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The Relationships between Certain Teacher Traits and the Quality of Instruction as Revealed by form M of the Evaluative Criteria

Cameron Benjamin Dickerson

College of William & Mary - School of Education

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THE RELATIONSHIPS BETWEEN CERTAIN TEACHER TRAITS 
AND THE QUALITY OF INSTRUCTION AS REVEALED 
BY FORM M OF THE EVALUATIVE CRITERIA 

by 

Cameron Benjamin Dickerson
ACKNOWLEDGMENTS

The writer acknowledges with grateful appreciation the guidance and encouragement given him in this study by Mr. K. H. Cleton, of the Department of Education of the College of William and Mary.

Acknowledgment is made to Doctor Fred M. Alexander of the Virginia Department of Education for making available the material from which the data for this study were gathered.

Appreciation is hereby expressed to Doctor J. E. Pate and Doctor C. F. Marsh for their helpful suggestions to the writer in bringing the work to a conclusion.

To the friends who made thoughtful and pertinent suggestions, the writer expresses sincere appreciation.
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CHAPTER I

INTRODUCTION

The old saying, "As the teacher, so the school", is as true today as when it was first uttered. This thought was aptly expressed by one of our leading educators when he stated, "So far as our schools are concerned, the actual progress of education is almost completely in the hands of the million classroom teachers of the country". Beautiful buildings and modern facilities are desirable, but their importance depends upon the extent to which they make the instructor's work more effective. It is indeed difficult to overestimate the part that the teacher plays in education because it is the good teacher that makes the good school.

Statement of the problem. There are certain traits that tend to make an individual successful or unsuccessful in any chosen field of human endeavor. With this thought in mind, one's attention is focused on the search for those traits possessed by an individual that characterize him as a success in the teaching field. Obviously, these are innumerable, some easily detected, while others fit into the pattern in such a manner that it is difficult to isolate them

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and to determine with any degree of satisfaction the extent of their influence upon the whole performance. This study will make no attempt to be all inclusive, but rather will select twenty-two teacher traits and show the relationship that exists between them and the quality of instruction as revealed by Form "M" of the Evaluative Criteria.²

Purpose of the study. A child's attainment in school is influenced, more than most people realize, by the factors involved in the evaluation of his progress. Teachers, likewise, tend to be influenced by the factors used in judging them good or bad.

Administrators and supervisors generally rate teachers by standards based on how much they believe certain traits influence the quality of instruction. Do these accepted traits actually exert the influence accorded them? In a discussion of this topic, A. S. Barr made the following statement:³

More needs to be known about the relationship between the traits of the teacher, the performance of the teacher, and the changes produced in the child. . . . There are, too, many preconceived notions about the qualities and activities of teachers essential to good results in


teaching that need investigation.

The purpose of this study is to contribute evidence on the relative value of various teacher traits as they bear on general teaching efficiency. The investigation is related to school efficiency inasmuch as it may be of value in the pre-service training of teachers, the selection of teachers, and the improvement of teachers in service.

Importance of the study. The public schools of our nation find themselves today in a place of importance never experienced before in the history of education. Not only do they reach more people than ever before, but they have also been charged with many responsibilities heretofore cared for by the home and the church.

It has increasingly become the responsibility of the teacher to preserve the heritage of our past and to safeguard our way of life. Barr emphasized this point when he said:

There are approximately one and a quarter million teachers in this country who teach some thirty million pupils. The schools in which these pupils and teachers work constitute one of the country's most extensive enterprises, and in a real sense supply the foundations for the democratic order for which we strive. Next to the pupil, the teacher is the most important single factor in this great enterprise. She is the central impelling force in our educational effort. Without good teachers there cannot be good schools.4

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It is generally agreed by school administrators that, on the whole, the public school teachers of today are conscientious and industrious, but this does not necessarily mean that all of these teachers are competent to meet effectively the demands required of them today.

