th>Lack of Teacher Involvement</th>
<th>Poor Dissemination</th>
<th>Faulty Interpretation</th>
<th>Insuf. School Funds</th>
<th>Lack of Support by Com. &amp; Board</th>
<th>Teacher Apathy</th>
<th>Insuf. Admin. Support</th>
<th>Disregard of Validity</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher</td>
<td>143</td>
<td>60</td>
<td>138</td>
<td>333</td>
<td>45</td>
<td>56</td>
<td>67</td>
<td>50</td>
<td>892</td>
</tr>
<tr>
<td>Admin.</td>
<td>18</td>
<td>6</td>
<td>12</td>
<td>32</td>
<td>3</td>
<td>12</td>
<td>4</td>
<td>4</td>
<td>91</td>
</tr>
<tr>
<td>Total</td>
<td>161</td>
<td>66</td>
<td>150</td>
<td>365</td>
<td>48</td>
<td>68</td>
<td>71</td>
<td>54</td>
<td>983</td>
</tr>
</tbody>
</table>
The value of the chi square is 8.57 with seven degrees of freedom. This value is less than 14.10 which is the limit at the 5 per cent level of significance. In this case the null hypothesis \( (H_0) \) of no difference is accepted, and the alternative hypothesis \( (H_1) \), which states that there is a significant difference in the way the two groups responded to the question, is rejected.

This process, as illustrated by these two examples, was computed 24 times for each item in Part I resulting in 432 contingency tables. (See Appendix B.)

**Limitations of The Study**

As the teachers answered the questionnaires, many of them answered on the basis of limited contact with in-service activities; in some cases the Radio-Telephone Network was their only experience with a university/public school project; therefore, certain biases were inherent in this study and care should be taken in generalizing to a wider population of situations.

**Significance of The Study**

It is an established fact that teachers need in-service activities. The mere obtainment of a bachelor's degree in education does not prepare a prospective teacher for a life-long career in teaching. Indeed, neither do the master's nor doctor's degrees. Educators need to keep
abreast of new research and developments in their chosen fields.

One of the major functions of administration is to help provide the environment whereby teachers are encouraged to grow professionally. It is not unusual for public schools to call upon the expertise offered by university personnel. Moreover, most universities consider service, along with research and instruction, as one of their major obligations. Many university administrators spend a large amount of their time answering letters and obtaining information for the public at large. It is not by chance then that many workshops, conferences, consultations, etc. have occurred between universities and public schools. It was within this framework of mutual consideration that the Radio-Telephone Network was initiated. Although short evaluations of each presentation have been attempted by the superintendent of each participating district, no attempt has been made to query all of the teachers in the Network statistically.

Another dimension of which this study has implications is the over-all relationship of universities and public schools regarding cooperative educational ventures. A college of education is, by and large, a research oriented institution without the laboratories necessary to test out and further develop theory. Public schools can provide a means for research feedback. It is, therefore,
very necessary that universities and public schools endorse this reciprocal relationship. This study should help to determine the attitudes of teachers regarding university/public school cooperative projects and thereby foster increased cooperation.

Organization of The Study

This study consists of four major sections. Chapter I, Introduction, gives the background and statement of the problem, definitions, design of the study, limitations, significance, and organization of the study. Chapter II presents a review of the literature; Chapter III, presentation and analysis of the findings; and Chapter IV, summary, conclusions, and recommendations.
CHAPTER II

REVIEW OF LITERATURE

One can seldom read today a book, journal, or article on education without encountering a section or reference to the need for in-service education. It is with less frequency, however, that one sees a reference to the need for university/public school cooperative efforts toward meeting these in-service needs. This review of literature is organized around three main topics: (a) the need for cooperation, (b) some typical examples of university/public school cooperation, and (c) organizing for cooperation.

The Need for Cooperation

The need for cooperation is expressed in the literature most frequently around the following headings: (a) national studies, (b) technological advances, (c) theory-to-practice gap, (d) fostering behavioral changes, and (e) curriculum change.

National studies

With the tremendous onslaught on new national curricula that has occurred in recent years has come a
concurrent avalanche of in-service needs to acquaint teachers with the studies, motivate them to try the innovations, and help them to evaluate their effectiveness. A recent publication of the AASA puts it this way:

Teachers are not prepared by preservice or inservice training to evaluate, select, or use the wealth of new materials now available from the curriculum studies. Different teaching procedures are called for, some quite different from any procedure now practiced by teachers. In-service training is absolutely necessary.1

In light of the national curricula movement, Bunnell believes that attempts toward local level in-service training are becoming obsolete. "The nation is becoming accustomed to approaching national problems with national solutions. Local in-service training and local curriculum development are becoming things of the past."2 There may be some disagreement as to the locus of the in-service training for the new, national curricula but there is consensus regarding the need brought about by the new curricula.


Technological advances

Another area which stresses the need for cooperation between universities and schools in in-service activities is technology.

When you consider that some 90 per cent of the research scientists who have ever lived are still alive today, and that about half the research and development money spent in all the history of the United States was spent in the last eight years, you can be sure that this technological acceleration is by no means at an end.³

The technological advances of society-at-large are definitely having their impact on education and are continuously creating in-service needs. The teacher of twenty years ago, if he were to have suddenly found himself faced with videotaping, computer assisted instruction, single-concept film loops, overheads, micro-projection techniques, etc., would surely be lost in the myriad of educational hardware. Likewise, teachers today, who have neglected to keep abreast of the new technology are in dire need for in-service education.

Theory-to-practice gap

Another phenomenon that contributes to the need for greater cooperation between institutions of higher learning ³

and public schools is the so-called "theory-to-practice gap" that has existed in the education organizational pattern. Kaser reports that "many potentially useful practices never gain wide acceptance in the classroom, and even those with the greatest contribution to make often have to wait a generation or more before their impact is felt." Egon Guba expresses the same concern, as quoted by Michael Kean: "Research is not sufficiently utilized by practitioners; there exists almost no communication between practitioner and the researcher."

Rankin and Blanke believe the gap to be one of the major reasons for resistance to change:

Two assumptions re-occur frequently in the literature on educational change: (1) there is a large gap between theory and practice and (2) special organization must be created and individuals trained to bridge the gap, if educational improvement is to be consistent, effective, and efficient.

Macdonald concurs that there is a research-practice gap and discusses four factors that he thinks

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5Michael H. Kean, "Hoomalimali in Retrospect," SEC Newsletter, Strategies for Educational Change, The Ohio State University, II (March, 1968), 5.

6Stuart C. Rankin and Virgil E. Blanke, "RELS: Are They Here to Stay?" SEC Newsletter, Strategies for Educational Change, The Ohio State University, II (April, 1968), 1.

7James E. Macdonald, "Thoughts About Research In Schools," Educational Leadership, XXIII (April, 1966), 603-04.
contribute to this gap: (1) the cult of experience, (2) quackery in the colleges, (3) bureaucratic bungle, and (4) timidity in the schools.

Eboch\(^8\) asserts that research is often not accepted by educators because of its limited scope and irrelevancy to actual situations.

**Fostering behavioral changes**

Another need that contributes to the necessity for cooperative efforts is the behavioral changes in personnel that in-service seeks to foster. Harris states that "the supervisor does appropriately concern himself with teacher behavior to a predominant degree."\(^9\) The administrator, in seeking ways to stimulate behavioral changes in his staff, needs to draw on the research findings that are available only in institutions of higher learning. Research and principles of human behavior enable practitioners to hypothesize and create models for effecting change. As explained by Kurland in *Educational Technology*:

> There must be changes in behavior of people, and, when the people cannot or will not change, changes in the people. Research also shows that personnel in large organizations do not respond

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\(^8\)Sidney C. Eboch, "The Value of Field Studies In Education," *Theory Into Practice*, VI (April, 1967), 69.

to what is said but to what is done—to what in reality is rewarded in the system. If the system says it encourages innovation, but the same or greater rewards go to those who maintain the status quo, then little innovation will occur, and if the innovator is actually punished for taking risks, even less is there any chance for change.

In particular, the promotion system must give recognition and advancement more to those who seek change than to those who conform to prevailing practice.10

Few superintendents would base their promotion policy entirely on "innovativeness;" however, the basic point of Kurland is well taken. Often by our practices we discourage those traits in human behavior that we wish to foster. Another example of the type of insight relating to changing behavior of staff that comes from research is described by Bridges and Reynolds:

The impact of experience on a teacher's receptivity to change is likely to be quite different in such schools where there is a potent, pervasive norm against change contrasted with situations which strongly approve of innovative teaching behavior. . . . Studies of the relationship between experience and receptivity to change which do not take into account variations in the nature of the experience are not apt to produce meaningful results.11

Flanders expresses the importance of behavioral changes as the major outcome of in-service activity.


There are two important questions that can be asked of any in-service training program, regardless of its origin, emphasis or point of view. First, will teachers be acting differently while teaching as a direct result of the in-service training? Secondly, if these changes do occur, has the quality of instruction really improved or is it just different?12

Harris describes four types of influences on human behavior:

1. "The pattern of incentives or rewards,"
2. "Fears, anxieties and personal needs,"
3. "Known models," and
4. "How people perceive the reality of the organized structure around them."13

Curriculum change

Cardina describes three types of in-service:

One type has to do with making it possible for teachers to keep up with the new knowledge, to broaden information, to clarify issues. A second type involves designing the curriculum, building new materials, extending practices, and relating the program to basic goals. This is a never-ending task and it challenges the best thinking of the entire leadership group. A third type of in-service activity has to do with providing help for teachers as they analyze their day-by-day activities. This includes the identification of problems, evaluating

12Ned A. Flanders, "Teacher Behavior and In-Service Programs," Educational Leadership, XXI (October, 1963), 25.

13Ben M. Harris, "In-service Growth--The Essential Requirement," Educational Leadership, XXIV (December, 1966), 258-59.
pupil progress, and making adjustments in terms of responses of children and parents.\textsuperscript{14}

Castetter\textsuperscript{15} mentions the correcting of deficiencies of the poorly trained teacher, helping the inexperienced, keeping staff members abreast of educational and social developments, and stimulating professional growth as the four main functions of in-service education as reflected by the needs of staff members.

Even though the need for in-service and for co-operative efforts between institutions of higher learning and public schools for meeting the in-service needs of public school staffs is well documented, as late as 1963 a sizeable number of public school administrators did not feel that colleges and universities had fully accepted this role:

Until in-service education is fully accepted as a function of colleges and universities and this responsibility is truly reflected in operational policy in the employment and assignment of faculty members, in the development of research programs, and in budgetary planning, the services of many colleges and universities to school administration will tend to be incidental, accidental, and not well organized.\textsuperscript{16}


This is undoubtedly a severe criticism and not a true reflection of all colleges and universities.

A reversal of this situation seems to have been occurring during recent years. As the following section will indicate, there are many examples of cooperative endeavors.

Examples of University-School Cooperation

The most frequently encountered types of university and school cooperative endeavors are: (a) teacher education or pre-service structures, (b) the use of consultants, (c) inter-agency projects, (d) foundations, and (e) activities relating to the "service" function of universities.

Teacher education

Literature abounds with descriptions of pre-service programs.

Many public schools and colleges have had years of experience in cooperating in this common purpose. Perhaps the clearest example of such cooperation in student teaching is that of the thousands of prospective teachers who spend a portion of a year observing and teaching in the public schools while working under the joint supervision of the school system and the college.17

Recent programs in teacher education are stressing the need for greater cooperative pre-service and in-service

efforts involving public schools more extensively. Southworth, for example, describes the "clinical" approach.

A new partnership could support the creation of training links between precertification and in-service programs. . . . Let us also use networks to develop new patterns of in-service teacher education in common environments where pre-service teacher education is functioning. The teacher education revolution will not occur through late evening classes or summer school courses separated from the realities of practice.18

Consultants

Probably the best example of cooperative in-service projects between public schools and institutions of higher learning has been the use of college and university consultants. Stoke describes universities as a "kind of revolving pool of experts who are under continuous draft."19 Wear goes so far as to describe the public school supervisor as a "coordinator of multiple consultations. . . . The bringing of on-the-job assistance to teachers is rapidly becoming recognized as a central function of local supervisory personnel."20


Tillman relates the successful experience that the Minneapolis schools have had in their consultant program.

Colleges and universities have, for a long period of time, used distinguished professors to stimulate and to enrich the environment for faculty and students. The success of this practice in colleges and universities provided stimulus for Minneapolis Public Schools to initiate a visiting consultant program. Persons invited as visiting consultants have been nationally recognized educators who have recently retired from full-time positions and college professors willing to serve in this role during vacation periods.

Beauchamp describes a "new" type of consultant as being "persons who are specialized in a discipline and/or who have dominant interest in research in curriculum organization. These people have as their home bases universities or research centers. From time to time school districts employ them as consultants to help with curriculum developments; but they are not in-service curriculum workers in schools."

Taba stresses the importance of using consultants as experts of knowledge but not as change agents.

Some difficulties are experienced also in the role expectations of the outside consultant. Outside consultants are often put in a position of initiating change, instead of supplying expert knowledge and skill at points where the local curriculum development needs it and can


use it. Smith suggest that the use of outside consultants "as agents of change" is a perversion of the consultant role, and that the importation of the dynamics of change from the outside assures a short tenure for the change. (Smith, Stanley, and Shores, 1957, p. 458).\(^{23}\)

Whereas Taba does not see the consultant as a change agent, Trump and Miller do see the implications for use of consultants in the change process:

Universities and other higher educational institutions play specific roles in secondary school changes. Some innovations affect secondary school-university relationships--marking systems, course outlines, or procedures for reporting the school's estimate of students' ability to succeed in the university. . . . Administrators often invite university personnel to serve as consultants to the school in planning changes, reeducating teachers for the changes, collecting materials, and evaluating the results. The close working relationship that can develop between the schools and the universities from this practice is a major bonus factor in organizing for change, but it will not occur unless specific efforts are made.\(^{24}\)

**Inter-agency cooperative projects**

An inter-agency project is defined operationally in this paper as a project that involves more than two separate organizations. One example of an inter-agency approach to in-service education is the Tri-State Area


Our American school systems are constantly being improved. Too often school systems work alone in their attempts to improve services for youth, broaden the scope of curricula, up-grade and modernize methods and procedures used. Unquestionably these school systems make progress; however, working alone they fail to benefit from the experiences of others by direct cooperative contrast. ... The Tri-State Area School Study Council [TSASSC] was organized and dedicated to improving public education in the tri-state area (Pennsylvania, Ohio, and West Virginia). With Pittsburgh as the center there are over two million people living within a radius of seventy-five miles of the University of Pittsburgh.25

The TSASSC was organized in the fall of 1948 and illustrates well a cooperative in-service endeavor between an institution of higher learning and public schools—in this case, from three different states.

Another good example of an inter-agency, cooperative project is the Cooperative Project in Educational Development (COPED). "The purposes of COPED are to conceptualize about, develop, and study models of planned change in school systems. ... These strategies involve collaboration between universities and school systems in order to develop and test models of planned change."26 Carson also develops


the thesis that organizations need to cooperate to solve the complex problems of today's society:

Looked at in the large, our society is abandoning an old system or organization and creating a new one. We are abandoning, because it is obsolete, a system in which agencies of government, business corporations, and universities conducted their affairs as if they were islands unto themselves. A new system, which cumulates the capabilities of each agency in an integrated effort, is being built in recognition of the fact that the tasks we want to accomplish are too big . . . for any one organization alone. In this new organization, the university, with the unique capabilities it possesses, will be expected to play a large part. 27

The Committee for Economic Development alluded to the need for inter-agency cooperation when it referred to decision-makers at all levels: "In any national effort to improve our schools the decision-makers at all levels of education, and the public as well, must give immediate attention to the principles and methods of teaching and learning." 28

Foundations

A fourth example of the types of cooperation that exist between institutions of higher learning and public schools is the foundation. One such foundation that has

27 John J. Carson, "If Not The University," Educational Record (Spring, 1967), 156.

fostered this cooperation is the Ford Foundation. In a recent publication, the Ford Foundation lists all of its education improvement projects; and in the area of school-university collaboration, alone, projects totalling over fifteen million dollars were being funded. These projects were spread over sixteen states including Alaska. The Ford Foundation is also funding educational projects in other categories; e.g., vocational education, school and community, materials development, rural education, early childhood education, cities, television instruction, etc.

Service function of universities

This dissertation develops the thesis that cooperative in-service efforts are necessary and vital. Universities, especially the state universities, have as one of their basic institutional goals the aim of service.

Anderson states that "all great universities hold as their functions: teaching, research and service. The service function is written into the very nature of the land grant institutions." 30


SprinGer\textsuperscript{31} contrasts the North American university to its foreign counterpart as one that is concerned with its "town-gown" relationship with an emphasis on public service of "many and varying kinds." Moffitt\textsuperscript{32} believes that universities share with public schools the common goal of educating our youth and therefore should have a continuing interest and responsibility for in-service growth as well as pre-service growth. In fact, Wiles\textsuperscript{33} asserts that in-service education should be a continuation of the pre-service program.

Edmonds, Ogletree, and Wear\textsuperscript{34} describe the articulation of pre-service to in-service as a responsibility of various groups such as colleges and universities, state departments, professional organizations, and local school districts.

Organizing for Cooperation

Organizing for in-service activities, whether they are internal to the district or include cooperative efforts


\textsuperscript{33}Kimball Wiles, "The Teacher Education We Need," Theory Into Practice, VI (December, 1967), 264.

with institutions of higher learning, requires the involvement of many different personnel: the school board, administration, teachers, students, community, outside agencies such as universities, state departments of education, etc. This section will discuss briefly the roles of the school board, administration, teachers, and institutions of higher learning, and will conclude with a statement concerning their interaction.

School boards of education

Castetter describes the need for "systematic attention to policies which should govern their operation." He lists as the most important policy considerations the "extent" of involvement of the boards, determining the personnel to be included, developing appropriate leadership roles and resources, establishing evaluative techniques, etc.

The basic function of the board is the development of an over-all policy statement that reflects its level of commitment to in-service education.

Role of administration

The administration team needs to work cooperatively with the total staff to identify areas of weakness and to set priorities as relate to the in-service program; to

35Castetter, op. cit., 249-50
translate these needs into recommendations for board policy, and to implement and appraise the adopted policy.

Gastetter describes the role of the superintendent in staff development as:

(1) determining developmental needs; (2) encouraging staff participation in in-service programs; (3) establishing programs to meet immediate and long-range needs; (4) providing time, resources, and facilities to implement the program; (5) evaluating results of existing programs; (6) planning for the continuous improvement of the school staff; and (7) delegation of responsibilities to staff members involved in the administration of the program.36

The administrative staff must function as change agents and not become so extensively involved in the "daily housekeeping chores" that no time is left for this important responsibility.

Role of the teacher

Teachers certainly should be involved at the "grass-roots level" of in-service planning if in-service education is to be focused on the classroom as, according to Haan,37 it should be. Teacher organizations are also increasingly becoming involved in in-service activities: "The most important change in the programs of our

36Ibid., pp. 254-55.

associations in the next three decades must be increased involvement in the improvement of curriculum and instruction.” 38

Institutions of higher learning

The role to be assumed by colleges and universities in this cooperative process as has been described in this paper is threefold: (a) activities which foster the accomplishment of its own objectives and organization purposes; e.g., teacher education, research, etc.; (b) activities which are responsive to the requests for help from public school personnel; e.g., consultants; and (c) initiatory or leadership activities where the university or college perceives certain needs and initiates action aimed at alleviating this need; e.g., summer institutes and workshops, dissemination of research, etc.

Interaction

The thesis of this paper is that increased cooperation is needed between institutions of higher learning and public school systems. Methods of operation need to be established that will encourage greater cooperation. For example, if a university contacts a teacher or principal to set up a project without first contacting the

superintendent cooperation is jeopardized. Or if results of a campus-held teacher workshop are not disseminated to the administration, there is less likelihood of an impact being made on curriculum revision. Adequate channels of communication understood by all is of primary importance.
CHAPTER III

PRESENTATION OF FINDINGS

This chapter of the study is concerned with (a) a review of the procedures used in collecting the data; (b) a description of the respondents, (c) the reactions to the questionnaire, and (d) the relationship of data collected to the questions stated in Chapter I of this study (pages 6-8).

Review of The Procedures

After securing the cooperation of the district superintendents, enough questionnaires were mailed to each superintendent to enable all of the administrators to reply and enough for half of the teachers to respond. Each superintendent arranged for the distribution of the questionnaires within his district. The teachers were to be selected randomly utilizing alphabetical lists of the teachers within each building. The principals were to be instructed to select every other teacher's name appearing on the name list.

Upon receipt of the completed questionnaires the writer had them key punched and processed on an IBM 360, Model 40 Computer. Approximately 5,000 sheets of data output were printed by the computer.
Description and Characteristics of The Respondents

As can be observed in Table 3, 13 districts were included in the survey representing 190 administrators and 3,371 teachers. The percentage responding varied with the district with a range for administrators from 1.5 per cent in district F to 89 per cent in district M, and a teacher response range of 1.1 per cent in district H to 82 per cent for district A. A grand total of 1,033 responses were received, representing 55 per cent total response.