Surprisingly little is known about the factors that are important in determining what constitutes a competent teacher. An examination of the literature in this field of study reveals that educators are by no means in agreement; nevertheless, the many varying opinions do bear inspection. This fact is supported by the following statement taken from one of the most widely read teacher training studies: 5

But in the use of traits for local supervisory purposes, there has been no agreement, and little effort to secure agreement, upon the conspicuous traits or qualities of successful or unsuccessful teachers in general.

Any findings in this study that throw additional light on the problem involved may be considered a contribution to the field of education.

Related studies. After a thorough search of the literature, the investigator was unable to find any study dealing with the relationships between various teacher traits and the quality of instruction as revealed by the Evaluative

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Criteria. The conclusion that no such study has been made is supported by Carl A. Jessen, Secretary-Treasurer of the Cooperative Study of Secondary School Standards, when he wrote, "I know of no study which has been made on the relationship of qualifications of teachers to the quality of instruction as revealed by Cooperative Study materials".6

Since 1915, however, approximately twenty-five studies related to this problem have been made. The most recent were made at the University of Wisconsin under the direction of A. S. Barr, professor of education at that institution.

A survey of these studies reveals that in about one-half the cases the investigators dealt with the prediction of teaching success and they based their studies on the relationship of the various phases of professional and academic training to teaching efficiency. The remaining studies are broader in scope, however, and consider traits and qualifications not always directly related to formal training.

In general these studies are in agreement on these points; namely, that there is a high degree of relationship between personality and efficiency in teaching, that there is a close relation between interest in teaching as a career and success, but there is little correlation to be found be-

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6 Letter of Carl A. Jessen to investigator, July 8, 1947, Appendix.
tween experience and success.

Considerable disagreement was found in these studies, however, on the relationship existing between professional training and teaching success. Knight concluded that the relation of professional knowledge to the quality of teaching is represented by a correlation of .541, which is significant. On the other hand, Crabbs reports that the relationship between professional tests and effectiveness in teaching is low. Boyce found that the least important of forty-five teaching traits is professional preparation. Both Fordyce and Boyce found a high degree of correlation between technique and teaching success.

7 Odenweller, Arthur Leonard, Predicting the Quality of Teaching, Contributions to Education, No. 676, Teachers College, Columbia University, New York, 1936, p. 96, citing Qualities Related to Success in Teaching.

8 Crabbs, Lelah Mae, Measuring Efficiency in Supervision and Teaching, Contributions to Education, No. 175, Teachers College, Columbia University, New York, 1925, p. 95.


11 Boyce, op. cit., p. 68.
CHAPTER II

BASIS OF THE STUDY

The Evaluative Criteria. The Cooperative Study of Secondary School Standards was formally organized in 1933\(^1\) by the six regional accrediting associations in the United States because of the continued dissatisfaction with prevailing methods of accrediting schools. The study was financed by a grant of $200,000 from the General Education Board and by contributions from the six regional associations themselves. Six years of intensive research were devoted to this study and, during the time of its greatest activity, Walter Crosby Bells was employed as coordinator.

The cardinal result of this work is the Evaluative Criteria, which consists of some 1600 checklists which should characterize a good school, and 500 evaluations based upon the checklists. The work of leading experts in education throughout the country made these criteria possible. The extent of this work is revealed in the following statement\(^2\) taken from Cooperative materials:

> In its evolution, Evaluative Criteria passed through several mimeographed and printed editions. Originally based upon over 2500 research studies, committee reports, and special investigations in the field of secondary

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\(^2\) Ibid, p. 22
education, it was refined and improved as the result of extensive criticism by selected educators in all parts of the country and as a result of its experimental use in 200 secondary schools of various sizes and types in every state.

These criteria are so constructed that, in employing them, the process of evaluation is divided into three main phases. The first two phases are sub-divided into eleven elements. There is a printed form for each element which varies in length from four to twenty pages, containing checklists and summary evaluations. The third phase of the evaluation concerns the individual teachers. For this phase there is a form entitled Data For Individual Staff Members, known as Form M. These various phases of evaluation are as follows:

Basic Information
  Philosophy and Objectives
  Pupil Population and School Community
School Evaluation
  Educational Program
    Curriculum and Courses of Study
    Pupil Activity Program
    Library Service
    Guidance Service
    Instruction
    Outcomes of Educational Program
School Staff
School Plant
School Administration
Individual Evaluation
  Data For Individual Staff Members
Summary
  Summary Forms

Description of Form M. Form M, Data For Individual Staff Members, is composed of twelve pages, and one form is
provided for each staff member in the school to be evaluated. The teacher's name, position, subjects taught, proportion of full-time given to the school studied, name of school, and date are called for on page one. Space is provided on this page for the complete weekly schedule of the teacher. Page two is devoted to general instructions for those doing the evaluating. The remaining ten pages are arranged for the listing of the following information pertaining to the teacher:

Preparation
   College Attendance
   Experience
      School Experience
      Non-school Experience
   Academic Preparation
   Professional Preparation

Improvement in Service
   Membership in Organizations
   Authorship
   Reading
   Travel
   Visits
   College Credit
   Study of School Problems
   Outstanding Contribution

Teacher Load

There are eight checklists comprising eighty-seven items dealing with the aforementioned qualifications and including the following:

Personal Qualifications
Classroom Activities
Use of Community and Environment
Textbooks and Other Instructional Material
Methods of Appraisal
Instructional Qualifications
Provision is made for ratings on academic and professional preparation and for the computation of teacher load.\(^3\) Also, there are nineteen evaluations to be made on the various qualifications listed. Finally, on the last page space is allowed for special committee judgment on the degree of satisfaction to which the staff member carries on the instructional work. Thus, a total of twenty evaluations are made.

**Use of Form M.** The instructions for use of Form M include the following statement:

The two-fold nature of the work—evaluation and stimulation to improvement—should also be kept constantly in mind. Careful, discriminating judgment is essential if these purposes are to be satisfactorily served. While the attainment of a high score may be desirable, it is of secondary importance. It should not be permitted to interfere with accurate evaluation; otherwise, real improvement cannot be undertaken and attained.\(^4\)

Before the twenty evaluations are made, all data called for must be accurately entered, the ratings on the academic\(^5\) and professional preparation\(^6\) completed and the

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\(^6\) *Ibid*, Table IV, p. 71
teacher load computed. Each of the checklists must be marked by one of the four following symbols:

- Condition or provision is present or made to a very satisfactory degree
- Condition or provision is present to some extent or only fairly well made
0 Condition or provision is not present or is not satisfactory
N Does not apply

The usual procedure is for the individual staff member to enter the information called for on his Form M. This is checked by the principal and members of the visiting committee for completeness and accuracy, and corrections are made when needed. Academic and professional ratings and computations for teacher load are made by members of the visiting committee. The checklists are completed by the staff members, themselves, and are revised by the principal and the visiting committee after adequate classroom visitation. When this preliminary work has been completed, the twenty evaluations are made in light of all available evidence. The following five-point rating scale is used in making these evaluations:

5 -- Very Superior
4 -- Superior
3 -- Average
2 -- Inferior
1 -- Very Inferior
0 -- Does not apply

The visiting committees, that evaluated the schools in Virginia by means of the Evaluative Criteria, were composed of members of The State Department of Public Instruction,
college professors, division superintendents, directors of instruction, and secondary school principals. The size of a committee and the length of time used in the evaluation of a particular school depended upon the size of that school. Committees varied from three to five members; three being sufficient for a small school, whereas five were considered necessary for a larger one. The period of visitation usually lasted from three to five days.

The investigator interviewed members of the State Department, members of visiting committees, and secondary school principals to ascertain the procedure used in evaluating the teacher. Invariably, those interviewed indicated that all available evidence was used and that extreme care was taken to evaluate each teacher as accurately as possible.