TABLE 3.—Number and percentage of administrators and teachers responding to questionnaire by each school district

| School District | Administrators | | Teachers | |
|-----------------|----------------|-------------------|-------------------|
|                 | Total in District | Number Responding | Per Cent Responding | Total in District | Sample Size | Number Responding | Per Cent Responding |
| A               | 3               | 2                 | 66                | 43               | 22           | 18                | 82                |
| B               | 6               | 4                 | 66                | 115              | 60           | 47                | 78                |
| C               | 19              | 4                 | 21                | 151              | 76           | 56                | 74                |
| D               | 14              | 7                 | 50                | 236              | 118          | 66                | 56                |
| E               | 8               | 5                 | 63                | 107              | 54           | 37                | 69                |
| F               | 13              | 2                 | 15                | 374              | 187          | 122               | 65                |
| G               | 8               | 2                 | 23                | 105              | 53           | 38                | 72                |
| H               | 36              | 9                 | 25                | 696              | 348          | 4                 | 1.1               |
| I               | 18              | 10                | 56                | 356              | 178          | 128               | 72                |
| J               | 9               | 3                 | 33                | 228              | 114          | 74                | 65                |
| K               | 7               | 3                 | 43                | 87               | 44           | 31                | 70                |
| L               | 5               | 2                 | 40                | 142              | 71           | 24                | 34                |
| M               | 44              | 39                | 89                | 731              | 366          | 296               | 80                |
| Total           | 190             | 92                | ..                | 3371             | 1693         | 941               | ..                |
It is important to note that the total number of respondents will not correspond to the total tally on any single item since some respondents either omitted answering some items or checked more than a single answer for a single item. For example, in response to Part I, item 2, which requires the respondent to check whether he is a teacher or administrator, 135 checked administrator; however, when asked in Part I, item 3 to check the type of administrator, there was a total of 92 responses divided as follows:

**Administrative positions.**—Of the 92 (135 responses) administrators responding, 52 were elementary principals or assistant elementary principals, 20 were junior high principals or assistant junior high principals, 6 were senior high principals or assistant senior high principals, 5 were superintendents or assistant superintendents, 14 were central office—elementary, 4 were central office—secondary, 15 were central office—K-12, and 19 other miscellaneous responses, making a grand total of 135 administrative responses.

**Teacher subgroups.**—There were 552 elementary responses, 394 secondary, and 35 kindergarten through twelve, making a total of 981 responses.

**Grade level responses.**—Table 4 illustrates responses according to grade level and responses according to elementary special areas.
TABLE 4.--Number of grade level and elementary subject area responses

<table>
<thead>
<tr>
<th>Grade Level</th>
<th>Number</th>
<th>Special Area</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>K</td>
<td>29</td>
<td>Music</td>
<td>12</td>
</tr>
<tr>
<td>1</td>
<td>95</td>
<td>Art</td>
<td>9</td>
</tr>
<tr>
<td>2</td>
<td>80</td>
<td>P.E.</td>
<td>16</td>
</tr>
<tr>
<td>3</td>
<td>92</td>
<td>Library</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>78</td>
<td>Reading</td>
<td>30</td>
</tr>
<tr>
<td>5</td>
<td>67</td>
<td>Spec. Ed.</td>
<td>25</td>
</tr>
<tr>
<td>6</td>
<td>63</td>
<td>Guidance</td>
<td>11</td>
</tr>
<tr>
<td>K-6</td>
<td>48</td>
<td>Others</td>
<td>40</td>
</tr>
<tr>
<td>K-12</td>
<td>68</td>
<td>Total</td>
<td>146</td>
</tr>
</tbody>
</table>

Total 620

Secondary subject areas.--Table 5 gives the responses according to secondary subject areas. A total of 430 responses were received.

TABLE 5.--Number of secondary responses grouped by subject area taught by the respondents

<table>
<thead>
<tr>
<th>Subject Area</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mathematics</td>
<td>54</td>
</tr>
<tr>
<td>Science</td>
<td>58</td>
</tr>
<tr>
<td>Social Studies</td>
<td>69</td>
</tr>
<tr>
<td>Language Arts &amp; Foreign Lang.</td>
<td>120</td>
</tr>
<tr>
<td>Fine Arts</td>
<td>21</td>
</tr>
<tr>
<td>Practical Arts</td>
<td>12</td>
</tr>
<tr>
<td>Librarian</td>
<td>5</td>
</tr>
<tr>
<td>Guidance</td>
<td>12</td>
</tr>
<tr>
<td>Others</td>
<td>79</td>
</tr>
</tbody>
</table>

Total 430
Experience.--Total years of experience of the respondents, both administrative and teaching, were 173 with 1 to 3 years, 142 with 4 to 6 years, 122 with 7 to 9 years, 203 with 10 to 15 years, 134 with 16 to 21 years, and 243 with 22 years or more. The median years of experience was 9.5.

Age and sex.--The respondents, both administrators and teachers, had the following age distribution: 138 were 21 to 25 years old, 122 were 26 to 30 years old, 117 were 31 to 35 years old, 109 were 36 to 40 years old, 107 were 41 to 45 years old, 113 were 46 to 50 years old, 106 were 51 to 55 years old, 106 were 56 to 60 years old, and 104 were 61 years old or more. The median age was 41.2.

Three hundred fourteen of the respondents were male and 712 were female.

Degrees.--Three hundred eighteen had only a bachelor's degree, 377 had a bachelor's plus, 100 had a master's degree, 143 had a master's plus, and only 3 had a doctor's degree.

Tenure status.--Five hundred eight were on tenure and 413 were on nontenure.

Salary.--Table 6 gives the breakdown of the respondents according to salary.

The median salary was $7,929.
TABLE 6.—The salary distribution of all the respondents

<table>
<thead>
<tr>
<th>Salary Range</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>5,000 or less</td>
<td>10</td>
</tr>
<tr>
<td>5,001 - 5,500</td>
<td>35</td>
</tr>
<tr>
<td>5,501 - 6,000</td>
<td>78</td>
</tr>
<tr>
<td>6,001 - 6,500</td>
<td>124</td>
</tr>
<tr>
<td>6,501 - 7,000</td>
<td>105</td>
</tr>
<tr>
<td>7,001 - 7,500</td>
<td>118</td>
</tr>
<tr>
<td>7,501 - 8,000</td>
<td>104</td>
</tr>
<tr>
<td>8,001 - 9,000</td>
<td>222</td>
</tr>
<tr>
<td>9,001 and up</td>
<td>220</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1016</strong></td>
</tr>
</tbody>
</table>

**Marital status.**—Seven hundred fifty of the respondents were married, 188 were single, 21 were divorced, and 61 were widowed.

**Teacher-pupil load.**—The teacher-pupil load of the teachers can be illustrated by Table 7.

The median number of pupils/elementary teacher was 28.9 and the median number of pupils/secondary teacher was 126.2.

**Occupational aspirations.**—Seven hundred five of the respondents desired to remain in the present position, 22 aspired to the elementary principalship, 24 desired to become secondary principals, 22 hoped to become central office administrators, 82 desired to become college teachers, 5 aimed for college administration, and 79 sought positions other than those listed.
TABLE 7.—Number of elementary and secondary teachers with varying pupil loads

<table>
<thead>
<tr>
<th>Teacher-Pupil Load—Elem.</th>
<th>Number of Elem. Teachers Checking Each Interval</th>
<th>Teacher-Pupil Load—Secondary</th>
<th>Number of Sec. Teachers Checking Each Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 - 10</td>
<td>4</td>
<td>50 or less</td>
<td>44</td>
</tr>
<tr>
<td>11 - 15</td>
<td>10</td>
<td>51 - 75</td>
<td>19</td>
</tr>
<tr>
<td>16 - 20</td>
<td>16</td>
<td>76 - 100</td>
<td>40</td>
</tr>
<tr>
<td>21 - 25</td>
<td>91</td>
<td>101 - 125</td>
<td>77</td>
</tr>
<tr>
<td>26 - 30</td>
<td>211</td>
<td>126 - 150</td>
<td>111</td>
</tr>
<tr>
<td>31 or more</td>
<td>236</td>
<td>151 or more</td>
<td>123</td>
</tr>
<tr>
<td>Total</td>
<td>568</td>
<td>Total</td>
<td>414</td>
</tr>
</tbody>
</table>

Years in Network.—Of the total participants, 235 said they were in their first year with the Network, 212 in their second, 115 in their third, and 63 in their fourth.

Analysis of The Survey Questions

You will note that the questionnaire (see Appendix A) is divided into two main sections: Part I provides information about the respondents and Part II lists specific questions requiring judgmental answers. This section is concerned with Part II which contains eighteen questions regarding cooperative in-service activities.
between universities and public schools, and six questions that deal specifically with the Radio-Telephone Network—twenty-four survey questions in all.

Survey question 1

Which single group do you believe will, in the future, give the most leadership and impetus to research, development, and dissemination of innovations?

This question was answered by the total group of respondents as follows: 304, or 29.4 per cent, checked private foundations; 108, or 10.5 per cent, checked the U. S. Office of Education; 335, or 32.4 per cent, checked colleges and universities; 107, or 10.4 per cent, checked state departments of education; 130, or 12.6 per cent, checked public school districts; and 49, or 4.7 per cent, did not respond.

In addition to these reactions by the total study population, a discussion of responses by categories significant at the .01 or .05 level of significance follows—a listing of which is in Table 15. Only those categories that were significant at either the .01 or .05 level will be discussed in depth. For a complete listing of all significant and nonsignificant categories see Appendix B.

The first category is teachers and administrators.

Responses of the teachers and administrators.--It is observed in studying Table 8 that the first choice of the teachers was colleges and universities, the first choice of
the administrators was private foundations, and the first choice of both groups combined was colleges and universities, reflected by the fact that the chi square for this two-by-five table is 12.17, which is significant at the .05 level (see Appendix B) which indicates that this difference was not due to chance. State departments received a low percentage from both subgroups of teachers and administrators.

TABLE 8.—Responses of teachers and administrators as to which of the five institutions will be most active in research, development, and dissemination of innovations

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></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>Teacher &amp; Admin.</td>
<td>278</td>
<td>26.9</td>
<td>93</td>
<td>9.0</td>
<td>316</td>
<td>30.6</td>
</tr>
<tr>
<td>Admin.</td>
<td>26</td>
<td>2.5</td>
<td>15</td>
<td>1.5</td>
<td>19</td>
<td>1.3</td>
</tr>
<tr>
<td>Total</td>
<td>304</td>
<td>29.4</td>
<td>108</td>
<td>10.5</td>
<td>335</td>
<td>32.4</td>
</tr>
</tbody>
</table>

Responses by elementary and secondary.—The difference between the elementary and secondary teachers is reflected more in their 3-5 choices as they agreed on their first two choices—both groups checking colleges and
universities as number one choice and both checking private foundations as their second choice (see Table 9).

TABLE 9.—Responses by number and percentage of elementary, secondary, and K-12 level teachers as to which of the five institutions are expected to be most active in research, development, and dissemination of innovations

<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
<td>No.</td>
</tr>
<tr>
<td>Elem. or Sec.</td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
</tr>
<tr>
<td>Elem.</td>
<td>146</td>
<td>14.1</td>
<td>59</td>
<td>5.7</td>
<td>180</td>
<td>17.4</td>
</tr>
<tr>
<td>Sec.</td>
<td>136</td>
<td>13.2</td>
<td>39</td>
<td>3.8</td>
<td>138</td>
<td>13.4</td>
</tr>
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<td>K-12</td>
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<td>1.0</td>
<td>6</td>
<td>.6</td>
<td>5</td>
<td>.5</td>
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<td>1.2</td>
<td>4</td>
<td>.4</td>
<td>12</td>
<td>1.2</td>
</tr>
<tr>
<td>Total</td>
<td>304</td>
<td>29.4</td>
<td>108</td>
<td>10.5</td>
<td>335</td>
<td>32.4</td>
</tr>
</tbody>
</table>

The chi square for this three-by-five table was 21.33, which is significant at the .01 level (see Appendix B).

Responses by years of teaching.—This category did have a significant difference at the .01 level (see Appendix B). Colleges and universities were selected as the group that would be most active in research, development, and dissemination of innovations by four subgroups
of educators with the following years of experience: 1-3, 4-6, 16-21, and 22 plus.

Private foundations were selected by the educators with 7-9 and 10-15 years experience (see Table 10).

Responses by age groupings of the respondents.--The answers of the different age categories were significant at the .01 level (see Appendix B). Table 11 indicates the number and percentage of the responses by age.

Responses by tenure status.--The tenure teachers reacted significantly different from the nontenure teachers as to which institution would be most active in research, development, and dissemination of innovations. The level of significance was .01, with the distribution given in Table 12.

Responses by occupational aspirations.--There was significance at the .05 level for occupational aspirations. Table 13 shows the distribution.

Years of participation in the Network.--There was a significant difference at the .01 level (see Appendix B). Table 14 indicates that answers one (private foundations) and three (colleges and universities) received the highest total frequencies of 304 and 335 respectively, which is consistent with the other total. It is also noted that the first year participants had the highest percentage (6.7) for the first answer and also the highest percentage (8.4) for the third answer.
TABLE 10.—Responses by number and percentage of groupings by years of experience as to which of the five institutions will provide the most leadership in research, development, and dissemination of innovations

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Years</td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
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<tr>
<td>1-3</td>
<td>54</td>
<td>5.2</td>
<td>21</td>
<td>2.0</td>
<td>74</td>
<td>7.2</td>
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<tr>
<td>4-6</td>
<td>41</td>
<td>4.0</td>
<td>25</td>
<td>2.4</td>
<td>46</td>
<td>4.5</td>
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<tr>
<td>7-9</td>
<td>42</td>
<td>4.1</td>
<td>11</td>
<td>1.1</td>
<td>32</td>
<td>3.1</td>
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<tr>
<td>10-15</td>
<td>69</td>
<td>6.7</td>
<td>22</td>
<td>2.1</td>
<td>65</td>
<td>6.3</td>
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<tr>
<td>16-21</td>
<td>36</td>
<td>3.5</td>
<td>9</td>
<td>.9</td>
<td>39</td>
<td>3.8</td>
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<tr>
<td>22+</td>
<td>58</td>
<td>5.6</td>
<td>18</td>
<td>1.7</td>
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<td>7.5</td>
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<td>1.1</td>
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<tr>
<td>Total</td>
<td>304</td>
<td>29.4</td>
<td>106</td>
<td>10.5</td>
<td>334</td>
<td>32.4</td>
</tr>
</tbody>
</table>
TABLE 11. Responses by number and percentage of age groupings as to which of the five institutions will provide the most leadership in research, development, and dissemination of innovations

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
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</tr>
<tr>
<td>21-25</td>
<td>40</td>
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<td>9</td>
<td>61</td>
<td>5.9</td>
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</tr>
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<td>31-35</td>
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<td>2.9</td>
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<td>37</td>
<td>3.6</td>
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<td>36-40</td>
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<td>41-45</td>
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<td>3.9</td>
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</tbody>
</table>
TABLE 12.—The number and percentage of the responses by tenure and nontenure respondents as to which institution will give the most leadership in research, development, and dissemination of innovations

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</thead>
<tbody>
<tr>
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<td>%</td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
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</tr>
<tr>
<td>Blank</td>
<td>32</td>
<td>3.1</td>
<td>5</td>
<td>0.5</td>
<td>37</td>
<td>3.6</td>
</tr>
<tr>
<td>Total</td>
<td>303</td>
<td>29.4</td>
<td>106</td>
<td>10.5</td>
<td>335</td>
<td>32.5</td>
</tr>
</tbody>
</table>
TABLE 13.--Responses by number and percentage of the groupings by occupational aspirations as to which institution will be most active in research, development, and dissemination of innovations

<table>
<thead>
<tr>
<th>Occupational Aspirations</th>
<th>Institutions</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Private Foundations</td>
<td>213</td>
<td>20.6</td>
<td>73</td>
<td>7.1</td>
<td>228</td>
<td>22.1</td>
<td>71</td>
</tr>
<tr>
<td></td>
<td>USOE</td>
<td>7</td>
<td>7.7</td>
<td>3</td>
<td>3.3</td>
<td>4</td>
<td>4.4</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Colleges and Univ.</td>
<td>8</td>
<td>8.8</td>
<td>2</td>
<td>2.2</td>
<td>5</td>
<td>5.5</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>State Depts. of Educ.</td>
<td>3</td>
<td>3.3</td>
<td>5</td>
<td>5.5</td>
<td>3</td>
<td>3.3</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Public School Dist.</td>
<td>22</td>
<td>2.1</td>
<td>10</td>
<td>1.0</td>
<td>36</td>
<td>3.5</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Blank</td>
<td>24</td>
<td>2.3</td>
<td>5</td>
<td>5.5</td>
<td>31</td>
<td>3.0</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Blank</td>
<td>24</td>
<td>2.3</td>
<td>8</td>
<td>8.8</td>
<td>28</td>
<td>2.7</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td>Blank</td>
<td>304</td>
<td>29.4</td>
<td>108</td>
<td>10.5</td>
<td>335</td>
<td>32.4</td>
<td>107</td>
</tr>
<tr>
<td></td>
<td>Blank</td>
<td>130</td>
<td>12.6</td>
<td>49</td>
<td>4.7</td>
<td>130</td>
<td>12.6</td>
<td>49</td>
</tr>
</tbody>
</table>
TABLE 14.—The number and percentage of the responses by the years in the Network subgroups as to which institution will be most active in promoting research, development, and dissemination of innovations

<table>
<thead>
<tr>
<th>Years in Network</th>
<th>Institutions</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
<td>No.</td>
</tr>
<tr>
<td>1</td>
<td>69</td>
<td>6.7</td>
<td>28</td>
<td>2.7</td>
<td>87</td>
<td>8.4</td>
<td>20</td>
<td>1.9</td>
</tr>
<tr>
<td>2</td>
<td>59</td>
<td>5.7</td>
<td>27</td>
<td>2.6</td>
<td>67</td>
<td>6.5</td>
<td>18</td>
<td>1.7</td>
</tr>
<tr>
<td>3</td>
<td>25</td>
<td>2.4</td>
<td>15</td>
<td>1.5</td>
<td>48</td>
<td>4.6</td>
<td>15</td>
<td>1.5</td>
</tr>
<tr>
<td>4</td>
<td>18</td>
<td>1.7</td>
<td>4</td>
<td>4.4</td>
<td>10</td>
<td>1.0</td>
<td>14</td>
<td>1.4</td>
</tr>
<tr>
<td>Blank</td>
<td>133</td>
<td>12.9</td>
<td>33</td>
<td>3.2</td>
<td>123</td>
<td>11.9</td>
<td>40</td>
<td>3.9</td>
</tr>
<tr>
<td>Total</td>
<td>304</td>
<td>29.4</td>
<td>107</td>
<td>10.5</td>
<td>335</td>
<td>32.4</td>
<td>107</td>
<td>10.4</td>
</tr>
</tbody>
</table>

Summary.—In response to the question, "which single group do you believe will, in the future, give the most leadership and impetus to research, development, and dissemination of innovations?" the parameters shown in Table 15 were significant.

Survey question 2

Which of the following statements do you believe best explains the reason for the large time gap between research findings and their acceptance into practice?
TABLE 15.--Variables that were significant at either the .01 or .05 level of significance

<table>
<thead>
<tr>
<th>Category</th>
<th>Level of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher or administrator</td>
<td>.05</td>
</tr>
<tr>
<td>Elementary or secondary</td>
<td>.01</td>
</tr>
<tr>
<td>Total years experience</td>
<td>.01</td>
</tr>
<tr>
<td>Age</td>
<td>.01</td>
</tr>
<tr>
<td>Tenure</td>
<td>.01</td>
</tr>
<tr>
<td>Occupational aspirations</td>
<td>.05</td>
</tr>
<tr>
<td>Years in Network</td>
<td>.01</td>
</tr>
</tbody>
</table>

The total response to the second question was: 162, or 15.7 per cent, checked the first choice, "public school teachers were not sufficiently involved in the original planning and design of the research;" 66, or 6.4 per cent, checked the second choice, "lack of understanding of the research findings by school administrators and teachers;" 370, or 35.8 per cent, indicated the fourth possibility, "lack of school funds for public schools to implement the research findings;" 48, or 4.6 per cent, answered the fifth choice alternative, "lack of community and board support;" 68, or 6.6 per cent, checked the sixth choice, "apathy on the part of the teachers;" 71, or 6.9 per cent, answered the seventh possibility, "lack of true leadership by public school administrators;" and 55, or 5.3 per cent, checked the last alternative, "disregard of the validity and reliability of the research findings by public school people."

A brief discussion of the seven categories that had significant differences within their subgroups follows.
Responses by administrative subgroups.—The administrative subgroups had a differential response as to which of the eight reasons best accounts for the research-to-practice gap, as shown in Table 16.

"Lack of school funds for public schools to implement the research findings," was the answer given most frequently, with 370 responses, or 35.8 per cent.

Responses by elementary and secondary respondents.—Table 17 illustrates the reactions by grade level responsibility as to which of the eight reasons accounts for the research-to-practice gap. Lack of school funds was selected as the most probable reason by each grade level group, with a significance level of .01.

Responses by years of experience.—The respondents grouped by years of experience also selected lack of funds as the reason for the research-to-practice gap. The significance level was .05, indicating a difference in their over-all answers even though as a group they chose lack of funds as the most likely reason.