The rating of teachers. Over a period of years considerable difference of opinion has existed among educators concerning the most reliable way in which to rate teachers; consequently, various methods have been devised. The most reliable of these methods that are being used today to appraise a teacher's work are of three main types: the general impression method, in which experts rate according to evidence and observation; the score card method, sometimes referred to as the rating scale; and the objective method,
in which pupil achievement is tested. Crabb's traces the evolution of these methods and points out the limitations of each.

The first method, that of expert opinion, was used in the rating of the teachers taking part in this study. According to the opinion of authorities in the field, this is a sound, reliable method. Walter S. Monroe stated that:

Authorities are in quite general agreement that the judgment of experts is the best available criterion of teaching success.

In view of the qualifications of the members of the visiting committees and the particular care taken by them in determining the ratings of the teachers, it seems safe to conclude that these ratings were made with a reasonably high degree of accuracy.

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CHAPTER III

THE MATERIAL AND PLAN OF STUDY

Material. Under the direction of the Virginia State Department of Public Instruction, over fifty public, private, large, and small secondary schools in the Old Dominion have been evaluated by means of the Evaluative Criteria. After these evaluations were completed and the information obtained had served its original purpose, these materials were filed in the state department's offices in Richmond. Through the courtesy of this department and the efforts of members of the education department at the College of William and Mary, the Form M's, containing the data of the individual staff members of the schools evaluated, were made available to the investigator for the purpose of this study.

Scope of study. This is a study of twenty-two teacher traits and their relationship to general teaching efficiency. Each teacher, included in the study, was given a rating on these various traits and also an over-all rating on general teaching efficiency. This information was recorded on the Form M's.

After an examination of these forms it was concluded that time did not permit, nor was it necessary to include the staff members of all the schools evaluated in order to
make a reliable, worthwhile study.

Investigation revealed that the majority of related studies, made in the past, included from approximately one hundred to five hundred teachers. Whitney\(^1\) made a study of seven hundred twenty-five, whereas, Knight\(^2\) used only ninety-seven in his work. Recent studies made at the University of Wisconsin and reported by Barr\(^3\) comprise fewer than one hundred cases.

Two hundred sixty-five teachers from seventeen secondary schools were selected for this study. The schools ranged in size from 77 to 1473 pupils and were chosen from both urban and rural sections in all general areas of the state except the extreme Southwest. In the group there was one large negro school. Of the two hundred sixty-five teachers, there were four for whom the needed information was not complete; consequently, these were eliminated, leaving a total of two hundred sixty-one teachers for the study.

\(^1\) Odenweller, Arthur Leonard, Predicting the Quality of Teaching, Contributions to Education, No. 676, Teachers College, Columbia University, New York, 1936, p. 10.

\(^2\) Ibid, p. 10.

TABLE I

Number and Size of Schools

<table>
<thead>
<tr>
<th></th>
<th>Large 500 or more pupils</th>
<th>Medium 200-499 pupils</th>
<th>Small 1-199 pupils</th>
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<tbody>
<tr>
<td>Number of Schools</td>
<td>5</td>
<td>5</td>
<td>7</td>
</tr>
</tbody>
</table>

Plan of Study. The general plan of this study is divided into three phases: first, to present an over-all picture of the comparative strengths and weaknesses of the teachers involved, as revealed by the data at hand; second, to show the relationship existing between the various traits or qualifications of these teachers and the quality of instruction done by them; and third, to make an analysis of the findings.

The strengths and weaknesses are portrayed by means of tables in which the frequency of these characteristics, as revealed by ratings, is given for each trait considered. Arithmetic mean scores are computed in order to find the average rating of the group on each of these various traits.

The second phase of the plan involved the selection of a convenient technique to be used to show the relationship existing between the various traits and the quality of instruction. The nature of the scale employed in the
ratings made was suitable for the computation of coefficients of correlation. An inspection of techniques used in related studies revealed that correlations are ordinarily used for this purpose. Good, Barr, and Scates mention the use of this technique, in the prediction of teaching success, in the following words: 4

Because of the importance, to the success of education, of securing teachers who will do effective teaching and fit in well with their environment, investigations of this problem have been numerous: the correlation of subsequent teaching success with factors which can be ascertained in advance of appointment is one phase of the general problem of teacher selection—probably that phase which has been attacked most scientifically.

The final phase of the plan, involving an analysis of the computed coefficients of correlation, is devoted to ascertaining their significance and implications and drawing some general conclusions.

Procedure. At this point the investigator wishes to state that, because the material used for this study is of a confidential nature and because the study, itself, permits it, the identity of both individuals and institutions used, herein, were lost. A key was devised in order that a particular school or individual could be identified for

purposes of the study in the event that became necessary.

The original collection of data from the Form M's, obviously needed to be made in a way that would facilitate the handling of it. For this purpose, large manila cards, size 22 x 28 inches were used. Each card was ruled so that sixty-seven needed items of information about each teacher could be listed in one vertical column and twenty columns could be placed on each card. Altogether, fourteen cards were used. As the individual teacher forms were read, the pertinent data was entered in the appropriate place on the manila card.

The next step was to analyze the data gathered and arrange it in a manner which would give a clear over-all picture of the general strengths and weaknesses of the group studied. Altogether, there were twenty-two traits and a smaller card, size 8-1/2 x 11 inches, was used for each. The frequencies of the ratings on a particular trait were entered on the designated card, each teacher having been given one of five ratings on each of these traits. These frequencies were then properly grouped into convenient tables and the arithmetic average was computed for each trait.

The working out of the relationship existing between certain teacher traits and the quality of instruction was next in order. As mentioned in the plan of the study, this was to be accomplished by means of coefficients of correla-
CHAPTER IV

STRENGTHS AND WEAKNESSES OF THE TEACHERS STUDIED

Many people have assumed that the rating of teachers is a practice of recent origin. In former years school officials did not keep written records of judgments of the efficiency of teachers to the extent that this is practiced now; yet, teacher rating did take place in one form or another. Today, many school systems are required by board regulations to make and record efficiency ratings of teachers. In other systems, superintendents and supervisors have simply inaugurated this practice for their own convenience. Tiegs¹ states that these ratings are used for a variety of purposes, among which are the following:

To determine the ability of probationers
To determine promotions
To determine dismissals
To determine placements
To assist supervisors in doing their work
To assist teachers in improving their work
To determine when and how much increase in salary shall be given

The ratings that are used in this study were made, not only for an evaluation of the work of the teacher, but primarily for the purpose of stimulation to improvement of

Teaching effectiveness of the teachers studied. Each of the 261 teachers in this study was given a rating on general teaching effectiveness which was purported to consider all available evidence. The distribution of these ratings is shown in Table II.

**TABLE II**

<table>
<thead>
<tr>
<th>Rating</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very Superior</td>
<td>3</td>
<td>58</td>
<td>144</td>
<td>56</td>
<td>0</td>
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</tbody>
</table>

An inspection of this table reveals that these teachers compose a group which may be considered average when compared with a representative group of teachers selected from regionally accredited schools, the five-point scale used here having been devised as a result of an experimental program involving primarily regionally accredited schools.² Although no teacher here was accorded a rating of very superior, there are only three who were considered very

inferior. The arithmetic mean of the ratings for the whole group is 2.98 or only .02 below an average group. The ratings in Table II are those with which the evaluations of the various teacher traits are correlated and presented in Chapter V.