Responses by sex.—There was a significant difference of .01 between the sexes. Both males and females checked lack of funds as their first choice; however, the males checked lack of involvement as their second choice, and the females checked lack of understanding of the research as their second choice. Third choices varied also with the males checking insufficient dissemination
TABLE 16.--The number and percentage of the responses by administrative subgroups as to which of the eight reasons accounts for the research-to-practice gap

<table>
<thead>
<tr>
<th>Administration</th>
<th>Lack of Teacher Involvement</th>
<th>Poor Dissemination</th>
<th>Faulty Interpretation</th>
<th>Insuf. School Funds</th>
<th>Lack of Support by Com &amp; Board</th>
<th>Teacher Apathy</th>
<th>Insuf. Admin. Support</th>
<th>Disregard of Validity</th>
<th>Blank</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
<td>No.</td>
</tr>
<tr>
<td>Elem. Prin.</td>
<td>8</td>
<td>.8</td>
<td>3</td>
<td>.3</td>
<td>8</td>
<td>.8</td>
<td>19</td>
<td>1.8</td>
<td>3</td>
</tr>
<tr>
<td>Jr. High Prin.</td>
<td>3</td>
<td>.3</td>
<td>2</td>
<td>.2</td>
<td>0</td>
<td>.0</td>
<td>9</td>
<td>.9</td>
<td>0</td>
</tr>
<tr>
<td>Sr. High Prin.</td>
<td>0</td>
<td>.0</td>
<td>0</td>
<td>.0</td>
<td>0</td>
<td>.0</td>
<td>2</td>
<td>.2</td>
<td>1</td>
</tr>
<tr>
<td>Supt. or Asst.</td>
<td>0</td>
<td>.0</td>
<td>0</td>
<td>.0</td>
<td>0</td>
<td>.0</td>
<td>4</td>
<td>.4</td>
<td>0</td>
</tr>
<tr>
<td>Cen. Of.-Elem.</td>
<td>4</td>
<td>.4</td>
<td>6</td>
<td>.6</td>
<td>2</td>
<td>.2</td>
<td>0</td>
<td>.0</td>
<td>2</td>
</tr>
<tr>
<td>Cen. Of.-Sec.</td>
<td>1</td>
<td>.1</td>
<td>2</td>
<td>.2</td>
<td>0</td>
<td>.0</td>
<td>0</td>
<td>.0</td>
<td>0</td>
</tr>
<tr>
<td>Cen. Of.-K-12</td>
<td>5</td>
<td>.5</td>
<td>0</td>
<td>.0</td>
<td>2</td>
<td>.2</td>
<td>5</td>
<td>.5</td>
<td>0</td>
</tr>
<tr>
<td>Other</td>
<td>3</td>
<td>.3</td>
<td>0</td>
<td>.0</td>
<td>3</td>
<td>.3</td>
<td>9</td>
<td>.9</td>
<td>0</td>
</tr>
<tr>
<td>Blank</td>
<td>138</td>
<td>13.4</td>
<td>59</td>
<td>5.7</td>
<td>132</td>
<td>12.8</td>
<td>320</td>
<td>31.0</td>
<td>44</td>
</tr>
<tr>
<td>Total</td>
<td>162</td>
<td>15.7</td>
<td>66</td>
<td>6.4</td>
<td>151</td>
<td>14.6</td>
<td>370</td>
<td>35.8</td>
<td>48</td>
</tr>
</tbody>
</table>
TABLE 17. — The number and percentage of the responses by grade levels taught as to which of the eight reasons best explains the research-to-practice gap

<table>
<thead>
<tr>
<th></th>
<th>Lack of Teacher Involvement</th>
<th>Poor Dissemination</th>
<th>Faulty Interpretation</th>
<th>Insuf. School Funds</th>
<th>Lack of Support by Comm. &amp; Board</th>
<th>Teacher Apathy</th>
<th>Insuf. Admin. Support</th>
<th>Disregard of Validity</th>
<th>Blank</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
<td>No.</td>
</tr>
<tr>
<td>Elementary</td>
<td>79</td>
<td>7.6</td>
<td>36</td>
<td>3.5</td>
<td>95</td>
<td>9.2</td>
<td>209</td>
<td>20.2</td>
<td>28</td>
</tr>
<tr>
<td>Secondary</td>
<td>58</td>
<td>5.6</td>
<td>24</td>
<td>2.3</td>
<td>49</td>
<td>4.7</td>
<td>127</td>
<td>12.3</td>
<td>19</td>
</tr>
<tr>
<td>K-12</td>
<td>8</td>
<td>0.8</td>
<td>0</td>
<td>0.0</td>
<td>4</td>
<td>0.4</td>
<td>16</td>
<td>1.5</td>
<td>1</td>
</tr>
<tr>
<td>Blank</td>
<td>17</td>
<td>1.6</td>
<td>6</td>
<td>0.6</td>
<td>3</td>
<td>0.3</td>
<td>18</td>
<td>1.7</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>162</td>
<td>15.7</td>
<td>66</td>
<td>6.4</td>
<td>151</td>
<td>14.6</td>
<td>370</td>
<td>35.8</td>
<td>48</td>
</tr>
</tbody>
</table>
and the females checking lack of involvement. The men felt that lack of community support was the least likely reason for the time gap in research being put into practice and the women felt that teacher apathy was the least likely reason.

Responses by academic degrees.—The most salient feature of this variable was that each subgroup of academic degrees checked lack of funds as the first choice. The second most popular categories were teacher involvement and lack of understanding of the research results as causes for the research-to-practice gap. This category was significant at the .05 level.

Responses grouped by tenure.—Both tenure and non-tenure teachers agreed with the over-all pattern of checking lack of funds as the main reason for the research-to-practice gap. The tenure teachers listed lack of involvement as the second most likely reason, whereas, the nontenure teachers checked lack of understanding of the results. The tenure teachers checked lack of community support as least likely to be the reason and the nontenure teachers checked nonacceptance of the validity of the findings as the least likely reason. These differences in responses were significant at the .05 level.

Responses by marital status.—Again, as in previous categories, the individual marital groups checked lack of funds as the main reason for the gap with the differences
in the subgroups being due to the lesser frequencies of answers, with a significance of .05.

**Summary.**—The responses to the question "which of the following statements do you believe best explains the reason for the large time gap between research findings and their acceptance into practice?" revealed that the overriding concern was lack of school funds as the number one issue and lack of involvement of the teachers in the original design of the research as the second main concern.

**Survey question 3**

One of the major functions of administration is to help provide the environment whereby teachers are encouraged to grow professionally.

Four hundred seventy-seven, or 46.2 per cent, checked strongly agree; 479, or 46.3 per cent, agree; 42, or 4.1 per cent, no observation; 24, or 2.3 per cent, disagree; 5, or .5 per cent, strongly disagree; and 6, or .6 per cent, did not answer the question.

**Responses by teachers and administrators.**—Table 18 gives the relative distribution of the responses by the teachers and administrators. It is interesting to note that the administrators rated this item higher than did the teachers (significant at the .01 level), although both groups were in general agreement as to the importance of the statement.
TABLE 18.—Amount of agreement by number and percentage of the teachers and administrators as to whether a major function of administration is providing an environment conducive to professional growth for the teachers

<table>
<thead>
<tr>
<th>Teacher &amp; Admin.</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>No Observ.</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
<td>No.</td>
</tr>
<tr>
<td>Teacher</td>
<td>415</td>
<td>40.2</td>
<td>449</td>
<td>43.5</td>
<td>42</td>
</tr>
<tr>
<td>Admin.</td>
<td>62</td>
<td>6.0</td>
<td>30</td>
<td>2.9</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>477</td>
<td>46.2</td>
<td>479</td>
<td>46.4</td>
<td>42</td>
</tr>
</tbody>
</table>

Grade level—elementary.—A majority of the teachers in kindergarten through fourth grade agreed that administrators should help provide an environment which encourages professional growth by the teachers. Fifth and sixth grade teachers, as well as teachers with kindergarten through six and kindergarten through twelve responsibility, strongly agreed with this role of administration.

Responses by sex.—The men agreed more than the women, with a .01 significance level, that one of the major functions of administration is to help provide an environment conducive to professional growth by the teachers.

Responses by degrees.—This category was significant at the .01 level. It can be observed in Table 19 that
as one increases his number of graduate credits he rates higher the importance of in-service education.

TABLE 19. -- Reaction of the respondents by academic degrees as to whether a major function of administration is providing an environment conducive to growth for the teachers

<table>
<thead>
<tr>
<th>Degrees</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>No Observ.</th>
<th>Disagree</th>
<th>Str. Disagree</th>
<th>Blank</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>B.A.</td>
<td>118</td>
<td>11.4</td>
<td>176</td>
<td>17.0</td>
<td>14</td>
<td>1.4</td>
</tr>
<tr>
<td>B.A. +</td>
<td>176</td>
<td>17.0</td>
<td>169</td>
<td>16.4</td>
<td>19</td>
<td>1.8</td>
</tr>
<tr>
<td>M.A.</td>
<td>66</td>
<td>6.4</td>
<td>33</td>
<td>3.2</td>
<td>1</td>
<td>0.1</td>
</tr>
<tr>
<td>M.A. +</td>
<td>82</td>
<td>7.9</td>
<td>51</td>
<td>4.9</td>
<td>3</td>
<td>3.3</td>
</tr>
<tr>
<td>Doctoral</td>
<td>2</td>
<td>0.2</td>
<td>1</td>
<td>0.1</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Blank</td>
<td>33</td>
<td>3.2</td>
<td>49</td>
<td>4.7</td>
<td>5</td>
<td>5.5</td>
</tr>
<tr>
<td>Total</td>
<td>477</td>
<td>46.2</td>
<td>479</td>
<td>46.4</td>
<td>42</td>
<td>4.1</td>
</tr>
</tbody>
</table>

Responses by salary. -- This variable was significant at the .05 level in that at the highest salary level of $9,000 or more there was a trend toward a high frequency response for strongly agree that a major function of administration is fostering an environment conducive for in-service education.

Summary. -- Five of the seventeen variables were significant at either the .01 or .05 levels of significance. There was over-all a high level of concern for the
importance of in-service education as a function of administration.

Survey question 4

Most universities consider service to the community as one of their major obligations, along with instruction and research.

This question and all of the remaining questions were answered on a five-point scale: 1—strongly agree, 2—agree, 3—no observation, 4—disagree, and 5—strongly disagree.

The total response of the study population to this question is shown in Table 20.

TABLE 20.—Rank order of amount of agreement by the respondents as to whether most universities consider community service a major university responsibility

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Agree</th>
<th>No Observation</th>
<th>Disagree</th>
<th>Str. Disagree</th>
<th>Blank</th>
</tr>
</thead>
<tbody>
<tr>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
</tr>
<tr>
<td>Distribution</td>
<td>102</td>
<td>9.9</td>
<td>496</td>
<td>48.0</td>
<td>159</td>
</tr>
<tr>
<td>Rank order</td>
<td>4</td>
<td>1</td>
<td>3</td>
<td>2</td>
<td>5</td>
</tr>
</tbody>
</table>

Data included in Table 20 indicate that the agree category was ranked first and strongly disagree was ranked
last. The answers by categories follow. Only three categories were significant and are discussed.

Responses by age.--Each of the nine age subgroups tended to concur with the total age category of rating agree as first choice and disagree as the second choice. (See Appendix A, item 9, for the age groupings.) The differences in responses between age subgroups tended to appear more in the lower frequency items such as strongly agree, no observation, and strongly disagree, with a significant difference of .05 occurring.

Responses by academic degrees.--All subgroups within this category had agree occurring most frequently regarding university service to the community. The second most frequently occurring answer was disagree; however, the number agreeing was more than twice the number disagreeing. These differences in responses, as with age, were with the three least frequently occurring answers. This category was also significant at the .05 level. The last category that was significant for this question was occupational aspirations.

Responses by occupational aspirations.--All of the occupational aspirations subgroups (see Appendix A, item 17 for names of subgroups) agreed that community service function of universities is recognized by university personnel as a major responsibility. The lesser occurring frequencies such as no observation, disagree, etc. were
significantly different at the .05 level among the occupational aspirations subgroups.

Summary.—This question had only three categories whose subgroups were significantly different. Five hundred ninety-eight, or 57.9 per cent, of the respondents reacted favorably and 261, or 25.2 per cent, disagreed.

Survey question 5

The behavioral sciences are making tremendous strides toward becoming truly "sciences." Assuming education to be an "applied behavioral science" it would appear that educational problems are amenable to research.

One hundred eighty, or 17.4 per cent, of the respondents strongly agreed with this statement; 639, or 61.9 per cent, agreed; 122, or 11.8 per cent, had no observation; 52, or 5 per cent, disagreed; 8, or .8 per cent, strongly disagreed; and 32, or 3.2 per cent, left the item blank.

Five variables had subgroups that differed significantly, as shown in Table 21.

Responses by teachers and administrators.—Both subgroups agreed with the assumption that the behavioral sciences are making tremendous strides toward becoming "truly" sciences and that educational problems are amenable to research.

Responses by administration.—This category showed little or no variation from the total population; that is, item 2—agree—received the highest frequency.
TABLE 21.—Categories whose subgroups were significant regarding the assumption that education is a behavioral science, and consequently is amenable to research

<table>
<thead>
<tr>
<th>Category</th>
<th>Level of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher or administrator</td>
<td>.01</td>
</tr>
<tr>
<td>Administration</td>
<td>.05</td>
</tr>
<tr>
<td>Total years of experience</td>
<td>.01</td>
</tr>
<tr>
<td>Age</td>
<td>.05</td>
</tr>
<tr>
<td>Tenure</td>
<td>.01</td>
</tr>
</tbody>
</table>

Responses by years of experience and age.—As the age and years of experience of the respondents increased, there was a greater trend toward agreeing with the statement that educational problems are amenable to research.

Tenure.—The tenure category was significant at the .01 level. A higher percentage of the tenure teachers reacted positively to this statement than did the nontenure teachers.

Summary.—Regarding the assumption that education is a behavioral science, and consequently is amenable to research, only five categories varied statistically at the .01 or .05 level; however, variance within the categories was not discernable. Over-all, 819, or 79.3 per cent, agreed with the statement; 122, or 11.8 per cent, had no observation; and 60, or 5.8 per cent, disagreed with the statement.

Survey question 6

As a rule, universities exceed public schools in resources for conducting valid and reliable research.
The responses to this question are indicated in Table 22. As may be observed, answer 2—agree—was first in rank order of frequency of responses. Three categories had a significant difference of at least .05: administration, age, and sex.

**TABLE 22.—Rank order of responses regarding universities exceeding public schools in ability to conduct research**

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Agree</th>
<th>No Observe</th>
<th>Disagree</th>
<th>Str. Disagree</th>
<th>Blank</th>
</tr>
</thead>
<tbody>
<tr>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
</tr>
<tr>
<td>Distribution</td>
<td>283</td>
<td>27.4</td>
<td>565</td>
<td>54.7</td>
<td>80</td>
</tr>
</tbody>
</table>

Responses by administration.—This category was significant at the .05 level: 848, or 82.1 per cent, of the respondents checked strongly agree or agree; 80, or 7.7 per cent, no response; and 95, or 9.2 per cent, disagree or strongly disagree that universities exceed schools in ability to conduct research.

Responses by age.—This variable was significant at the .05 level with 283, or 27.4 per cent, strongly agree; 565, or 54.7 per cent, agreeing; 80, or 7.7 per cent, no
observation; 84, or 8.1 per cent, disagreeing; 11, or 1.1 per cent, strongly disagreeing; and 10, or 1 per cent, not responding as regards universities' ability to conduct research more valid than schools. There was no discernable pattern within the age difference.

Responses by sex.—Both sexes agreed that universities exceed public schools in ability to conduct valid and reliable research. The women checked no observation more than the men did.

Summary.—The responses were very heavy on the agree side of the continuum with only 9.2 per cent responding on the negative side of the scale as regards universities' ability to exceed public schools in research.

Survey question 7

In-service education is a purely personal matter and should be individualized for each teacher.

There were six categories whose subgroups differed significantly in responding at the .01 or .05 level.

Responses by teachers and administrators.—The teachers tended to agree that in-service education is a purely personal matter and should be individualized for each teacher; whereas, the administrators disagreed. This difference in the answers of these two subgroups was significant at the .01 level. Table 23 illustrates this difference.
TABLE 23.—Number and percentage of the teachers' and administrators' responses regarding individualization of in-service education

<table>
<thead>
<tr>
<th>Teacher &amp; Admin.</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>No Observ.</th>
<th>Disagree</th>
<th>Str. Disagree</th>
<th>Blank</th>
</tr>
</thead>
<tbody>
<tr>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
<td>Na</td>
</tr>
<tr>
<td>Teachers</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>No</td>
</tr>
<tr>
<td>107</td>
<td>10.4</td>
<td>379</td>
<td>36.7</td>
<td>96</td>
<td>9.3</td>
<td>318</td>
</tr>
<tr>
<td>Admin.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>23</td>
</tr>
<tr>
<td>11</td>
<td>1.1</td>
<td>26</td>
<td>2.5</td>
<td>4</td>
<td>.4</td>
<td>44</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>118</td>
<td>11.5</td>
<td>405</td>
<td>39.2</td>
<td>100</td>
<td>9.7</td>
<td>362</td>
</tr>
</tbody>
</table>

Responses by sex.—The men agreed more than did the women that in-service education should be individualized. The difference in these two subgroups was significant at the .01 level.

Responses by academic degrees.—There was a tendency to disagree that in-service education is a personal matter with an increase in advanced academic degrees held by the respondents.

Responses by salary.—With an increase in salary there was a trend toward disagreement with individualization of in-service education.

Teacher-pupil load—secondary.—The teachers with the largest teacher-pupil ratio tended to disagree with
individualization of in-service education, whereas the teachers with a smaller teacher-pupil ratio agreed. This probably indicates that the teachers with larger pupil ratios feel a slightly greater need for group in-service activities. This difference in their answers was significant at the .05 level.

Occupational aspirations.— This category was significant at the .01 level. The only two subgroups within this variable that tended to agree with individualization of in-service education were those that checked 1—same position—and those that aspire toward the elementary principalship. The other subgroups tended to disagree with the statement, as may be seen in Table 24.

Summary.— The over-all reaction to individualization of in-service education may be viewed by studying the totals in Table 24 which indicates that the answer receiving the highest frequency of response was number 2—agree—with 405 persons checking this answer. It is also important to note that answer 4—disagree—was the second highest frequency, with 362 responses. The total positive response was 523 compared to a total negative response of 390.

Survey question 8

In-service needs are often collective as well as individualized, for example, introducing curriculum revisions such as modern mathematics, Greater Cleveland Social Science Project, etc.
TABLE 24.—Number and percentage of responses by occupational aspirations as regards individualization of in-service education

<table>
<thead>
<tr>
<th>Occupational Aspirations</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>No Observation</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
<th>Blank</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>Same position</td>
<td>70</td>
<td>6.8</td>
<td>297</td>
<td>28.8</td>
<td>61</td>
<td>5.9</td>
</tr>
<tr>
<td>Elem. Prin.</td>
<td>5</td>
<td>.5</td>
<td>11</td>
<td>1.1</td>
<td>1</td>
<td>.1</td>
</tr>
<tr>
<td>Sec. Prin.</td>
<td>3</td>
<td>.3</td>
<td>9</td>
<td>.9</td>
<td>0</td>
<td>.0</td>
</tr>
<tr>
<td>Cen. Of. Admin.</td>
<td>0</td>
<td>.0</td>
<td>8</td>
<td>.8</td>
<td>2</td>
<td>.2</td>
</tr>
<tr>
<td>College Teaching</td>
<td>15</td>
<td>1.5</td>
<td>24</td>
<td>2.3</td>
<td>11</td>
<td>1.1</td>
</tr>
<tr>
<td>College Admin.</td>
<td>1</td>
<td>.1</td>
<td>2</td>
<td>.2</td>
<td>0</td>
<td>.0</td>
</tr>
<tr>
<td>Other</td>
<td>13</td>
<td>1.3</td>
<td>24</td>
<td>2.3</td>
<td>12</td>
<td>1.2</td>
</tr>
<tr>
<td>Blank</td>
<td>11</td>
<td>1.1</td>
<td>30</td>
<td>2.9</td>
<td>13</td>
<td>1.3</td>
</tr>
<tr>
<td>Total</td>
<td>118</td>
<td>11.4</td>
<td>405</td>
<td>39.2</td>
<td>100</td>
<td>9.7</td>
</tr>
</tbody>
</table>
This question had an over-all response as follows: 180, or 17.4 per cent, strongly agreed; 707, or 68.4 per cent, agreed; 99, or 9.6 per cent, had no observation; 25, or 2.4 per cent, disagreed; 5, or .5 per cent, strongly disagreed; and 17, or 1.6 per cent, left the answer blank.

Four categories had subgroups whose answers were statistically significant: teacher or administrator, grade level—elementary, sex, and occupational aspirations. These are discussed next.

Responses by teachers and administrators.—This category was significant at the .01 level with the administrators agreeing more than the teachers that in-service needs are collective.

Grade level—elementary.—Each grade level agreed, as their first choice, that in-service needs are collective and selected strongly agree as their second choice.

Responses by sex.—The females agreed more (significant at the .01 level) than the males that in-service needs are collective.

Responses by occupational aspirations.—All of the occupational aspirations subgroups agreed that in-service needs are collective, as they selected "agree" as their first choice. There was a differential reaction at the .01 level of significance with the lesser frequency responses.

Summary.—Of the four significant categories, three were significant at the .01 level and one at the .05 level.
Individual subgroups tended to coincide or parallel the total population in terms of answers selected. The differences in answers that occurred were not with their first choices but choices of less frequency.