**TABLE III**

<table>
<thead>
<tr>
<th>Rating</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Very</td>
<td>Inferior</td>
<td>Inferior</td>
<td>Average</td>
<td>Superior</td>
</tr>
<tr>
<td>Academic</td>
<td>18</td>
<td>90</td>
<td>85</td>
<td>46</td>
<td>22</td>
</tr>
<tr>
<td>Professional</td>
<td>17</td>
<td>23</td>
<td>122</td>
<td>64</td>
<td>35</td>
</tr>
</tbody>
</table>

**Academic preparation.** In determining the academic preparation in the fields taught by these teachers, courses taken in those fields in secondary school, undergraduate work, and graduate work were included.³

The arithmetic mean score of the ratings for the academic preparation, as shown in Table III, is 2.86 which indicates a slight weakness in such preparation on the part of the teachers since this figure is .14 below the average.

Of the following five fields: English, social studies, mathematics, science, and foreign languages, the

academic preparation of foreign language teachers is the weakest with an average rating of 2.19, while that of the mathematics teachers is strongest with a rating of 2.98. Average ratings on academic preparation for the teachers of social studies, science, and English are 2.76, 2.59 and 2.48 respectively. Although the academic preparation of the mathematics teachers is the strongest of any group in the study, it, too, falls below average, however, to such a slight degree that this is hardly significant.

Professional preparation. The basis for rating professional preparation includes courses in education taken in normal school, college, or university.4

Two teachers in this study had received no professional preparation. However, considering the group as a whole, their professional preparation is more adequate than is normally expected. This strength is reflected in the arithmetic mean score of 3.30 on this trait.

Personal qualifications. Cooperation, sincerity, loyalty, intelligence, adaptability, self-control, appearance, general culture, physical health, mental health, and an interest in people and current problems were considered in determining the ratings given on personal qualifications.5

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4 Ibid., p. 152.
5 Ibid., p. 153.
The 261 teachers show a definite strength in personal qualifications; no teacher was found very inferior, whereas, four were considered very superior. The arithmetic mean score of 3.34 indicates the extent of this strength.

**Instructional qualifications.** The comprehensiveness of the teacher's preparation as it bears on his understanding of the relationships of his teaching field with other fields and with life's activities out of school, the up-to-dateness of his preparation and procedures, and the adequacy of his ability to stimulate pupils to desirable learning activities were considered pertinent in determining instructional qualifications.\(^6\) This phase of teacher evaluation is divided into three factors and is shown in Table IV along with personal qualifications.

**TABLE IV**

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Very</td>
<td>Inferior</td>
<td>Inferior</td>
<td>Average</td>
<td>Superior</td>
</tr>
<tr>
<td><strong>Personal Qualifications</strong></td>
<td>0</td>
<td>20</td>
<td>136</td>
<td>101</td>
<td>4</td>
</tr>
<tr>
<td><strong>Comprehensiveness of Preparation</strong></td>
<td>2</td>
<td>40</td>
<td>159</td>
<td>57</td>
<td>3</td>
</tr>
<tr>
<td><strong>Up-to-dateness of Preparation</strong></td>
<td>3</td>
<td>40</td>
<td>143</td>
<td>73</td>
<td>2</td>
</tr>
<tr>
<td><strong>Ability to stimulate to desirable learning activities</strong> (^6)</td>
<td>49</td>
<td>144</td>
<td>60</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

The arithmetic mean scores on each of the three phases of instructional qualifications are 3.07, 3.12, and 3.01, respectively. Up-to-dateness of preparation and procedure is more adequately fulfilled than either of the other two. Strength may be considered present in all three, but only to a slight degree.

Improvement in service. In order to arrive at an evaluation of improvement in service, the following things were taken into consideration: membership in professional and non-professional organizations, authorship, reading—professional and non-professional, travel, visits, college credits earned during the past three years, and participation in the solution of educational problems.  