**Survey question 9**

Rapid social, economic, political, and cultural changes are affecting the nature of educational needs of youth and consequently are affecting the nature of in-service needs of teachers.

The response of the total group to this statement is illustrated by Table 25, which indicates that the alternative with the highest frequency was "agree."

**TABLE 25.**—Rank order of total sample responses as regards the changing nature of educational needs of youth

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Agree</th>
<th>NoObserv</th>
<th>Disagree</th>
<th>Str. Disagree</th>
<th>Blank</th>
</tr>
</thead>
<tbody>
<tr>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
</tr>
<tr>
<td>Distribution</td>
<td>355</td>
<td>34.4</td>
<td>625</td>
<td>60.5</td>
<td>22</td>
</tr>
<tr>
<td>Rank order</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

The only category that was significant for this question was subject areas—secondary.
Responses by subject areas—secondary.—This category was significant at the .05 level. All of the subject areas checked agree as their first choice and strongly agree as their second choice, except subgroup 8—guidance—which checked strongly agree as their first choice and agree as their second choice.

Summary.—This question was one of two that had only one category significant. This indicates tremendous unanimity among the categories and subgroups, regarding factors that are changing the educational needs of youth.

Survey question 10

New instructional responsibilities being placed on the schools are causing new in-service needs for teachers in areas like drugs, narcotics, alcohol, sex, and pollution of our natural resources.

The reaction of the total group was 283, or 27.4 per cent, strongly agree; 621, or 60.1 per cent, agree; 79, or 7.6 per cent, no observation; 26, or 2.5 per cent, disagree; 5, or .5 per cent, strongly disagree; and 19, or 1.8 per cent, blank.

This question had six categories whose subgroups were significant, the first category being teacher and administrator.

Responses by teachers and administrators.—Table 26 displays the distribution of the responses which indicates that the administrators were more in agreement with the
question than were the teachers. This category was significant at the .05 level.

TABLE 26.—Number and percentage of responses by teachers and administrators regarding the increasing need for in-service training in areas like drugs, narcotics, alcohol, sex, and pollution of our natural resources

<table>
<thead>
<tr>
<th>Teacher &amp; Admin.</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>No. Observ.</th>
<th>Disagree</th>
<th>Str. Disagree</th>
<th>Blank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher</td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
</tr>
<tr>
<td>Teacher</td>
<td>246</td>
<td>23.8</td>
<td>571</td>
<td>55.3</td>
<td>75</td>
<td>7.3</td>
</tr>
<tr>
<td>Admin.</td>
<td>37</td>
<td>3.6</td>
<td>50</td>
<td>4.8</td>
<td>4</td>
<td>0.4</td>
</tr>
<tr>
<td>Total</td>
<td>283</td>
<td>27.4</td>
<td>621</td>
<td>60.1</td>
<td>79</td>
<td>7.6</td>
</tr>
</tbody>
</table>

Responses by elementary or secondary.—A higher percentage of the elementary teachers believed that new in-service needs are increasing in areas like drugs, pollution, etc. than did the secondary teachers, which accounted for the chi square significance of .05.

Responses by sex.—The men agreed more than the women that new in-service needs are increasing in areas such as drugs, pollution, etc. This difference in their responses was significant at the .01 level.

Responses by academic degrees.—A trend existed among the subgroups of degrees toward a higher rating of
strongly agree with an increase in advanced degrees held, as regards the increasing need for in-service in areas like drugs, pollution, etc.

Responses by salary.—Salary was significant at the .01 level with no trend existing with an increase in salary, regarding in-service needs in the new areas like drugs, sex, etc.

Responses by years in the Network.—This category was significant at the .05 level. Each subgroup in this category selected the second answer—agree—most often and the first answer—strongly agree—was the second most frequently selected.

Summary.—This question was answered very positively with 90.4, or 87.5 per cent, reacting positively, i.e., checking either strongly agree or agree, and only 31, or 3 per cent, disagreeing. The others checked no observation or left the answer blank.

Survey question 11

Use of new educational technology is requiring in-service needs for items like open and closed circuit television, videotape recorders, programmed instruction, computer assisted instruction, etc.

The reaction of the total group of respondents of 1,033 to this statement is illustrated by Table 27. Seven categories had subgroups whose answers differed significantly at either the .01 or .05 level. The first such category was teachers and administrators.
TABLE 27.—Rank order of total sample responses as regards the need for in-service education in the use of new educational technology

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Agree</th>
<th>No Observation</th>
<th>Disagree</th>
<th>Str. Disagree</th>
<th>Blank</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
</tr>
<tr>
<td>Distribution</td>
<td>302</td>
<td>29.2</td>
<td>586</td>
<td>56.7</td>
<td>78</td>
</tr>
<tr>
<td>Rank order</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

Responses by teachers and administrators.—Table 28 illustrates that the teachers and administrators both tended to agree that new technology is requiring new in-service needs; however, there was a significant difference of .05 in their over-all distribution of responses among the five alternatives. No trend appeared beyond that of agreement.

Responses by elementary and secondary.—Data in Table 29 indicate that the first choice of the elementary and secondary teachers regarding the need for in-service in the new technology was agree; however, the first choice of the K-12 teachers was strongly agree. The difference in these subgroups was significant at the .01 level.
### TABLE 28.--Number and percentage of responses by teachers and administrators regarding the need for in-service in educational technology

<table>
<thead>
<tr>
<th>Teacher &amp; Admin.</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>No Observation</th>
<th>Disagree</th>
<th>Str. Disagree</th>
<th>Blank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teachers Admin.</td>
<td>262</td>
<td>542</td>
<td>75</td>
<td>35</td>
<td>4</td>
<td>23</td>
</tr>
<tr>
<td></td>
<td>40</td>
<td>44</td>
<td>3</td>
<td>4</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>302</td>
<td>586</td>
<td>78</td>
<td>39</td>
<td>5</td>
<td>23</td>
</tr>
</tbody>
</table>

### TABLE 29.--Number and percentage of responses by elementary, secondary, and K-12 teachers regarding the need for in-service education in the new technology

<table>
<thead>
<tr>
<th>Elem. or Sec.</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>No Observation</th>
<th>Disagree</th>
<th>Str. Disagree</th>
<th>Blank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elem.</td>
<td>135</td>
<td>337</td>
<td>40</td>
<td>22</td>
<td>2</td>
<td>16</td>
</tr>
<tr>
<td>Sec.</td>
<td>130</td>
<td>206</td>
<td>34</td>
<td>15</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>K-12</td>
<td>19</td>
<td>13</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Blank</td>
<td>18</td>
<td>30</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>302</td>
<td>586</td>
<td>78</td>
<td>39</td>
<td>5</td>
<td>23</td>
</tr>
</tbody>
</table>
Responses by years of experience.—This category—years of teaching, administration, counseling, etc., was significant at the .01 level with all of the subgroups in this category agreeing that a need exists for in-service in the new technology.

Responses by sex.—This category was significant at the .05 level with the men agreeing more than the women with the need for in-service in the new technology.

Responses by academic degrees.—Those respondents with advanced academic degrees agreed more than those without advanced degrees that a need exists for in-service in the new technology. This difference in responses between those with advanced degrees and those without advanced degrees was significant at the .01 level.

Responses by tenure.—This variable was significant at the .05 level with the nontenure subgroup agreeing more with the need for in-service in the new technology than did the tenure subgroup.

Responses by salary.—There was a tendency to agree more with the need for in-service in the new technology with an increase in salary. This trend was significant at the .01 level.

Summary.—The total reaction to this statement was positive, with 888, or 85.9 per cent, agreeing and only 44, or 4.3 per cent, disagreeing; 78, or 7.6 per cent, had no observation; and 23, or 2.2 per cent, left the item blank.
Survey question 12

Some graduate courses should be offered to the total faculty in their own public school buildings.

As may be observed in Table 30, the respondents tended to agree that some graduate courses should be taught off campus in the public school buildings.

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Agree</th>
<th>No Observ.</th>
<th>Disagree</th>
<th>Str. Disagree</th>
<th>Blank</th>
</tr>
</thead>
<tbody>
<tr>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
</tr>
<tr>
<td>Distribution</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>268</td>
<td>25.9</td>
<td>468</td>
<td>45.3</td>
<td>112</td>
<td>10.8</td>
</tr>
<tr>
<td>Rank order</td>
<td>2</td>
<td>1</td>
<td>4</td>
<td>3</td>
<td>5</td>
</tr>
</tbody>
</table>

Six categories had subgroups whose responses varied significantly regarding off-campus courses (see Table 31).

TABLE 31.--Categories whose subgroups' responses varied significantly regarding desirability of off-campus university courses

<table>
<thead>
<tr>
<th>Category</th>
<th>Level of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total years experience</td>
<td>.01</td>
</tr>
<tr>
<td>Age</td>
<td>.01</td>
</tr>
<tr>
<td>Sex</td>
<td>.01</td>
</tr>
<tr>
<td>Tenure</td>
<td>.05</td>
</tr>
<tr>
<td>Occupational aspirations</td>
<td>.01</td>
</tr>
<tr>
<td>Years in Network</td>
<td>.05</td>
</tr>
</tbody>
</table>
Responses by years of experience.—A more positive reaction was indicated by the teachers with fewer years of experience regarding the desirability of off-campus college/university graduate courses.

Responses by age.—A stronger positive reaction was received from the younger teachers regarding off-campus graduate courses, as may be observed in Table 32.

TABLE 32.—Number and percentage of responses by age subgroups regarding the desirability of offering some graduate courses off campus in public school buildings

<table>
<thead>
<tr>
<th>Age</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>No Observ.</th>
<th>Disagree</th>
<th>Str. Disagree</th>
<th>Blank</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>21-25</td>
<td>48</td>
<td>4.6</td>
<td>62</td>
<td>6.0</td>
<td>15</td>
<td>1.5</td>
</tr>
<tr>
<td>26-30</td>
<td>37</td>
<td>3.6</td>
<td>54</td>
<td>5.2</td>
<td>12</td>
<td>1.2</td>
</tr>
<tr>
<td>31-35</td>
<td>42</td>
<td>4.1</td>
<td>59</td>
<td>5.7</td>
<td>8</td>
<td>0.8</td>
</tr>
<tr>
<td>36-40</td>
<td>24</td>
<td>2.3</td>
<td>57</td>
<td>5.5</td>
<td>8</td>
<td>0.8</td>
</tr>
<tr>
<td>41-45</td>
<td>36</td>
<td>3.5</td>
<td>45</td>
<td>4.4</td>
<td>9</td>
<td>0.9</td>
</tr>
<tr>
<td>46-50</td>
<td>18</td>
<td>1.7</td>
<td>51</td>
<td>4.9</td>
<td>21</td>
<td>2.0</td>
</tr>
<tr>
<td>51-55</td>
<td>18</td>
<td>1.7</td>
<td>52</td>
<td>5.0</td>
<td>14</td>
<td>1.4</td>
</tr>
<tr>
<td>56-60</td>
<td>26</td>
<td>2.5</td>
<td>49</td>
<td>4.7</td>
<td>9</td>
<td>0.9</td>
</tr>
<tr>
<td>61 up</td>
<td>18</td>
<td>1.7</td>
<td>36</td>
<td>3.5</td>
<td>15</td>
<td>1.5</td>
</tr>
<tr>
<td>Blank</td>
<td>1</td>
<td>0.1</td>
<td>3</td>
<td>0.3</td>
<td>1</td>
<td>0.1</td>
</tr>
<tr>
<td>Total</td>
<td>268</td>
<td>25.9</td>
<td>468</td>
<td>45.3</td>
<td>112</td>
<td>10.8</td>
</tr>
</tbody>
</table>

Responses by sex.—Eighty-nine per cent of the men reacted positively toward off-campus graduate courses compared with 78 per cent of the women.
Responses by tenure. — The nontenure teachers reacted more favorably toward off-campus graduate courses than did the tenure teachers (see Table 33).

TABLE 33. — Reaction of tenure and nontenure teachers toward having some graduate courses offered in public school buildings

<table>
<thead>
<tr>
<th></th>
<th>For</th>
<th>Against</th>
<th>No Reaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tenure</td>
<td>343</td>
<td>94</td>
<td>87</td>
</tr>
<tr>
<td>Nontenure</td>
<td>315</td>
<td>51</td>
<td>42</td>
</tr>
</tbody>
</table>

Responses by occupational aspirations. — Respondents selecting various occupational aspirations reacted differently, significant at the .01 level, regarding the desirability of off-campus courses. Table 34 gives the distribution.

TABLE 34. — Reaction by occupational aspirations toward having some graduate courses offered in public school buildings

<table>
<thead>
<tr>
<th>Occupational Aspirations</th>
<th>For</th>
<th>Against</th>
<th>No Reaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Same position</td>
<td>486</td>
<td>117</td>
<td>86</td>
</tr>
<tr>
<td>Elem. Principal</td>
<td>18</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Sec. Principal</td>
<td>20</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Central Of. Admin.</td>
<td>17</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>College Teaching</td>
<td>68</td>
<td>8</td>
<td>5</td>
</tr>
<tr>
<td>College Admin.</td>
<td>4</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Other</td>
<td>59</td>
<td>12</td>
<td>8</td>
</tr>
</tbody>
</table>
Those aspiring to be secondary principals were more positive than the other subgroups, with those in the first subgroup (same position) reacting least favorably.

Responses by years in the Network.—All subgroups in this category selected agree as their first choice regarding off-campus graduate offerings. The significant difference of .05 in the responses was due not to their first choices but lesser frequency answers (see Table 35).

**TABLE 35.**—Number and percentage of responses by years in the Network as regards the desirability of some off-campus graduate courses being offered in public school buildings

<table>
<thead>
<tr>
<th>Years in Network</th>
<th>Strongly Agree 1</th>
<th>Agree 2</th>
<th>No Observ. 3</th>
<th>Disagree 4</th>
<th>Str. Disagree 5</th>
<th>Blank</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>1</td>
<td>75</td>
<td>7.3</td>
<td>103</td>
<td>10.0</td>
<td>28</td>
<td>2.7</td>
</tr>
<tr>
<td>2</td>
<td>56</td>
<td>5.4</td>
<td>98</td>
<td>9.5</td>
<td>29</td>
<td>2.8</td>
</tr>
<tr>
<td>3</td>
<td>29</td>
<td>2.8</td>
<td>44</td>
<td>4.3</td>
<td>10</td>
<td>1.0</td>
</tr>
<tr>
<td>4</td>
<td>20</td>
<td>1.9</td>
<td>23</td>
<td>2.2</td>
<td>10</td>
<td>1.0</td>
</tr>
<tr>
<td>Blank</td>
<td>88</td>
<td>8.5</td>
<td>200</td>
<td>19.4</td>
<td>35</td>
<td>3.4</td>
</tr>
<tr>
<td>Total</td>
<td>268</td>
<td>25.9</td>
<td>468</td>
<td>45.3</td>
<td>112</td>
<td>10.8</td>
</tr>
</tbody>
</table>

Summary.—As may be observed by looking back at Table 30, the answer with the highest frequency was agree. The total response to this item was affirmative, with 736,
or 71.2 per cent, agreeing; 163, or 15.8 per cent, disagreeing; and 112, or 10.8 per cent, no observation.

Survey question 13

Teachers should be curriculum decision makers and should feel the responsibility to contend with this type of teacher growth.

The reaction of the total study population was 344, or 33.3 per cent, strongly agree; 555, or 53.8 per cent, agree; 49, or 4.7 per cent, no observation; 62, or 6 per cent, disagree; 4, or .4 per cent, strongly disagree; and 18, or 1.7 per cent, blank.

Only one category, tenure, had a significant difference in the responses by subgroups.

Responses by tenure.— Eighty-nine per cent of the tenure teachers agreed that teachers should assume some responsibility for curriculum development and the commensurate in-service education, as compared with 75 per cent of the nontenure teachers.

Summary.— There was a considerable amount of agreement that teachers should be curriculum decision makers and should feel a responsibility to contend with this type of teacher growth.

Survey question 14

Curriculum development and change require a commensurate change in teacher understandings, skills, and attitudes.
The reaction of the total population to this statement was 310, or 30 per cent, strongly agree; 636, or 61.6 per cent, agree; 43, or 4.2 per cent, no observation; 21, or 2 per cent, disagree; 2, or .2 per cent, strongly disagree; and 21, or 2 per cent, blank.

There were seven categories with subgroups whose responses were significantly different, the first of which was teachers and administrators.

Responses by teachers and administrators.—The administrators agreed more than the teachers (significant at the .01 level) that curriculum development and change require a commensurate change in teacher understandings, skills, and attitudes.

TABLE 36.—Responses by number and percentage by the teachers and administrators toward the need for a change in teacher understandings, skills, and attitudes if curriculum development and change occur

<table>
<thead>
<tr>
<th>Teacher &amp; Admin.</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>No Obser.</th>
<th>Disagree</th>
<th>Str. Disagree</th>
<th>Blank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teachers</td>
<td>269 26.1</td>
<td>589 57.0</td>
<td>42 4.1</td>
<td>19 1.8</td>
<td>1 .1</td>
<td>21 2.0</td>
</tr>
<tr>
<td>Admin.</td>
<td>41 4.0</td>
<td>47 4.5</td>
<td>1 .1</td>
<td>2 .2</td>
<td>1 .1</td>
<td>0 .0</td>
</tr>
<tr>
<td>Total</td>
<td>310 30.0</td>
<td>636 61.6</td>
<td>43 4.2</td>
<td>21 2.0</td>
<td>2 .2</td>
<td>21 2.0</td>
</tr>
</tbody>
</table>
Responses by grade level.—There was a slight trend in responses by the upper elementary grade teachers toward more agreement than the lower elementary grade teachers that curriculum change also requires teacher changes. This trend was significant at the .05 level.

Responses by subject areas.—Secondary guidance respondents were more emphatic than the other secondary subject areas that curriculum changes require commensurate changes in understandings, skills, and attitudes by the teachers.

Responses by sex.—The males agreed more than did the females (significant at the .05 level) that curriculum development and change require commensurate teacher changes in skills, attitudes, and understandings.

Responses by academic degrees.—The respondents holding advanced academic degrees agreed more than those with less academic degrees that curriculum development requires commensurate teacher changes in attitudes, skills, etc. This difference in response was significant at the .01 level.

Responses by tenure.—The nontenure teachers agreed more than the tenure teachers (significant at the .01 level) that curriculum development and change require a corresponding change in teacher understandings, skills, and attitudes. The distribution of the responses is shown in Table 37.
TABLE 37.—Number and percentage of responses by tenure and nontenure educators regarding the need for change in teacher understandings, skills, and attitudes if curriculum development and change are to occur.

<table>
<thead>
<tr>
<th>Tenure Status</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Observ.</th>
<th>Disagree</th>
<th>Str. Disagree</th>
<th>Blank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tenure</td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
</tr>
<tr>
<td>Nonten.</td>
<td>143</td>
<td>13.9</td>
<td>328</td>
<td>31.8</td>
<td>10</td>
<td>1.0</td>
</tr>
<tr>
<td>Blank</td>
<td>24</td>
<td>2.3</td>
<td>78</td>
<td>7.6</td>
<td>5</td>
<td>.5</td>
</tr>
<tr>
<td>Total</td>
<td>310</td>
<td>30.0</td>
<td>635</td>
<td>61.5</td>
<td>43</td>
<td>4.2</td>
</tr>
</tbody>
</table>

Responses by years in Network.—The responses of the subgroups in this category were significantly different at the .05 level with a trend toward reacting more positively toward the need for teacher change with an increase in the number of years in the Network. (See Table 38.)

TABLE 38.—Reaction of respondents, by years in the Network, regarding the need for teacher changes in understandings, skills, and attitudes if curriculum development and change are to occur.

<table>
<thead>
<tr>
<th>Years in Network</th>
<th>For</th>
<th>Against</th>
<th>No Reaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>209</td>
<td>10</td>
<td>11</td>
</tr>
<tr>
<td>2</td>
<td>196</td>
<td>4</td>
<td>10</td>
</tr>
<tr>
<td>3</td>
<td>109</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>60</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>
Summary. -- The total sample response was favorable with 946, or 91.6 per cent, positive; 23, or 2.2 per cent, negative; 43, or 4.2 per cent, no observation; and 21, or 2 per cent, not answering the item regarding the need for teacher change in understandings, skills, and attitudes.

Survey question 15

Teacher involvement in curriculum change and in-service activities should be a part of the regular school day or year and not during late "afterwork hours."

The distribution of the responses of the total population was 361, or 34.9 per cent, strongly agree; 489, or 47.3 per cent, agree; 58, or 5.6 per cent, no observation; 98, or 9.5 per cent, disagree; 8, or .8 per cent, strongly disagree; and 19, or 1.8 per cent, omitted the item.

There were two categories significantly different: administration and degrees.

Responses by administration. -- All of the administrative subgroups except the superintendents agreed that teacher involvement in curriculum should not be in the late afternoon hours. This difference in the responses of the subgroups was significant at the .05 level.

Responses by academic degrees. -- This category was significant at the .05 level with an inverse trend, i.e., those with advanced degrees did not agree as strongly, that teacher involvement in curriculum development should not be
in the late afternoon hours, as those without the advanced
degrees, excluding the three doctoral degree respondents,
who agreed that teacher involvement in curriculum develop-
ment should be a part of the regular school day. (See
Table 39.)

TABLE 39.—Reaction of the respondents by academic degrees
regarding the desirability of teacher involvement in cur-
riculum development being a part of the regular school day
rather than an extended work day

<table>
<thead>
<tr>
<th>Degrees</th>
<th>For</th>
<th>Against</th>
<th>No Reaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>B.A.</td>
<td>261</td>
<td>27</td>
<td>22</td>
</tr>
<tr>
<td>B.A. +</td>
<td>313</td>
<td>36</td>
<td>23</td>
</tr>
<tr>
<td>M.A.</td>
<td>77</td>
<td>15</td>
<td>7</td>
</tr>
<tr>
<td>M.A. +</td>
<td>116</td>
<td>23</td>
<td>3</td>
</tr>
<tr>
<td>Doctoral</td>
<td>3</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Summary.—The over-all reaction to teacher cur-
riculum work being a part of the regular school day was
positive with 850, or 82.2 per cent, agreeing and 106, or
10.3 per cent, disagreeing, with 58, or 5.6 per cent, no
observation and 19, or 1.8 per cent, leaving the question
blank. The superintendents as a group tended to disagree
with this statement; however, the three doctoral replies
were affirmative, or in agreement with the teachers.

Survey question 16

The effectiveness of an in-service program is
highly dependent on the incentives offered to the
teachers by the school system.
The distribution of all the responses is illustrated by Table 40.

**TABLE 40.**—Rank order of all responses regarding the effectiveness of an in-service program being dependent on the incentives offered to the teachers

<table>
<thead>
<tr>
<th></th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>No Observation</th>
<th>Disagree</th>
<th>Str. Disagree</th>
<th>Blank</th>
</tr>
</thead>
<tbody>
<tr>
<td>No.</td>
<td>361</td>
<td>489</td>
<td>58</td>
<td>98</td>
<td>8</td>
<td>19</td>
</tr>
<tr>
<td>%</td>
<td>34.9</td>
<td>47.3</td>
<td>5.6</td>
<td>9.5</td>
<td>.8</td>
<td>1.8</td>
</tr>
</tbody>
</table>

There were five categories whose individual subgroups varied significantly. The first such category was teacher or administrator.

**Responses by teacher or administrator.**—The distribution of the responses in this category is demonstrated by Table 41 with a significance at the .01 level, due to lower frequency responses, as both the teachers' and the administrators' first choice was agree.

**Responses by administration.**—There was considerable variation in responses among the subgroups. Central office administrators responsible for elementary education were more positive in reacting to the importance of incentives
for in-service. Superintendents, with a rank order of eight among the eight administrative subgroups, were least positive, with three against and two for. These differences were significant at the .05 level. (See Table 42.)

TABLE 41.—Responses by number and percentage of the teachers and administrators regarding incentives favorably affecting in-service programs

<table>
<thead>
<tr>
<th>Teacher &amp; Admin.</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>No</th>
<th>Disagree</th>
<th>Str. Disagree</th>
<th>Blank</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>Teachers Admin.</td>
<td>335</td>
<td>32.4</td>
<td>449</td>
<td>43.5</td>
<td>53</td>
<td>5.1</td>
</tr>
<tr>
<td></td>
<td>26</td>
<td>2.5</td>
<td>40</td>
<td>3.9</td>
<td>5</td>
<td>.5</td>
</tr>
<tr>
<td>Total</td>
<td>361</td>
<td>34.9</td>
<td>489</td>
<td>47.4</td>
<td>58</td>
<td>5.6</td>
</tr>
</tbody>
</table>

TABLE 42.—Reaction of administrative subgroups regarding the importance of incentives as they affect in-service

<table>
<thead>
<tr>
<th>Administration</th>
<th>For</th>
<th>Against</th>
<th>Rank Order</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elem. Prin.</td>
<td>39</td>
<td>11</td>
<td>6</td>
</tr>
<tr>
<td>Jr. High Prin.</td>
<td>14</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Sr. High Prin.</td>
<td>5</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Supt. or Asst.</td>
<td>2</td>
<td>3</td>
<td>8</td>
</tr>
<tr>
<td>Cen. Of.-Elem.</td>
<td>11</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Cen. Of.-Sec.</td>
<td>2</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td>Cen. Of.-K-12</td>
<td>12</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Other</td>
<td>16</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>
Responses by elementary or secondary.--The responses of the two subgroups in this category were significant at the .05 level with the secondary teachers agreeing more than the elementary teachers that incentives help the effectiveness of an in-service program.

Responses by grade level--elementary.--Teachers with kindergarten through twelve responsibility agreed more than the other grade level respondents (significant at the .05 level) that incentives are effective as motivators in in-service programs.

Responses by sex.--The men agreed more than the women (significant at the .05 level) that the effectiveness of in-service programs is dependent on the incentive system.

Summary.--All of the individual categories reacted positively to the dependency of effective in-service programs on the incentives offered. Approximately 10 per cent of the respondents did not believe that incentives by the district would influence the effectiveness of an in-service program.

Survey question 17

The school board of education has the responsibility to develop policies that will encourage in-service education of its staff.

A majority of the respondents agreed that the school board should develop policies that will encourage in-service education--376, or 36.4 per cent, strongly
agreed; 540, or 52.3 per cent, agreed; 58, or 5.6 per cent, no observation; 34, or 3.3 per cent, disagreed; 8, or .8 per cent, strongly disagreed; and 16, or 1.5 per cent, left the item blank.

The following five categories had subgroups whose responses were significant at either the .01 or .05 level.

**Responses by grade level—elementary.**—This category was significant at the .01 level with a slight trend toward more agreement, that board policies should encourage in-service education, with an increase in the grade level. The kindergarten-through-twelve subgroup was more in agreement than were the other subgroups.

**Responses by sex.**—The men agreed more than did the women at the .01 level of significance that the school board has the responsibility to develop policies that will encourage in-service education of its staff (see Table 43).

**TABLE 43.**—Number and percentage of responses by sex regarding the school board's responsibility to develop policies that will encourage in-service education of its staff

<table>
<thead>
<tr>
<th>Male or Female</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td>No.</td>
</tr>
<tr>
<td>Male</td>
<td>150</td>
<td>14.5</td>
<td>138</td>
</tr>
<tr>
<td>Female</td>
<td>224</td>
<td>21.7</td>
<td>339</td>
</tr>
</tbody>
</table>
Responses by academic degrees.--There was a trend toward an increased positive rating with an increased level of graduate preparation, significant at the .01 level, regarding the board's developing policies that would encourage in-service education.

Responses by occupational aspirations.--Reaction regarding board policies encouraging in-service education was varied according to the subgroups (significant at the .01 level): the most positive subgroup was "central office administration," with the least positive reaction coming from the first subgroup--those desiring to keep their same position.

Responses by years of participation in the Network.--The responses agreed more with an increase in years of participation in the Network, that the board has a responsibility to develop policies that will encourage in-service education of its staff. This trend of the responses was significant at the .05 level. For a complete distribution of the responses see Table 44.

Summary.--The over-all reaction of the respondents toward the board's writing policies that would encourage in-service education was positive, with 916, or 88.7 per cent, agreed; 58, or 5.6 per cent, no observation; 42, or 4.1 per cent, disagreed; and 16, or 1.5 per cent, omitted the item.
TABLE 44.—Number and percentage of responses by years in the Network regarding the desirability of the board's assuming responsibility to write policies that will encourage in-service education of its staff

<table>
<thead>
<tr>
<th>Years in Network</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td>No.</td>
</tr>
<tr>
<td>1</td>
<td>85</td>
<td>8.2</td>
<td>129</td>
</tr>
<tr>
<td>2</td>
<td>83</td>
<td>8.0</td>
<td>107</td>
</tr>
<tr>
<td>3</td>
<td>43</td>
<td>4.2</td>
<td>59</td>
</tr>
<tr>
<td>4</td>
<td>33</td>
<td>3.2</td>
<td>18</td>
</tr>
</tbody>
</table>

Survey question 18

The school board of education has the responsibility to develop policies that will require in-service education of its staff.

The overall reaction of the respondents to the statement is indicated in Table 45.

TABLE 45.—Rank order of responses of the total sample regarding the desirability of a board's developing policies that would require in-service education of its staff

<table>
<thead>
<tr>
<th>Str. Agree</th>
<th>Agree</th>
<th>Disagree</th>
<th>Str. Disagree</th>
<th>Blank</th>
</tr>
</thead>
<tbody>
<tr>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
<td>No.</td>
</tr>
</tbody>
</table>

Distribution 67 6.5 257 24.9 123 11.9 445 43.1 118 11.5 23 2.2

Rank order 5 2 3 1 4
This question had three categories whose subgroups' responses were significant, the first of which was teacher or administrator.

**Responses by teachers and administrators.**—The distribution of the responses of the two subgroups is indicated by Table 46. The answers varied with a significance of .01, with the teachers tending to disagree that the board should require in-service; whereas, the administrators tended to agree.

**TABLE 46.**—Responses by number and percentage of the teachers and administrators regarding the desirability of a board's writing a policy requiring in-service education of its staff

<table>
<thead>
<tr>
<th></th>
<th>Str. Agree</th>
<th>Agree</th>
<th>No. Observ.</th>
<th>Disagree</th>
<th>Str. Disagree</th>
<th>Blank</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Teacher &amp; Admin.</strong> No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
<td>No.</td>
</tr>
<tr>
<td>Teachers</td>
<td>52</td>
<td>5.0</td>
<td>225</td>
<td>21.8</td>
<td>114</td>
<td>11.0</td>
</tr>
<tr>
<td>Admin.</td>
<td>15</td>
<td>1.5</td>
<td>32</td>
<td>3.1</td>
<td>9</td>
<td>.9</td>
</tr>
<tr>
<td>Total</td>
<td>67</td>
<td>6.5</td>
<td>257</td>
<td>24.9</td>
<td>123</td>
<td>11.9</td>
</tr>
</tbody>
</table>

**Responses by sex.**—The females were more against having the board require in-service education than were the men. Their responses differed at the .01 level of significance. (See Table 47.)
TABLE 47. -- Number and percentage of the responses by sex regarding the desirability of the board's requiring in-service education of its staff

<table>
<thead>
<tr>
<th>Male or Female</th>
<th>For No.</th>
<th>For %</th>
<th>Against No.</th>
<th>Against %</th>
<th>No Reaction No.</th>
<th>No Reaction %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>122</td>
<td>11.8</td>
<td>153</td>
<td>14.8</td>
<td>36</td>
<td>3.5</td>
</tr>
<tr>
<td>Female</td>
<td>201</td>
<td>19.5</td>
<td>404</td>
<td>39.1</td>
<td>86</td>
<td>8.3</td>
</tr>
</tbody>
</table>

Responses by degrees. -- There was less resistance to a board in-service requirement with an increase in graduate hours, with those holding the doctorate being most positive.

Summary. -- The reaction to having a board require in-service education was extremely negative, with 324, or 31.4 per cent, agreed; 123, or 11.9 per cent, no observation; 563, or 54.6 per cent, disagreed; and 23, or 2.2 per cent, did not answer the item.

Analysis of The Network Questions

You will note that the questionnaire (see Appendix A) is divided into two main sections: Part I and Part II-A and II-B. There are six questions in Part II-B. Part B is concerned exclusively with the Radio-Telephone Network.

Network question 1

Involvement of my school system in the Radio-Telephone Network provided me with an opportunity to obtain information that I would not otherwise have obtained.
The reaction of the total study sample is shown in Table 48.

TABLE 48.—Rank order of all responses regarding the extent to which the Radio-Telephone Network was uniquely informative

<table>
<thead>
<tr>
<th>Str. Agree</th>
<th>Agree</th>
<th>No Observ.</th>
<th>Disagree</th>
<th>Str. Disagree</th>
<th>Blank</th>
</tr>
</thead>
<tbody>
<tr>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
</tr>
<tr>
<td>Distribution</td>
<td>40</td>
<td>3.9</td>
<td>315</td>
<td>30.5</td>
<td>431</td>
</tr>
<tr>
<td>Rank order</td>
<td>4</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>5</td>
</tr>
</tbody>
</table>

There were eight categories whose subgroups' responses were significantly different at either the .05 or .01 level. The first category was teacher or administrator.

Responses by teacher or administrator.—This category was significant at the .01 level, with the administrators reacting more positively than the teachers regarding the effectiveness of the informative aspect of the Network. The distribution of the frequencies is illustrated in Table 49.

Responses by elementary or secondary.—The elementary teachers agreed more than the secondary teachers (significant at the .01 level) that the Network provided
information that otherwise would not have been available (see Table 50).

TABLE 49.—Responses by number and percentage of the teachers and administrators regarding the extent to which the Network was informative to the participants

<table>
<thead>
<tr>
<th>Teacher &amp; Admin.</th>
<th>Str. Agree</th>
<th>Agree</th>
<th>No Observ.</th>
<th>Disagree</th>
<th>Str. Disagree</th>
<th>Blank</th>
</tr>
</thead>
<tbody>
<tr>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
<td>No.</td>
</tr>
<tr>
<td>Teachers Admin.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>33</td>
<td>3.2</td>
<td>268</td>
<td>26.0</td>
<td>410</td>
<td>39.7</td>
<td>120</td>
</tr>
<tr>
<td>7</td>
<td>.7</td>
<td>47</td>
<td>4.5</td>
<td>21</td>
<td>2.0</td>
<td>12</td>
</tr>
<tr>
<td>Total</td>
<td>40</td>
<td>315</td>
<td>30.5</td>
<td>431</td>
<td>41.7</td>
<td>132</td>
</tr>
</tbody>
</table>

TABLE 50.—Number and percentage of responses by elementary, secondary, or K-12 teachers regarding the amount of agreement that the Network provided information to the participants that otherwise would not have been available

<table>
<thead>
<tr>
<th>Elem. or Sec.</th>
<th>Str. Agree</th>
<th>Agree</th>
<th>No Observ.</th>
<th>Disagree</th>
<th>Str. Disagree</th>
<th>Blank</th>
</tr>
</thead>
<tbody>
<tr>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
<td>No.</td>
</tr>
<tr>
<td>Elem.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>1.8</td>
<td>187</td>
<td>18.1</td>
<td>213</td>
<td>20.6</td>
<td>74</td>
</tr>
<tr>
<td>13</td>
<td>1.2</td>
<td>96</td>
<td>9.3</td>
<td>188</td>
<td>18.2</td>
<td>54</td>
</tr>
<tr>
<td>4</td>
<td>.4</td>
<td>16</td>
<td>1.5</td>
<td>12</td>
<td>1.2</td>
<td>0</td>
</tr>
<tr>
<td>4</td>
<td>.4</td>
<td>16</td>
<td>1.5</td>
<td>18</td>
<td>1.7</td>
<td>4</td>
</tr>
<tr>
<td>Total</td>
<td>40</td>
<td>315</td>
<td>30.4</td>
<td>431</td>
<td>41.7</td>
<td>132</td>
</tr>
</tbody>
</table>

Blank: 77 | 7.5
Responses by total years of experience. -- The total years of teaching, administration, counseling, etc., was a category that showed a trend toward an agreement with the informative aspect of the Network with increased years of experience. This trend was significant at the .01 level.

Responses by age. -- This category paralleled the previous category of experience and showed a trend toward increased positivism with increased age, with a significant difference at the .01 level.

Responses by academic degrees. -- There was a trend toward an increased positive reaction with an increase in advanced degrees, with a significance level of .05.

Responses by tenure. -- The teachers with tenure agreed more that the Network was uniquely informative than did those without tenure, with a significant difference at the .01 level.

Responses by salary. -- The "no observation" answer was most frequently checked regarding the informative nature of the Network; however, there was a trend toward a more positive reaction with an increase in salary, with a significance level of .05.

Responses by years in the Network. -- As may be observed in Table 51, the first year was most positive, the second year next, the fourth year third, and the third year least positive. Seventy-seven, or 7.5 per cent, omitted
answering whether they felt that the Network provided information that otherwise would not have been available.

**TABLE 51.--** Number and percentage of responses, by years in the Network, regarding whether the Network provided information that otherwise would not have been available

<table>
<thead>
<tr>
<th>Years in Network</th>
<th>Agree</th>
<th>Disagree</th>
<th>No Observation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td>No.</td>
</tr>
<tr>
<td>1</td>
<td>84</td>
<td>8.2</td>
<td>30</td>
</tr>
<tr>
<td>2</td>
<td>110</td>
<td>10.7</td>
<td>53</td>
</tr>
<tr>
<td>3</td>
<td>58</td>
<td>5.6</td>
<td>32</td>
</tr>
<tr>
<td>4</td>
<td>34</td>
<td>3.3</td>
<td>16</td>
</tr>
</tbody>
</table>

**Summary.**—There were 355 responses, or 34.4 per cent, who checked agree; 431, or 41.7 per cent, no observation; 170, or 16.5 per cent, disagreed; and 77, or 7.5 per cent, omitted answering whether they agreed that the Network was uniquely informative.

**Network question 2**

The Radio-Telephone Network is a good example of the benefits that can accrue from joint, cooperative efforts of public schools and institutions of higher learning.

Ten categories had a significant difference of .05 or .01. Table 52 gives this analysis.

**Summary.**—Five hundred seven, or 49.1 per cent, agreed that the Radio-Telephone Network is a good example of the benefits that can accrue from joint, cooperative
efforts of public schools and institutions of higher learning; 366, or 35.4 per cent, had no observation; 87, or 8.4 per cent, disagreed; and 73, or 7.1 per cent, omitted the item.

TABLE 52.—Categories whose subgroups were significant, most positive subgroup, total reaction of categories, and answer most prevalent regarding beneficial effects of the Network involving cooperative planning

<table>
<thead>
<tr>
<th>Category</th>
<th>Level of Sig.</th>
<th>Subgroup Most Positive</th>
<th>Total Reaction of Category</th>
<th>Answer Most Prevalent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher or Admin.</td>
<td>.01</td>
<td>Admin.</td>
<td>Positive</td>
<td>Agree</td>
</tr>
<tr>
<td>Administration</td>
<td>.01</td>
<td>Supt.</td>
<td>&quot;</td>
<td>&quot;</td>
</tr>
<tr>
<td>Elem. or Sec.</td>
<td>.05</td>
<td>Elem.</td>
<td>&quot;</td>
<td>&quot;</td>
</tr>
<tr>
<td>Years Experience</td>
<td>.01</td>
<td>10-15</td>
<td>&quot;</td>
<td>&quot;</td>
</tr>
<tr>
<td>Age</td>
<td>.05</td>
<td>51-55</td>
<td>&quot;</td>
<td>&quot;</td>
</tr>
<tr>
<td>Sex</td>
<td>.05</td>
<td>Male</td>
<td>&quot;</td>
<td>&quot;</td>
</tr>
<tr>
<td>Degrees</td>
<td>.01</td>
<td>M. A. +</td>
<td>&quot;</td>
<td>&quot;</td>
</tr>
<tr>
<td>Tenure</td>
<td>.01</td>
<td>Tenure</td>
<td>&quot;</td>
<td>&quot;</td>
</tr>
<tr>
<td>Salary</td>
<td>.05</td>
<td>7501-8000</td>
<td>&quot;</td>
<td>&quot;</td>
</tr>
<tr>
<td>Years in Network</td>
<td>.01</td>
<td>Fourth</td>
<td>&quot;</td>
<td>&quot;</td>
</tr>
</tbody>
</table>

Network question 3

The speakers in the Network were very effective in imparting new knowledge and understanding to the Network participants.

There were eight categories whose subgroup responses were significant at either the .01 or .05 level.

The comparative results of these eight categories are given in Table 53.
TABLE 53.—An analysis of the significant categories regarding the effectiveness of the Network speakers in imparting new understandings

<table>
<thead>
<tr>
<th>Category</th>
<th>Level of Sig.</th>
<th>Subgroup Most Positive</th>
<th>Total Reaction of Category</th>
<th>Answer Most Prevalent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher or Admin.</td>
<td>.01</td>
<td>Admin.</td>
<td>Positive</td>
<td>No Obser.</td>
</tr>
<tr>
<td>Elem. or Sec.</td>
<td>.01</td>
<td>Elem.</td>
<td>&quot;</td>
<td>&quot;</td>
</tr>
<tr>
<td>Years Experience</td>
<td>.01</td>
<td>22 +</td>
<td>&quot;</td>
<td>&quot;</td>
</tr>
<tr>
<td>Age</td>
<td>.01</td>
<td>61 up</td>
<td>&quot;</td>
<td>&quot;</td>
</tr>
<tr>
<td>Degrees</td>
<td>.01</td>
<td>M. A.</td>
<td>&quot;</td>
<td>&quot;</td>
</tr>
<tr>
<td>Tenure</td>
<td>.01</td>
<td>Tenure</td>
<td>&quot;</td>
<td>&quot;</td>
</tr>
<tr>
<td>Years in Network</td>
<td>.01</td>
<td>Fourth</td>
<td>&quot;</td>
<td>&quot;</td>
</tr>
</tbody>
</table>

Summary.—Of the total study population, 317, or 30.7 per cent, agreed that the speakers were effective in imparting new knowledge; 475, or 46 per cent, indicated no observation; 154, or 14.9 per cent, answered disagree or strongly disagree; and 87, or 8.4 per cent, left the item unanswered.

Network question 4

The content or topics have been very apropos to our school system.

Eight categories, as shown in Table 54, were significant at either the .01 or .05 level.

Summary.—Regarding the appropriateness of the Network content, the total study sample reacted as follows: 12, or 1.2 per cent, strongly agreed; 311, or 30.1 per
cent, agreed; 470, or 45.5 per cent, no observation; 125, or 12.1 per cent, disagreed; 17, or 1.6 per cent, strongly disagreed; and 98, or 9.5 per cent, did not answer the item.

TABLE 54.—An analysis of the significant categories regarding the appropriateness of the Network content

<table>
<thead>
<tr>
<th>Category</th>
<th>Level of Sig.</th>
<th>Subgroup</th>
<th>Total Reaction of Category</th>
<th>Answer Most Prevalent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher or Admin.</td>
<td>.01</td>
<td>Admin.</td>
<td>Positive</td>
<td>No Obser.</td>
</tr>
<tr>
<td>Elem. or Sec.</td>
<td>.01</td>
<td>K-12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Years Experience</td>
<td>.05</td>
<td>16-21</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>.05</td>
<td>61 up</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Degrees</td>
<td>.01</td>
<td>M. A.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tenure</td>
<td>.01</td>
<td>Tenure</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Occup. Aspir.</td>
<td>.01</td>
<td>Elem. Prin.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Years in Network</td>
<td>.01</td>
<td>Fourth</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Network question 5

The technological aspects of the programs have been well managed.

This question had the largest number of significant categories of all, with eleven: eight significant at the .01 level and three significant at the .05 level. Table 55 gives the reactions of these eleven categories.

The over-all reaction of the total sample toward the management of the technological aspects of the Network was: 21, or 2 per cent, strongly agreed; 351, or 34 per cent, agreed; 493, or 47.7 per cent, no observation; 69, or
6.7 per cent, disagreed; 9, or .9 per cent, strongly disagreed; and 90, or 8.7 per cent, did not answer the item.

**TABLE 55.--An analysis of the significant categories as regards the effective management of the technological aspects of the Network**

<table>
<thead>
<tr>
<th>Category</th>
<th>Level of Sig.</th>
<th>Subgroup Most Positive</th>
<th>Total Reaction of Category</th>
<th>Answer Most Prevalent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher or Admin.</td>
<td>.01</td>
<td>Admin.</td>
<td>Positive</td>
<td>No Obser.</td>
</tr>
<tr>
<td>Administration</td>
<td>.01</td>
<td>Other</td>
<td>&quot;</td>
<td>&quot;</td>
</tr>
<tr>
<td>Elem. or Sec.</td>
<td>.01</td>
<td>K-12</td>
<td>&quot;</td>
<td>&quot;</td>
</tr>
<tr>
<td>Years Experience</td>
<td>.01</td>
<td>16-21</td>
<td>&quot;</td>
<td>&quot;</td>
</tr>
<tr>
<td>Age</td>
<td>.01</td>
<td>21-25</td>
<td>&quot;</td>
<td>&quot;</td>
</tr>
<tr>
<td>Sex</td>
<td>.05</td>
<td>Male</td>
<td>&quot;</td>
<td>&quot;</td>
</tr>
<tr>
<td>Degrees</td>
<td>.01</td>
<td>M. A. +</td>
<td>&quot;</td>
<td>&quot;</td>
</tr>
<tr>
<td>Tenure</td>
<td>.01</td>
<td>Nontenure</td>
<td>&quot;</td>
<td>&quot;</td>
</tr>
<tr>
<td>Salary</td>
<td>.05</td>
<td>5001-5500</td>
<td>&quot;</td>
<td>&quot;</td>
</tr>
<tr>
<td>Occup. Aspir.</td>
<td>.05</td>
<td>Other</td>
<td>&quot;</td>
<td>&quot;</td>
</tr>
<tr>
<td>Years in Network</td>
<td>.01</td>
<td>Fourth</td>
<td>&quot;</td>
<td>&quot;</td>
</tr>
</tbody>
</table>

**Network question 6**

The program format which has been used is very appropriate for this type of in-service medium.

Seven categories were significant at the .01 or .05 level of significance. Table 56 summarizes the responses by category.

**Summary.--The reaction of the total sample population regarding the appropriateness of the Network's program format was: 11, or 1.1 per cent, strongly agreed; 328, or 31.8 per cent, agreed; 483, or 46.8 per cent, no observation; 108, or 10.5 per cent, disagreed; 13, or 1.3**
per cent, strongly disagreed; and 90, or 8.7 per cent, did not answer the item.

TABLE 56.—An Analysis of the significant categories as regards the appropriateness of the Network's program format

<table>
<thead>
<tr>
<th>Category</th>
<th>Level of Sig.</th>
<th>Subgroup Most Positive</th>
<th>Total Reaction of Category</th>
<th>Answer Most Prevalent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher or Admin.</td>
<td>.01</td>
<td>Admin.</td>
<td>Positive</td>
<td>No. Obser.</td>
</tr>
<tr>
<td>Administration</td>
<td>.01</td>
<td>Jr. H. Prin.</td>
<td>&quot;</td>
<td>&quot;</td>
</tr>
<tr>
<td>Elem. or Sec.</td>
<td>.01</td>
<td>K-12</td>
<td>&quot;</td>
<td>&quot;</td>
</tr>
<tr>
<td>Years Experience</td>
<td>.01</td>
<td>10-15</td>
<td>&quot;</td>
<td>&quot;</td>
</tr>
<tr>
<td>Age</td>
<td>.01</td>
<td>61 up</td>
<td>&quot;</td>
<td>&quot;</td>
</tr>
<tr>
<td>Tenure</td>
<td>.01</td>
<td>Nontenure</td>
<td>&quot;</td>
<td>&quot;</td>
</tr>
<tr>
<td>Years in Network</td>
<td>.01</td>
<td>Fourth</td>
<td>&quot;</td>
<td>&quot;</td>
</tr>
</tbody>
</table>

Relationship of Data to Study Questions

The phrase "study questions" refers to the twenty questions on pages six through eight of this study. These are the major issues or hypotheses with which this dissertation is concerned. Even though they are related to the questionnaire items they are different and are phrased more generically. This relationship between the questionnaire survey questions and the major study questions or hypotheses may be represented as follows:

The Questionnaire Provided data to answer the Major study questions
Study question 1

What are some of the attitudes of the staff members of the thirteen school districts toward university and college/public school co-sponsored instructional projects?

The questionnaire items.—Questions 1, 4, 6, and 12 of the questionnaire relate to this major study question; survey question one referred to the group which would provide the most leadership regarding research and dissemination. The first choice of the total sample population was colleges and universities. The fourth question referred to the service function of colleges and universities as being a major obligation of universities; 57.9 per cent agreed and only 25.2 per cent disagreed. Question six stated that universities exceed public schools in ability to conduct research. The staff reacted very positively to this statement with only 9.2 per cent disagreeing. The last question that related directly to this item was questionnaire question twelve which referred to the importance of offering graduate courses off campus in the school district. The staff reaction to this was very positive with 71.2 per cent agreeing and only 15.8 per cent disagreeing. The attitudes of the staff, as indicated by these results, were that they:

1. Believed colleges and universities will provide more leadership in the future to research, development, and dissemination of innovations than will private
foundations, U. S. Office of Education, State Departments, or public schools;

2. Thought that the service function of institutions of higher learning is a basic responsibility of colleges and universities;

3. Believed that universities exceed public schools in ability to conduct research; and

4. Would welcome off-campus graduate courses in their local districts.

**Study question 2**

What are some of the attitudes of the staff toward the Radio-Telephone Network?

Questionnaire questions one through six of Part II, B--Network refer directly to this item. The first Network question related to a school system's obtaining information from the Network that would not have been obtained had the district not been involved in the Network; 34.4 per cent agreed and 16.5 disagreed. Question two stated that the Network was a good example of the benefits that can accrue from joint, cooperative efforts. The staff reacted with 49.1 per cent agreeing and 8.4 per cent disagreeing. The third Network question referred to the effectiveness of the speakers; 30.7 per cent agreed and 14.9 per cent disagreed. The fourth question stated that the topics discussed have been very apropos to their school districts; 31.3 per cent agreed and 13.7 disagreed. The fifth
question referred to the effective management of the technological aspects of the Network; 36 per cent agreed and 7.6 per cent disagreed. The last Network question--number six--indicated that the program format used has been very appropriate for this type of in-service medium. The reaction of the participants was positive also for this question with 42.9 per cent agreeing and 11.8 per cent disagreeing.

Some of the attitudes of the staff toward the Network were that they:

1. Believed the Network provided them with information that they would not otherwise have received;
2. Felt that the Network was a good example of the benefits that can accrue from joint, cooperative efforts between public schools and institutions of higher learning;
3. Agreed that the speakers were effective in imparting new knowledge and understanding;
4. Agreed that the content or topics were apropos for their school system;
5. Realized the effectiveness of the technological management of the programs; and
6. Believed that the program format used was effective for a radio-telephone in-service program.
Study question 3

Is the Network more apropos for a particular group or groups?

Two groupings were analyzed: "teacher or administrator," and "elementary or secondary."

Teacher or administrator.—This category was significant at the .01 level for each of the six survey questions that dealt with the Network, with the administrators reacting more positively with each of the six questions. (See Tables 49, 52, 53, 54, 55, and 56.)

Elementary or secondary.—This variable was significant at the .01 or .05 level for each of the six Network questions. The elementary teachers reacted more positively than did the secondary teachers for Network questions one through three. The K-12 subgroup reacted more positively than elementary or secondary for Network questions four through six. In view of these two groupings it would appear that the Network is more appropriate for either administration and/or elementary teachers. Special teachers with K-12 responsibility also reacted favorably.

Study question 4

Are there certain variations in the program that would make the Network more effective from the teachers' viewpoints?

Network questions three through six dealt with speakers, content, technological aspects, and program format. Since the reactions to all of these items were
positive, no single one stood out as in need of modification. The remaining study questions are concerned with cooperative in-service activities and in-service in general.

**Study question 5**

Are there significant differences in reactions to the twenty-four survey questions among the various subgroups?

Of the seventeen categorical subgroups, all had significant differences at the .01 or .05 levels except "special areas—elementary" and "pupil load—elementary." (See Table 57.)

**TABLE 57.**—A listing of all the categories that had subgroup responses significant to one or more of the twenty-four survey questions in the questionnaire

<table>
<thead>
<tr>
<th>Variables or Subgroups</th>
<th>No. Sig. at .01 Level</th>
<th>No. Sig. at .05 Level</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher or Admin.</td>
<td>13</td>
<td>3</td>
<td>16</td>
</tr>
<tr>
<td>Administration</td>
<td>3</td>
<td>5</td>
<td>8</td>
</tr>
<tr>
<td>Elem. or Secondary</td>
<td>8</td>
<td>3</td>
<td>11</td>
</tr>
<tr>
<td>Grade Level</td>
<td>1</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Special Areas—Elem.</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Subject Areas—Sec.</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Years Experience</td>
<td>9</td>
<td>2</td>
<td>11</td>
</tr>
<tr>
<td>Age</td>
<td>6</td>
<td>5</td>
<td>11</td>
</tr>
<tr>
<td>Sex</td>
<td>9</td>
<td>5</td>
<td>14</td>
</tr>
<tr>
<td>Degrees</td>
<td>10</td>
<td>5</td>
<td>15</td>
</tr>
<tr>
<td>Tenure</td>
<td>9</td>
<td>4</td>
<td>13</td>
</tr>
<tr>
<td>Salary</td>
<td>2</td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td>Marital Status</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Pupil Load—Elem.</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Pupil Load—Sec.</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Occup. Aspir.</td>
<td>6</td>
<td>3</td>
<td>9</td>
</tr>
<tr>
<td>Years in Network</td>
<td>7</td>
<td>4</td>
<td>11</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>84</td>
<td>51</td>
<td>135</td>
</tr>
</tbody>
</table>
For a more detailed look at the significant differences see Appendix B.

**Study question 6**

How does each school district's reaction compare with the other twelve districts?

Since the number of respondents varied with the district, with responses from some districts being very small, e.g., district H (see Table 3, page 40), it was decided by the writer that statistically, responses compared by district would not be valid, whereas taking the total of all the districts would be statistically valid with 1,033 total respondents.

**Study question 7**

How do the elementary school teachers' reactions compare with the secondary school teachers' answers to all of the survey questions?

The elementary teachers were more positive than the secondary teachers in reacting to the questions. (See Table 58 for an analysis.)

Note that the first two questions are not capable of being compared on a positive-negative scale like the other questions. Both elementary and secondary teachers felt that colleges and universities will, in the future, give the most leadership and impetus to research, development, and implementation of innovations.
TABLE 58.—A comparison of the responses of the elementary, secondary, and K-12 teachers to those survey questions with which they were significantly different

<table>
<thead>
<tr>
<th>Survey Questions*</th>
<th>X = Most Positive</th>
<th>Level of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Elem.</td>
<td>Sec.</td>
</tr>
<tr>
<td>Part II, A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>(not applicable)</td>
<td>X</td>
</tr>
<tr>
<td>2</td>
<td>(not applicable)</td>
<td>X</td>
</tr>
<tr>
<td>10</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>. .</td>
<td>X</td>
</tr>
<tr>
<td>Part II, B</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>. .</td>
<td>. .</td>
</tr>
<tr>
<td>5</td>
<td>. .</td>
<td>. .</td>
</tr>
<tr>
<td>6</td>
<td>. .</td>
<td>. .</td>
</tr>
<tr>
<td>Total</td>
<td>5</td>
<td>1</td>
</tr>
</tbody>
</table>

*See Appendix A for complete statement of survey questions.

Study question 8

How do the teachers' replies to the survey questions compare with the administrators' responses to the survey questions?

There were significant differences in their answers in sixteen of the twenty-four questions. Of the sixteen questions, the teachers reacted more positively in three and the administrators reacted more positively in twelve. (See Table 59.)
TABLE 59.—A comparison of the teachers' and administrators' responses to the survey questions with which a significant difference existed

<table>
<thead>
<tr>
<th>Survey Questions*</th>
<th>X = More Positive</th>
<th>Level of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Teach. Admin.</td>
<td>.01</td>
</tr>
<tr>
<td>Part II, A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>(not applicable)</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>. . X</td>
<td>X</td>
</tr>
<tr>
<td>5</td>
<td>. . X</td>
<td>X</td>
</tr>
<tr>
<td>7</td>
<td>X . .</td>
<td>X</td>
</tr>
<tr>
<td>8</td>
<td>. . X</td>
<td>X</td>
</tr>
<tr>
<td>10</td>
<td>. . X</td>
<td>. . X</td>
</tr>
<tr>
<td>11</td>
<td>X . .</td>
<td>. . X</td>
</tr>
<tr>
<td>14</td>
<td>. . X</td>
<td>X</td>
</tr>
<tr>
<td>16</td>
<td>X . .</td>
<td>X</td>
</tr>
<tr>
<td>18</td>
<td>. . X</td>
<td>X</td>
</tr>
<tr>
<td>Part II, B</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>. . X</td>
<td>X</td>
</tr>
<tr>
<td>2</td>
<td>. . X</td>
<td>X</td>
</tr>
<tr>
<td>3</td>
<td>. . X</td>
<td>X</td>
</tr>
<tr>
<td>4</td>
<td>. . X</td>
<td>X</td>
</tr>
<tr>
<td>5</td>
<td>. . X</td>
<td>X</td>
</tr>
<tr>
<td>6</td>
<td>. . X</td>
<td>X</td>
</tr>
<tr>
<td>Total</td>
<td>3 12</td>
<td>13 3</td>
</tr>
</tbody>
</table>

*See Appendix A for complete statement of survey questions.

Study question 9

Is there a significant difference in the answers according to years of teaching experience?

This category was significant at the .01 or .05 level for eleven of the survey questions. (See Table 60.)
TABLE 60.—Analysis of significance with the survey questions according to years of experience

<table>
<thead>
<tr>
<th>Survey Questions*</th>
<th>X = Most Positive</th>
<th>Level of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1-3  4-6  7-9  10-15  16-21  22+</td>
<td>.01  .05</td>
</tr>
<tr>
<td>Part II, A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>(not applicable)</td>
<td>X</td>
</tr>
<tr>
<td>2</td>
<td>(not applicable)</td>
<td>..  X</td>
</tr>
<tr>
<td>5</td>
<td>..  ..  ..  ..  ..  X  X</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>..  ..  X</td>
<td>..  X</td>
</tr>
<tr>
<td>12</td>
<td>..  ..  X</td>
<td>..  X</td>
</tr>
<tr>
<td>Part II, B</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>..  ..  ..  ..  ..  X  X</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>..  ..  ..  ..  X  ..  X</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>..  ..  ..  ..  ..  X  X</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>..  ..  ..  ..  ..  X  ..  X</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>..  ..  ..  ..  ..  X  X</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>..  ..  ..  ..  X  ..  X</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>0  0  2  2  2  3</td>
<td>9  2</td>
</tr>
</tbody>
</table>

*See Appendix A for a complete statement of the survey questions.

For more information on question one "not applicable" see Table 10, page 50, and for question two "not applicable" see page 56—responses by years of experience.

Study question 10

Is there a significant difference in the answers according to sex?

This category was significant at the .01 or .05 level with fourteen of the twenty-four survey questions.
As can be observed from Table 61, the men agreed more in their responses to the survey question than did the women.

**TABLE 61.--Analysis of significances with the survey questions according to sex**

<table>
<thead>
<tr>
<th>Survey Questions*</th>
<th>X = More Positive</th>
<th>Level of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
</tr>
<tr>
<td>Part II, A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>(not applicable)</td>
<td>X</td>
</tr>
<tr>
<td>3</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>6</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>7</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>8</td>
<td>..</td>
<td>X</td>
</tr>
<tr>
<td>10</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>11</td>
<td>X</td>
<td>..</td>
</tr>
<tr>
<td>12</td>
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<td>X</td>
</tr>
<tr>
<td>14</td>
<td>X</td>
<td>..</td>
</tr>
<tr>
<td>16</td>
<td>X</td>
<td>..</td>
</tr>
<tr>
<td>17</td>
<td>X</td>
<td>..</td>
</tr>
<tr>
<td>18</td>
<td>X</td>
<td>..</td>
</tr>
<tr>
<td>Part II, B</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>X</td>
<td>..</td>
</tr>
<tr>
<td>5</td>
<td>X</td>
<td>..</td>
</tr>
<tr>
<td>Total</td>
<td>12</td>
<td>1</td>
</tr>
</tbody>
</table>

*See Appendix A for a complete statement of the survey questions.

**Study question 11**

Do the answers grouped by academic degrees held by the respondents have significant differences?
In fifteen of the twenty-four questions, this category was significant at the .01 or .05 level. (See Table 62.)

**TABLE 62.---Analysis of significances with the survey questions according to academic degrees**

<table>
<thead>
<tr>
<th>Survey Questions*</th>
<th>X = Most Positive</th>
<th>Level of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B.A. B.A.+ M.A. M.A.+ Ph.D.</td>
<td>.01</td>
</tr>
<tr>
<td>Part II, A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>(not applicable)</td>
<td>X</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>4</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>7</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>10</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>11</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>14</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>15</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>17</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>18</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>1 0 5 3 5</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*See Appendix A for a complete statement of the survey questions.

For question two above—"not applicable"—each of the degree subgroups checked "lack of funds" as their first choice (see page 59—responses by academic degrees).
Study question 12

Does tenure versus nontenure have an association with the responses?

This category was significant at the .01 or .05 level with thirteen of the twenty-four survey questions, as is shown in Table 63.

TABLE 63.—Analysis of significances with the survey questions by tenure status

<table>
<thead>
<tr>
<th>Survey Questions*</th>
<th>X = More Positive</th>
<th>Level of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Tenure</td>
<td>Nontenure</td>
</tr>
<tr>
<td>Part II, A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>(not applicable)</td>
<td>X</td>
</tr>
<tr>
<td>2</td>
<td>(not applicable)</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>12</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>13</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Part II, B</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>6</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Total</td>
<td>6</td>
<td>5</td>
</tr>
</tbody>
</table>

*See Appendix A for a complete statement of the survey questions.

Regarding question one of Part II, A in Table 63—"not applicable"—the tenure teachers checked colleges and
universities as their first choice with the nontenure teachers checking private foundations as their first choice.

For question two of Part II, A—"not applicable"—both subgroups checked lack of funds as their first choice.

Study question 13

Is there a significant difference in the replies of the respondents to the survey questions according to fields of specialization?

There were two categories most directly related to the answering of this question: (1) special areas—elementary and (2) subject areas—secondary. The first category was not significant at either the .01 or .05 level with any of the twenty-four survey questions. The second category had two survey questions with which it was significant—questions nine and fourteen (see Appendix A). With question nine all of the subgroups were extremely positive with only 16 negative responses, compared to 980 positive reactions. Guidance was the most positive subgroup with question fourteen.

Study question 14

Is there a significant difference in the responses to all the survey questions by salary?

There was a significant difference at the .01 or .05 level in seven of the twenty-four survey questions.
Table 64 illustrates that, for the category of salary, positive answers occurred more frequently with the lower salaried personnel.

TABLE 64. -- Analysis of significances with the survey questions by salary

<table>
<thead>
<tr>
<th>Survey Questions*</th>
<th>X = Most Positive</th>
<th>Level of Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>5000 or less</td>
<td></td>
</tr>
<tr>
<td>Part II, A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>X X</td>
<td>. .</td>
</tr>
<tr>
<td>7</td>
<td>. . . X</td>
<td>. . . X</td>
</tr>
<tr>
<td>10</td>
<td>X . . . . X</td>
<td>X . . .</td>
</tr>
<tr>
<td>11</td>
<td>. . . . X X</td>
<td>. . . . X</td>
</tr>
<tr>
<td>Part II, B</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>. . . . . . . . . . X</td>
<td>X . . .</td>
</tr>
<tr>
<td>2</td>
<td>. . X . . . . . . . X</td>
<td>X . . .</td>
</tr>
<tr>
<td>5</td>
<td>. . X . . . . . . . . X</td>
<td>. . . X</td>
</tr>
<tr>
<td>Total</td>
<td>2 3 0 1 0 0 2 0 0</td>
<td>4 3</td>
</tr>
</tbody>
</table>

*See Appendix A for a complete statement of the survey questions.

Question three was a tie, with each of the first two subgroups rating highest; all of the subgroups were very positive.

Study question 15

Does teacher-pupil load have an association?
There were two categories related to this question: (1) teacher-pupil load—elementary and (2) teacher-pupil load—secondary.

**Teacher-pupil load—elementary.**—This category had no significant differences for the twenty-four survey questions.

**Teacher-pupil load—secondary.**—This category was significant with only one survey question—number seven, which stated that "in-service education is a purely personal matter and should be individualized for each teacher." Subgroup one, or teacher-pupil load of fifty or less, was most positive in answering this question.

**Study question 16**

Does the marital status of the respondents show a significant difference in answers?

This category was significant at the .01 or .05 level with only one of the twenty-four survey questions. It was significant at the .05 level with survey question two, which asked for a reason for the large time gap between research findings and their acceptance into practice. Each of the marital subgroups checked lack of school funds as the major reason for the research-to-practice gap.

**Study question 17**

Do the occupational aspirations show significant differences?
This factor was significant in nine of the twenty-four survey questions. As Table 65 indicates, those who aspire to be elementary principals were most positive or in most agreement with three survey questions; whereas, those who aspire to remain in the same position were never the most affirmative subgroup with the survey questions.

In question eight, all of the subgroups were extremely positive; in question three, there was a tie between the subgroups "elementary principal" and "central office administration."

**Study question 18**

Does grouping by years of participation in the Network have an association?

This factor was significant at the .01 or .05 level in eleven of the twenty-four survey questions. Table 66 illustrates that those respondents in the fourth year of operation of the Network agreed more with the survey questions than those respondents in the first, second, or third year of the Network.

**Study question 19**

Does grouping by age of respondents indicate a significant difference in the responses to the survey questions?

This factor was significant at the .01 or .05 level in eleven of the twenty-four survey questions.
TABLE 65.—Frequency that occupational aspirations subgroups were most in agreement with the survey questions

<table>
<thead>
<tr>
<th>Survey Questions*</th>
<th>Same Position</th>
<th>Elem. Prin.</th>
<th>Sec. Prin.</th>
<th>Central Office</th>
<th>College Teaching</th>
<th>College Admin.</th>
<th>Other</th>
<th>Level of Significance</th>
<th>.01</th>
<th>.05</th>
</tr>
</thead>
<tbody>
<tr>
<td>Part II, A</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>1</td>
<td></td>
<td></td>
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<td></td>
<td></td>
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<td></td>
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<td>4</td>
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<td></td>
<td></td>
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<td>X</td>
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<td>7</td>
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<td></td>
<td></td>
<td></td>
<td></td>
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<td>X</td>
<td></td>
<td></td>
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<tr>
<td>8</td>
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<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
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<td></td>
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</tr>
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<td>17</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Part II, B</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td>3</td>
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</tbody>
</table>

*See Appendix A for a complete statement of the survey questions.
TABLE 66.—Number of times the respondents, by years of participation in the Network, were more in agreement with the survey questions

<table>
<thead>
<tr>
<th>Survey Questions*</th>
<th>X = Most Positive</th>
<th>Level of Significance</th>
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<tbody>
<tr>
<td></td>
<td>First Year</td>
<td>Second Year</td>
</tr>
<tr>
<td>Part II, A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>(not applicable)</td>
<td>X</td>
</tr>
<tr>
<td>10</td>
<td></td>
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<tr>
<td>12</td>
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<td>X</td>
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<td>Part II, B</td>
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<tr>
<td>1</td>
<td>X</td>
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<tr>
<td>Total</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

*See Appendix A for a complete statement of the survey questions.

Table 66 gives the frequency of the subgroups most positive. This table illustrates that there was a tendency for the 61-up group to react most favorably toward the survey questions.

For more detail on question one—"not applicable"—see Table 11.
TABLE 67.—Analysis of responses with the survey questions by age subgroups

<table>
<thead>
<tr>
<th>Survey Questions*</th>
<th>21-25</th>
<th>26-30</th>
<th>31-35</th>
<th>36-40</th>
<th>41-45</th>
<th>46-50</th>
<th>51-55</th>
<th>56-60</th>
<th>61-up</th>
<th>Level of Sig.</th>
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<td>X . .</td>
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<td>X . .</td>
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<td>. . .</td>
<td>X . .</td>
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</tr>
<tr>
<td>Total</td>
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<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>5</td>
</tr>
</tbody>
</table>

*See Appendix A for a complete statement of the survey questions.
Study question 20

What implication does the study have for administrators--both college and public school--regarding cooperative in-service programs?

The overriding implication of this thesis for administrators charged with the responsibility for planning and implementing cooperative university-school in-service programs is the awareness on their part that:

1. When designing an in-service program for a large population there are many sub-populations with various characteristics and perceived needs;
2. For a program to be most successful these various perceived needs of these subgroups need to be met--by content variation, schedule changes, etc.; and
3. Incentives need to be offered either by the school district--extra remuneration--or by the university--graduate credit--or by both groups.

One final implication is that the Network has been perceived by the participants as successful and effective, and, consequently, more such Networks should be planned in other parts of the state and nation.
CHAPTER IV

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

This concluding chapter is organized into three sections: summary, conclusions, and recommendations.

Summary

This summary includes a condensation of the introduction and presentation of findings.

Introduction

During the school year 1964-65 the College of Education of The Ohio State University, in cooperation with twelve Ohio public school systems, launched a "Radio-Telephone Network." The school year 1967-68 was the fourth year of operation. Currently, there are fifteen districts in the Network.

Stated very briefly, the nature of the Network is a series of approximately six broadcasts originating from the radio station WOSU-FM, Columbus, Ohio, and sponsored by the College of Education of The Ohio State University in cooperation with fifteen Ohio school districts. The broadcasts include a twenty-minute presentation by a speaker or speakers to the participating school systems.
via FM transmission. After the presentation, there is a live discussion period. Utilizing telephone technology, live questions are presented to the speaker who then reacts to them. The questions and answers can be heard by all the participants. The fifteen cooperating school systems have a total staff of approximately 3,809 teachers, 218 administrators, and 95,912 students dispersed throughout 44 secondary buildings and 111 elementary buildings. The average student enrollment per district is 6,394.

The original goals of the Radio-Telephone Network were two-fold:

1. To check the feasibility of having a Radio-Telephone Network, and
2. To bring in-service activities in the form of university authorities to the public schools.

After four years of operation the goals of the Network have been accomplished very well.

It is assumed that these Network experiences will have influenced the Network members' attitudes toward cooperative in-service activities in general.

This study is an attempt to survey the administrative and teaching staffs of the fifteen school districts regarding their attitudes toward cooperative instructional projects between public schools and institutions of higher learning.
There is an increasing need for today's educators to investigate fully the rewards that can accrue from greater cooperation between public schools and institutions of higher learning. The complexity of the educational enterprise has reached the point where institutions cannot unilaterally and without inter-institutional cooperation realize their goals. This study is concerned with inter-institutional cooperation, characterized by public schools and institutions of higher learning in regard to in-service activities. One such cooperative in-service project, The Ohio State University, College of Education's Radio-Telephone Network, is studied as an example of this thrust.

Fifteen school districts participated in the Radio-Telephone Network and served as the study population for this dissertation. Thirteen of the fifteen districts participated in this research.

The writer surveyed, by a questionnaire, all of the administrators and half of the teachers in the districts. The teachers were selected randomly by the principals, utilizing alphabetical lists of teacher names.

After receiving the questionnaires, they were key punched onto IBM cards and processed by an IBM 306 computer. Chi square analysis was used to determine significance at either the .05 or .01 level.

Statement of the problem.—This study explored the attitudes of thirteen school systems (two districts did
not respond in time to participate in the study) toward cooperative in-service activities in general and toward the Radio-Telephone Network in particular. The scope of this study can be illustrated by the figure below.

Fig. 2.—A schematic representation of three levels of in-service activity

Circle A represents the Radio-Telephone Network, which is only one type of a cooperative in-service activity. Both A and B are only part of the total dimension of in-service activity. This study cuts through all three levels but concentrates on the Network and cooperative in-service activity. It is difficult, however, to avoid some reference to in-service in general.

This study attempted to identify the attitudes of the thirteen school systems toward cooperative in-service activities in general and toward the Radio-Telephone
Network in particular. Responses to the twenty basic questions posed are summarized in the "summary of findings" section of this chapter.

Profile of the respondents.—The group profile, or descriptions, of the respondents include administrative positions, teacher subgroups, grade-level responses, secondary subject areas, experience, age, sex, degrees, tenure status, salary, marital status, teacher-pupil load, occupational aspirations, and years in the Network. Table 68 gives the distribution of the administrators responding.

<table>
<thead>
<tr>
<th>Position</th>
<th>Number of Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elementary Principals</td>
<td>52</td>
</tr>
<tr>
<td>Jr. High Principals</td>
<td>20</td>
</tr>
<tr>
<td>Sr. High Principals</td>
<td>6</td>
</tr>
<tr>
<td>Superintendents or Asst. Superintendents</td>
<td>5</td>
</tr>
<tr>
<td>Central Office-Elem.</td>
<td>14</td>
</tr>
<tr>
<td>Central Office-Sec.</td>
<td>4</td>
</tr>
<tr>
<td>Central Office-K-12</td>
<td>15</td>
</tr>
<tr>
<td>Misc. Other</td>
<td>19</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>135</strong></td>
</tr>
</tbody>
</table>

There were 552 elementary teacher responses, 394 secondary, and 35 K-12, making a total of 983 teacher responses. Tables 4 and 5 (page 42) give the responses by grade levels and by subject areas.
The median years of experience of the respondents was 9.5 years, with the median age of the respondents being 41.2 years old.

There were 314 respondents, or 30.7 per cent, who were male and 712, or 69.3 per cent, female.

Three hundred eighteen, or 33.7 per cent, had a bachelor's degree; 377, or 40 per cent, had a bachelor's plus; 100, or 10.6 per cent, had a master's degree; 143, or 15.1 per cent, had a master's plus; and 3, or .6 per cent, had a doctorate.

There were 508 tenure responses and 413 reported nontenure.

The median salary reported was $7,929.

There were 750 married responses, 188 single responses, 21 divorced, and 61 widowed.

The median number of pupils per elementary teacher was 28.9, and the median number of pupils per secondary teacher was 126.2.

Seven hundred five of the respondents desired to remain in their present position, 22 aspired to the elementary principalship, 24 desired to become secondary principals, 22 hoped to become central office administrators, 82 desired to become college teachers, 5 aimed for college administration, and 79 sought other positions.

The number reporting in their first year of participation in the Network were 235, 212 in their second
year, 115 in their third year, and 63 in their fourth year of participation.

**Significant responses to the questionnaire.**—This part of the summary relates to the reactions of the respondents to the questionnaire, which contained 18 questions in Part II, A and 6 questions in Part II, B, 24 questions in all.

Table 69 illustrates that there were 135 significant relationships and 273 nonsignificant, making a total of 408 chi squares.

**Summary of findings**

The summary of findings is organized around the twenty main study questions of the dissertation.

**Study question 1.**—What are some of the attitudes of the staff members of the thirteen school districts toward university and college/public school co-sponsored instructional projects?

The university was the institution mentioned by the largest number of respondents (32.4 per cent) as the institution that will provide the main leadership in innovations in the future, and will exceed public schools in ability to conduct research. The respondents also indicated that they would appreciate off-campus graduate courses.

**Study question 2.**—What are some of the attitudes of the staff toward the Radio-Telephone Network?
TABLE 69.——Number of significant and nonsignificant categories for the twenty-four survey questions

<table>
<thead>
<tr>
<th>Survey Questions*</th>
<th>No. of Variables Sig. at .01 level</th>
<th>No. of Variables Sig. at .05 level</th>
<th>No. of Variables Not Sig.</th>
<th>Total No. of Variables</th>
</tr>
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<tbody>
<tr>
<td>Part II, A</td>
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<tr>
<td>1</td>
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<td>Total</td>
<td>84</td>
<td>51</td>
<td>273</td>
<td>408</td>
</tr>
</tbody>
</table>

*See Appendix A for a complete statement of the survey questions.
In general, the staff believed that the Network was uniquely informative; a good example of a cooperative in-service endeavor; agreed that the speakers were effective; that the content of the programs was apropos; and that the technology and format were effective.

**Study question 3.**—Is the Network more apropos for a particular group or groups?

The administrative respondents were more positive in their reaction than were the teachers. Elementary teachers and kindergarten-through-twelve teachers reacted more positively than did secondary teachers.

**Study question 4.**—Are there certain variations in the program that would make the Network more effective from the teachers' viewpoints?

The questionnaire items that dealt directly with the Network were Network questions three through six, which referred to the effectiveness of the speakers, content, technological aspects, and program format of the Network.

Approximately four times as many of the respondents stated that these four aspects of the Network were effective as did those who reacted negatively, indicating general satisfaction with the effectiveness of the Network.

One of the other items, however, dealt indirectly with the Network and had implications for improvement of the Network. This was the difference in reactions to the Network by the elementary teachers as compared with the secondary teachers; e.g., in evaluating the effectiveness
of the speakers, content, technological aspects, and format, the secondary respondents in each of the four categories were less positive than were the elementary teachers, with a chi square level of significance of .01. Also, the elementary teachers agreed more than did the secondary teachers that there are new in-service needs in areas like drugs, alcohol, pollution, new technological media—educational television, etc. In fact, the only area in which the secondary teachers were more positive was the offering of incentives for in-service programs.

Another finding with implications for variations in the Network was that the male respondents reacted more positively toward in-service than did the females.

Still another finding was that all the respondents except the superintendents felt that in-service activities should be a part of the regular school day rather than scheduled during the late "afternoon hours." (See survey question 15, on page 88.) This lends credence to a need to consider scheduling these more in line with the teachers' regular working day.

**Study question 5.**—Are there significant differences in reactions to the twenty-four survey questions among the various subgroups?

Appendix A contains the questionnaire that was used in this study. Each of the questions in this questionnaire was analyzed in terms of these eighteen variables indicated in Part I of the questionnaire. Since there were 24
questions in the questionnaire, each variable was analyzed 24 times; therefore, there were 408 analyses made. Of these 408 analyses, 135 were significant at either the .01 or .05 level, as indicated in Table 57, on page 111. The two variables that had the highest frequency of reaction were teacher/administrator and academic degrees.

A. Teacher/administrator.

The teachers' reactions varied significantly from the administrators' answers in fifteen of the twenty-four questions. This indicates that there was a tremendous amount of difference in the reactions of these two subgroups.

The teachers were more in favor of, or positive toward, only three questions: (1) individualizing in-service education, (2) new media requiring new in-service needs, and (3) in-service effectiveness being affected by the offering of incentives.

The administrators reacted more favorably toward the following items than did the teachers:
1. The administrative function of providing an environment conducive to in-service,
2. The collective in-service needs of staff members,
3. Having board policy which requires in-service education of its staff, and
4. All of the Network questions. These dealt with:
   (a) The effectiveness of the Network in imparting
       unique information,
   (b) The exemplary nature of the Network as an
       example of a cooperative university/school
       project, and
   (c) The speakers, content, technological aspects,
       and format of the Network.

B. Academic degrees.

The subgroups were bachelor's, bachelor's plus,
master's, master's plus, and doctor's. Reactions in
these five subgroups differed significantly with one
another in fifteen questions (see Table 62, on page
117). It is observed from this table that the only
question with which the bachelor's degree holders were
most favorable was number seven, which dealt with the
individualizing of in-service education. Some of those
questions with which the master's degree respondents
reacted most favorably dealt with:
1. The in-service function of administrators,
2. The service function of universities, and
3. The speakers and content aspects of the Network.

The doctoral subgroup answered most positively
those questions dealing with:
1. In-service implications of the new technological
   media,
2. Teachers being curriculum decision makers and seeking to improve their skills accordingly,

3. Teacher curriculum involvement being a part of the regular school day, and

4. Board requirement and encouragement of in-service growth by teachers.

**Study question 6.**—How does each school district's reaction compare with the other twelve districts?

Table 3, on page 40, gives the number and percentage of responses by district. It is observed that the extent of participation in the study varied extensively among the districts. District H, for example, submitted only 4 teacher responses from a sample size of 348. This represented only a 1.1 per cent response. Likewise, in district F, only two of the district's thirteen administrators responded, representing only 15 per cent of the sample size. In these two districts, the percentage of response was too low to be considered representative of the total district. That is, inferences could not be made to the total staff in these two districts on the basis of the results from those who did respond. Moreover, there were thirteen districts in all that participated; if each of these thirteen districts are to be compared with one another, then each of the district's results would have to be valid for the comparisons to be valid. In districts F
and this was not the case. In view of these results, the writer decided not to have a district-by-district comparison. All of the thirteen districts were considered as a total responding group.

Study question 7.—How do the elementary school teachers' reactions compare with the secondary school teachers' answers to all of the survey questions?

As pointed out in study question 4, the elementary teachers were more positive toward in-service. In fact, the only question the secondary teachers reacted more favorably to than did the elementary teachers was number sixteen, which dealt with the effectiveness of an in-service program being highly dependent on the incentives offered to the teachers. Data included in Table 58 show that the elementary teachers were more positive than the secondary teachers toward those questions which dealt with the in-service implications of social problems today involving student use of drugs, alcohol, sex, etc., and the new multi-media equipment; and the last three questions which related to the Network—whether it was uniquely informative, a good example of a cooperative university-school endeavor, and had effective speakers.

Study question 8.—How do the teachers' replies to the survey questions compare with the administrators' responses to the survey questions?
This question has already been dealt with rather extensively in study question five. For a review of the comparison of the teachers' responses with the administrators' responses see study question five, on page 136.

Study question 9.--Is there a significant difference in the answers according to years of teaching experience?

As stated previously, the responses to the twenty-four survey questions were analyzed and categorized by various factors such as age, sex, experience, salary, etc. Study question nine is concerned with how the respondents, grouped by years of experience, reacted. It can be observed by referring to Table 60 that those respondents with one-to-three or four-to-six years of experience did not react most positively to any of the questions. It will also be noted from this table that the respondents with twenty-two or more years of experience reacted most positively to the three questions which dealt with education problems being amenable to research, whether the Network gave unique information, and the effectiveness of the speakers in the Network.

The relatively younger teachers— with one-to-six years of experience— did not react most positively to any of the questions, when compared to teachers with more experience.

Those respondents with seven-to-nine years of experience reacted more positively than the other
experience groupings to the two questions that dealt with the implications of the new technology of in-service and with the offering of graduate courses off campus in the public schools' own buildings. In summary, the more the years of experience the greater the tendency to react positively to in-service education, and especially to the Network.

**Study question 10.**--Is there a significant difference in the answers according to sex?

A significant difference in the way the males reacted, as compared to the females, existed in thirteen of the twenty-four questions. Of the thirteen questions that were significant, the male respondents were more positive in twelve.

The only question that the females were more positive toward dealt with in-service needs being of a collective, or group, nature rather than individualized.

The other twelve questions that were significant dealt with areas that indicated an over-all attitude toward the importance of in-service activities in a district. In other words, the male respondents were more receptive to the need for in-service activities than were the female respondents.

Both sexes were in agreement that in-service activities should be a part of the regular school day rather than late "afterwork hours."
They also tended to agree on those issues that were not as closely related to in-service activities such as the service function of universities, etc.

**Study question 11.**—Do the answers grouped by academic degrees held by the respondents have significant differences?

Data in Table 62 bring to light a very interesting phenomenon. It can be noted that those teachers who are in the groups of "bachelor's plus" and "master's plus" did not react most positively to any of the general questions dealing with in-service education. Those with "master's plus," however, did react most positively to some of the questions that related to the effectiveness of the Network.

The "bachelor's" group felt most strongly that in-service is a purely personal matter and should be individualized for each teacher. The group most positive toward the value or effectiveness of the Network was the "master's plus" group. The trend seemed to be for those with master's degrees and up to react most positively toward in-service education in general.

Those with doctor's degrees were most positive that there should be board policy that encouraged or required in-service education for the staff.

**Study question 12.**—Does tenure versus non-tenure have an association with the responses?

The tenure teachers reacted more positively toward the questions dealing with the capability of educational
problems being researched, teachers as decision makers, teachers having responsibility for commensurate growth, and those questions on the Network pertaining to the uniqueness of the information provided, the Network's being a good example of a cooperative project, and the effectiveness of the speakers and content.

The nontenure respondents were more positive toward those questions dealing with new media implications for in-service, offering of graduate courses off campus in district buildings, and the need for teacher changes in understandings, skills, and attitudes for effective curriculum development to occur. The nontenure teachers were also more positive toward those Network questions that dealt with the effectiveness of the technological aspects and with the format which was used.

**Study question 13.**--Is there a significant difference in the replies of the respondents to the survey questions according to fields of specialization?

Two variables included in the study related to fields of specialization--special areas-elementary and subject areas-secondary. Reference to Table 57 will verify that the respondents, grouped by special areas-elementary, had no responses to the twenty-four questions that were significantly different at either the .01 or .05 level.

Answers grouped by subject areas-secondary were significant in terms of two questions: number nine which
dealt with in-service implications of the rapid changes of society, and number fourteen--curriculum development's requiring commensurate changes in teacher understandings, skills, and attitudes.

Of the various subject areas, mathematics, sciences, etc., guidance respondents tended to be most positive toward cooperative in-service activities.

Study question 14.--Is there a significant difference in the responses to all the survey questions by salary?

It can be observed that the most positive replies came from those respondents with salaries below the median salary level. The questions involved dealt with a favorable attitude toward individualizing instruction, and increased need for in-service implications of the new media.

Study question 15.--Does teacher-pupil load have an association?

There were two variables related to this question: teacher-pupil load-elementary and teacher-pupil load-secondary; however, teacher-pupil load-elementary had no significant differences for the twenty-four questions.

Secondary teacher-pupil load was significant for only one question, number seven, which related to the individualizing of in-service activities.

Of the six teacher-pupil load intervals: 50 or less, 51-75, 76-100, 101-125, 126-150, and 151 or more, the first, 50 or less, was most positive toward in-service education.
Study question 16.—Does the marital status of the respondents show a significant difference in the answers?

Responses from the various marital categories—married, divorced, widowed, single—were essentially the same. There was not enough variation among the categories to warrant extensive discussion. The only question where some significant difference occurred (.05 level) was the time gap between research findings and their acceptance into practice.

Study question 17.—Do the occupational aspirations show significant differences?

The occupational aspirations of the respondents included the following: (a) remaining in the same position, (b) elementary principalship, (c) secondary principalship, (d) central office administration, (e) college teaching, and (f) college administration.

There were differences in nine of the twenty-four questions. The main reaction by each of the respondents by job aspirations were as follows: those aspiring to the elementary principalship were most positive toward number seven—individualizing in-service—and to questions three and four of the Network, which relate to the effectiveness of the speakers and the content.

The secondary principal aspirants were most positive toward number twelve—the favorability of offering some graduate courses off campus.
Central office administrator aspirants were most positive toward questions A-17 and B-3, which dealt respectively with the favorability of the school board writing policy to encourage in-service and the effectiveness of the speakers in the Network.

It should also be noted from Table 65 that those who aspire toward their own position; i.e., do not desire a change in their work, did not react most positively toward any of the questions. This group represents 75 percent of the respondents.

**Study question 18.**—Does grouping by years of participation in the Network have an association?

Grouping by years of participation revealed one important result—those respondents in their fourth year of the Network reacted more favorably to in-service than those with one-to-three years of experience in the Network. This tends to verify an assumption by the writer (page 2) that participation in the Network will influence positively the Network members' attitudes toward cooperative in-service activities.

**Study question 19.**—Does grouping by age of respondents indicate a significant difference in the responses to the survey questions?

As one would expect, the respondents grouped by age reacted very similarly to those grouped by years of experience. In both cases most of the favorable responses were to those questions dealing with the Network. And it
was those respondents in their fourth year of the Network, or most experienced, who reacted most positively to the in-service education provided by the Network.

**Study question 20.**—What implication does the study have for administrators—both college and public school—regarding cooperative in-service programs?

The overriding implication of this thesis for administrators charged with the responsibility for planning and implementing cooperative university-school in-service programs is the awareness on their part that:

1. When designing an in-service program for a large population there are many sub-populations with various characteristics and perceived needs;

2. For a program to be most successful these various perceived needs of these subgroups need to be met—by content variation, schedule changes, etc.; and

3. Incentives need to be offered either by the school district—extra remuneration—or by the university—graduate credit—or by both groups.

One final implication is that the Network has been perceived by the participants as successful and effective; consequently, more such networks should be planned in other parts of the state and nation.
Conclusions

1. The first conclusion formed from an analysis of the responses to the questionnaire by the administrators and teachers was that the administrators displayed more of a nomothetic\(^1\) reaction and the teachers tended to display an idiographic\(^2\) reaction. Nomothetic refers to an identification with the goals and expectations of an institution, while idiographic implies the needs of the individual in an institution. Specific reactions to the questionnaire that seemed to verify this reaction by the writer were:

a. That the teachers agreed more than the administrators that in-service education should be individualized,

b. That the administrators reacted more favorably toward having board policy encouraging in-service education than did the teachers. A concern with board policy is a concern for the goals of the institution. Policy development is a vehicle for maintaining an organization's cohesiveness and usually has global statements that concern the


\(^2\)Ibid.
total staff rather than extensive allowances for individuals; hence a nomothetic reaction,
c. That the administrators reacted more positively toward having board policy that requires in-service education than did the teachers, and finally
d. Teachers felt that curriculum development work and in-service activities should be a part of the regular school day rather than late afternoon hours.

2. A second conclusion was that the administrators considered the Network more effective than did the teachers, and the administrators were more positive toward in-service in general.

3. A third conclusion was that the secondary teachers were not as positive toward the Network as were the elementary teachers. Responses to study question four indicated that secondary teachers were less positive toward the effectiveness of the speakers, content, technological aspects, and format. Furthermore, an analysis of responses to the survey revealed that of all the questions that directly or indirectly dealt with in-service education only one was answered most favorably by the secondary teachers and it had to do with offering incentives to encourage in-service education.
4. A fourth major conclusion was that those who do not aspire toward a change in their job classification do not have as much enthusiasm toward in-service education as those who do aspire toward a job change or promotion.

5. A fifth conclusion was that the subject matter a teacher deals with does not seem to have a bearing or effect on his perceived needs for in-service education. There was no significant difference in the answers to the questionnaire according to fields of subject-matter specialization.

**Recommendations**

As a result of the findings and conclusions of this thesis it is recommended that:

1. In the planning of cooperative university-school system in-service projects the individual need dispositions of the teachers be considered more extensively, since teachers seem to be more idiographic and identify less with the needs of an institution than with their own personal needs.

2. Some in-service content that would point out the needs of institutions as complex organizations would be desirable. An example of such topics would be loyalty to the organization, need for cooperation, importance of effective internal communication, and the like.
Assuming that the teachers would become more nomothetic as a result of in-service on needs of institutions as a whole, more unity and less divisiveness between teachers and administration/school boards would result.

3. Further research be conducted to gain more information as to why administrators reacted more positively toward cooperative in-service activities than did the teachers.

4. In light of the fact that secondary teachers reacted less positively toward the Network than did the elementary teachers, more research should be conducted to determine why. Some possible reasons could be that:
   a. Secondary teachers feel more expert in their cognate fields,
   b. Elementary teachers need to teach many different subject areas and consequently feel a greater need for in-service,
   c. Perhaps elementary teachers view teaching more broadly, i.e., more sensitized to methods, the total child, etc., and consequently feel a greater need for in-service, or
   d. Since elementary teachers reacted more positively toward the Network than secondary teachers, the content of future programs should be analyzed to see if there has been as great a tendency to meet
the perceived needs of secondary teachers as those of elementary teachers.

5. Further research be done to determine why the men respondents reacted more favorably toward in-service activities than did the women respondents.

6. Additional research be conducted to determine why the participants in their fourth year of participation were more positive in their reactions to the Network. Some possible factors that could be investigated are:
   a. Participation in the Network has changed favorably their attitudes toward in-service education,
   b. Having been the original participants they were involved at the grass-roots level in organizing the Network, and
   c. Being original joiners to the Network they initially had the most enthusiasm, which has endured to the present.

7. More research be carried out to investigate this thesis' finding—that a person's job aspirations are related to his attitudes toward in-service education.
APPENDIX A

A REGIONAL SURVEY TO OBTAIN DATA REGARDING UNIVERSITY AND PUBLIC SCHOOL CO-SPONSORED ACTIVITIES

This questionnaire is an attempt to survey opinion among the Radio-Telephone Network members regarding attitudes toward in-service projects, particularly those jointly developed by the co-operative efforts of public schools and institutions of higher learning. Although the study group is the Network members, the study is not of the Network alone but of in-service in a larger sense.

The questionnaire is easy to answer; just place a check mark by the response that most nearly represents your thinking. The questionnaire will only take about ten to fifteen minutes to answer. Will you please return it as soon as possible, unsigned, to your superintendent who will return all of them to me.

Thank you very much for your cooperation.

David C. Hardwick

David C. Hardwick

Doctoral Candidate
College of Education
The Ohio State University
**PART I**

**QUESTIONNAIRE:**

Please check the item that applies to you.

1. School district
   - 0116-Ada Exempted
   - 0224-Bucyrus City
   - 0324-Cambridge City
   - 0414-Chillicothe City
   - 0514-Circleville City
   - 0624-Coshocton City
   - 0734-Fairborn City
   - 0835-Jefferson Local
   - 0924-Kenton City
   - 1014-Kettering City
   - 1124-Lancaster City
   - 1235-Madison Township Local
   - 1324-Marion City
   - 1425-Marysville Exempted
   - 1515-Shawnee Local
   - 1614-Springfield City

2. Teacher or Administrator
   - 1 - Teacher
   - 2 - Administrator

3. Administration
   - 1 - Elementary Prin. or Asst. Prin.
   - 3 - Sr. High Prin. or Asst. Prin.
   - 4 - Superintendent or Asst. Sup't.
   - 5 - Central office-Elementary
   - 6 - Central office-Secondary
   - 7 - Central office-K-12
   - 8 - Other (please specify)

4. Elementary or Secondary
   - 1 - Elementary
   - 2 - Secondary
   - 3 - K-12

5. Grade level - elementary
   - 1 - Kindergarten
   - 2 - First
   - 3 - Second
   - 4 - Third
   - 5 - Fourth
   - 6 - Fifth
   - 7 - Sixth
   - 8 - K-6
   - 9 - K-12

6. Special areas—elementary
   - 1 - Music
   - 2 - Art
   - 3 - Physical Education
   - 4 - Librarian
   - 5 - Reading
   - 6 - Special Education
   - 7 - Guidance
   - 8 - Other (please specify)

7. Subject areas—secondary
   - 1 - Mathematics
   - 2 - Science
   - 3 - Social Studies
   - 4 - Language Arts and Foreign Languages
   - 5 - Fine Arts
   - 6 - Practical Arts
   - 7 - Librarian
   - 8 - Guidance
   - 9 - Other (please specify)

8. Total years of teaching, administration, counseling, etc.
   - 1 - 1-3 years
   - 2 - 4-6 years
   - 3 - 7-9 years
   - 4 - 10-15 years
   - 5 - 16-21 years
   - 6 - 22 years plus

9. Your age
   - 1 - 21-25
   - 2 - 26-30
   - 3 - 31-35
   - 4 - 36-40
   - 5 - 41-45
   - 6 - 46-50
   - 7 - 51-55
   - 8 - 56-60
   - 9 - 61 up

10. Sex
    - 1 - Male
    - 2 - Female

11. Degrees
    - 1 - B.A.
    - 2 - B.A. plus
    - 3 - M.A.
    - 4 - M.A. plus
    - 5 - Ph.D.

12. Tenure status
    - 1 - Tenure
    - 2 - Non tenure

13. Salary
    - 1 - 5,000 or less
    - 2 - 5,001 - 5,500
    - 3 - 5,501 - 6,000
    - 4 - 6,001 - 6,500
    - 5 - 6,501 - 7,000
    - 6 - 7,001 - 7,500
    - 7 - 7,501 - 8,000
    - 8 - 8,001 - 9,000
    - 9 - 9,001 or more

14. Marital status
    - 1 - Married
    - 2 - Single
    - 3 - Divorced
    - 4 - Widowed

15. Teacher-pupil load—elementary
    - 1 - 1-10
    - 2 - 11-15
    - 3 - 16-20
    - 4 - 21-25
    - 5 - 26-30
    - 6 - 31 or more

16. Teacher-pupil load—secondary
    - 1 - 50 or less
    - 2 - 51-75
    - 3 - 76-100
    - 4 - 101-125
    - 5 - 126-150
    - 6 - 151 or more

17. Occupational aspirations
    - 1 - Some position
    - 2 - Elementary principalship
    - 3 - Secondary principalship
    - 4 - Central office administration
    - 5 - College teaching
    - 6 - College administration
    - 7 - Other (please specify)

18. Years of participation in the Network
    - 1 - First year
    - 2 - Second year
    - 3 - Third year
    - 4 - Fourth year
PART II

A. Please check the item that most nearly expresses your view.

1. Which single group do you believe will, in the future, give the most leadership and impetus to research, development, and dissemination of innovations?
   1 - Private foundations
   2 - U.S. Office of Education
   3 - Colleges and universities
   4 - State Departments of Education
   5 - Public school districts

2. Which of the following statements do you believe best explains the reason for the large time gap between research findings and their acceptance into practice?
   1 - Public school teachers were not sufficiently involved in the original planning and design of the research
   2 - Inadequate dissemination of the results by the researchers
   3 - Lack of understanding of the research findings by school administrators and teachers
   4 - Lack of school funds for public schools to implement the research findings
   5 - Lack of community and board support
   6 - Apathy on the part of the teachers
   7 - Lack of true leadership by public school administrators
   8 - Disregard of the validity and reliability of the research findings by public school people

3. One of the major functions of administration is to help provide the environment whereby teachers are encouraged to grow professionally.
   1 - Strongly agree
   2 - Agree
   3 - No observation
   4 - Disagree
   5 - Strongly disagree

4. Most universities consider service to the community as one of their major obligations, along with instruction and research.
   1 - Strongly agree
   2 - Agree
   3 - No observation
   4 - Disagree
   5 - Strongly disagree

5. The behavioral sciences are making tremendous strides toward becoming truly "sciences." Assuming education to be an "applied behavioral science" it would appear that educational problems are amenable to research.
   1 - Strongly agree
   2 - Agree
   3 - No observation
   4 - Disagree
   5 - Strongly disagree

6. As a rule, universities exceed public schools in resources for conducting valid and reliable research.
   1 - Strongly agree
   2 - Agree
   3 - No observation
   4 - Disagree
   5 - Strongly disagree

7. In-service education is a purely personal matter and should be individualized for each teacher.
   1 - Strongly agree
   2 - Agree
   3 - No observation
   4 - Disagree
   5 - Strongly disagree

8. In-service needs are often collective as well as individualized, for example, introducing curriculum revisions such as modern math, Greater Cleveland Social Science Project, etc.
   1 - Strongly agree
   2 - Agree
   3 - No observation
   4 - Disagree
   5 - Strongly disagree
<table>
<thead>
<tr>
<th>9. Rapid social, economic, political and cultural changes are affecting the nature of educational needs of youth and consequently are affecting the nature of In-service needs of teachers.</th>
<th>14. Curriculum development and change require a commensurate change in teacher understandings, skills, and attitudes.</th>
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<tr>
<td></td>
<td>1 - Strongly agree</td>
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<td>4 - Disagree</td>
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<td></td>
<td>5 - Strongly disagree</td>
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</tbody>
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<tr>
<th>10. New instructional responsibilities being placed on the schools are causing new In-service needs for teachers in areas like drugs, narcotics, alcohol, sex, and pollution of our natural resources.</th>
<th>15. Teacher involvement in curriculum change and In-service activities should be a part of the regular school day or year and not during late &quot;afterwork&quot; hours.</th>
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<tr>
<td></td>
<td>1 - Strongly agree</td>
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<td>2 - Agree</td>
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<td>4 - Disagree</td>
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<td>5 - Strongly disagree</td>
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<tr>
<th>11. Use of new educational technology is requiring In-service needs for items like open and closed circuit television, videotape recorders, programmed instruction, computer assisted instruction, etc.</th>
<th>16. The effectiveness of an In-service program is highly dependent on the incentives offered to the teachers by the school system.</th>
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<tr>
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<td>1 - Strongly agree</td>
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<td></td>
<td>5 - Strongly disagree</td>
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</tbody>
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<tr>
<th>12. Some graduate courses should be offered to the total faculty in their own public school buildings.</th>
<th>17. The school board of education has the responsibility to develop policies that will encourage In-service education of its staff.</th>
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<tr>
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<td>1 - Strongly agree</td>
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<td>4 - Disagree</td>
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<tr>
<td></td>
<td>5 - Strongly disagree</td>
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</tbody>
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<tr>
<th>13. Teachers should be curriculum decision makers and should feel the responsibility to contend with this type of teacher growth.</th>
<th>18. The school board of education has the responsibility to develop policies that will require In-service education of its staff.</th>
</tr>
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<tr>
<td></td>
<td>1 - Strongly agree</td>
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<td>2 - Agree</td>
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<td>4 - Disagree</td>
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<td></td>
<td>5 - Strongly disagree</td>
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| 14. Involvement of my school system in the Radio-Telephone Network provided me with an opportunity to obtain information that I would not otherwise have obtained. |
|---|---|
| | 1 - Strongly agree |
| | 2 - Agree |
| | 3 - No observation |
| | 4 - Disagree |
| | 5 - Strongly disagree |

| 2. The Radio-Telephone Network is a good example of the benefits that can accrue from joint, cooperative efforts of public schools and institutions of higher learning. |
|---|---|
| | 1 - Strongly agree |
| | 2 - Agree |
| | 3 - No observation |
| | 4 - Disagree |
| | 5 - Strongly disagree |

| 3. The speakers in the Network were very effective in imparting new knowledge and understanding to the Network participants. |
|---|---|
| | 1 - Strongly agree |
| | 2 - Agree |
| | 3 - No observation |
| | 4 - Disagree |
| | 5 - Strongly disagree |

| 4. The content or topics have been very appropriate to our school system. |
|---|---|
| | 1 - Strongly agree |
| | 2 - Agree |
| | 3 - No observation |
| | 4 - Disagree |
| | 5 - Strongly disagree |

| 5. The technological aspects of the programs have been well managed. |
|---|---|
| | 1 - Strongly agree |
| | 2 - Agree |
| | 3 - No observation |
| | 4 - Disagree |
| | 5 - Strongly disagree |

| 6. The program format which has been used is very appropriate for this type of In-service medium. |
|---|---|
| | 1 - Strongly agree |
| | 2 - Agree |
| | 3 - No observation |
| | 4 - Disagree |
| | 5 - Strongly disagree |
APPENDIX B

TABLE 70.—Chi squares of profile items (Part I, 2-18) with questions (Part II, A 1-18 & B, 1-6)

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Value</th>
<th>Degree of Freedom</th>
<th>Level of Significance</th>
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<td>Teacher or Administrator</td>
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APPENDIX C

SAMPLE CALCULATION OF THE CHI SQUARE
AS USED IN THIS STUDY

Formula -- $x^2 = \sum \frac{(O-E)^2}{E}$

This chi square refers to the data in Table 1, page 14.

1. E (expected frequency) is calculated for each cell by multiplying the row total (rt) times the column total (ct) and dividing by the total frequency; e.g., for cell A, $887 \times \frac{302}{977} = 274.18$. This is repeated for each cell.

2. Data substitution for the formula is best arranged in tabular form.

<table>
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<th>Cells</th>
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$\sum \frac{(O-E)^2}{E} = 12.20000$
This figure, 12.20, compares closely with the 12.17 which was the computer's answer. The extent to which decimal places were carried out accounts for the .03 difference in answers.

3. After obtaining the chi square, the number of degrees of freedom must be figured, using the formula:

\[ df = (r-1) (c-1) \]
\[ = (2-1) (5-1) \]
\[ = 1 \times 4 = 4 \]

4. To determine significance one looks at a table of distribution of \( x^2 \) with the degrees of freedom and compares at the level of acceptance which the study uses.
Dear __________ (addressed to superintendents)

You will recall my mentioning at a meeting of the superintendents of all the participating districts of the Radio-Telephone Network an impending doctoral study being planned by Mr. David C. Hardwick, who at that time was an Administrative Associate in my office.

He has been given my approval for the study, and is working under the direction of Dr. Roy A. Larmee, Professor of Education, Educational Administration who is his major adviser. I would like to request your approval and cooperation in helping him collect data for his doctoral dissertation.

Enclosed is a xerox copy of the questionnaire that is to be answered. The final form of the questionnaire will not be nine pages but a single folded sheet printed by a printing office.

The study is not devoted entirely to the Radio-Telephone Network, but is aimed at in-service education in a more general way.

The information collected will be treated with professional confidence with no individual respondent or school district being identified. Your responsibility in the study would be to:

1. Distribute the questionnaires to fifty per cent of your teachers in each building. The principal can give them to every other teacher in his building alphabetically.

2. Have each administrator in the system fill out the questionnaire.
3. Collect all of them and mail in the large package supplied to:

    David C. Hardwick
    Director of Curriculum
    Franklin Area School District
    Box 350
    Franklin, Pennsylvania 16323

    David Hardwick will be calling you shortly in case you have any questions. Your cooperation is sincerely appreciated.

Sincerely yours,

William B. McBride
Assistant Dean, Field Relations

WBM:fs

Enclosure
Follow-up postcard for return of the questionnaires

June 24, 1968

Dear __________ (superintendents)

Just a reminder regarding the questionnaires titled "A Regional Survey to Obtain Data Regarding University and Public School Co-sponsored Activities" that were mailed to you May 13, 1968. Will it still be possible to receive them from your district? Thank you very much.

Very truly yours,

David C. Hardwick
BIBLIOGRAPHY

Books


Articles and Periodicals


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