<table>
<thead>
<tr>
<th>TABLE V</th>
</tr>
</thead>
<tbody>
<tr>
<td>IMPROVEMENT IN SERVICE</td>
</tr>
<tr>
<td>Rate</td>
</tr>
<tr>
<td>------</td>
</tr>
<tr>
<td>Very</td>
</tr>
<tr>
<td>Inferior</td>
</tr>
<tr>
<td>Inferior</td>
</tr>
<tr>
<td>Average</td>
</tr>
<tr>
<td>Superior</td>
</tr>
<tr>
<td>Superior</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Extensiveness and Variability of effort</th>
<th>8</th>
<th>57</th>
<th>132</th>
<th>61</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effectiveness of effort</td>
<td>7</td>
<td>59</td>
<td>144</td>
<td>48</td>
<td>3</td>
</tr>
</tbody>
</table>

There is a tendency toward weakness as regards the

7 Ibid., pp. 154-55.
improvement in service of the 261 teachers, both in effort to improve and effectiveness of improvement, the latter being more noticeable with a mean score of 2.93, while that of the former is 2.98. The investigator found that members of the group were more inclined to read, travel, and join organizations than to write, appear on programs, or participate in the solution of educational problems.

**Adequacy of classroom activities.** Mental, emotional, and physical activity of a desirable nature and in the proper proportion were considered in determining the adequacy of classroom activities. Furthermore, it was ascertained whether the pupils made specific applications of new knowledge, skills, abilities, habits, and other learning.

In this part of the evaluation the teachers were rated on three items: adequacy of preparation for classroom activities, use of stimulating instructional procedures, and provision for desirable outcomes (knowledge, skills, understandings, judgments, appreciations and attitudes). 8

Although two teachers were judged very inferior and another twenty-eight inferior, a mean score of 3.26 shows definite strength in preparation for classroom activities for the group as a whole. However, in the other two phases of classroom activities; namely, stimulation of instructional

---

procedures, and provision for desirable outcomes—mean scores of 2.90 and 2.97, respectively, reflect some weakness.

**Cooperation between pupils and teacher.** Cooperation between pupils and teacher was judged by the committees to be in evidence when pupils started their work promptly and displayed an active and sustained interest in it, when the room was orderly and attractive, and when available equipment and supplies were quickly put in place. Further evidence was found in the cooperative development of units of work and learning projects. The cooperation and enthusiasm of the teacher is usually reflected in the pupils.

Strength in cooperation between pupils and teachers is reflected in Table VI. The arithmetic mean score for ratings given on this trait is 3.15.

**TABLE VI**

<table>
<thead>
<tr>
<th>CLASSROOM ACTIVITIES AND PUPIL-TEACHER COOPERATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rating</td>
</tr>
<tr>
<td>Very 1</td>
</tr>
<tr>
<td>Inferior</td>
</tr>
<tr>
<td>Preparatoin for classroom activities</td>
</tr>
<tr>
<td>Stimulation of procedures</td>
</tr>
<tr>
<td>Provision for desirable outcomes</td>
</tr>
<tr>
<td>Cooperation</td>
</tr>
</tbody>
</table>

9 Ibid., p. 158.
Use of community and environment. Every community has local factors that are of value in enriching teaching and learning experiences. Only too often are these environmental factors overlooked in the search for meaningful pupil experiences. By way of determining the teacher ratings to be given on this phase of the evaluation, the committees considered that in discovering and teaching an appreciation of local customs, historical incidents, and elements of beauty, and in having pupils make studies of local economic resources, health conditions, sociological conditions, and recreational facilities, learning becomes more interesting and real.

<table>
<thead>
<tr>
<th>TABLE VII</th>
</tr>
</thead>
<tbody>
<tr>
<td>USE OF COMMUNITY AND ENVIRONMENT</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Rating</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extensiveness of use of environmental factors</td>
<td>30</td>
<td>98</td>
<td>121</td>
<td>12</td>
<td>0</td>
</tr>
<tr>
<td>Effectiveness of use of environmental factors</td>
<td>27</td>
<td>94</td>
<td>121</td>
<td>19</td>
<td>0</td>
</tr>
</tbody>
</table>

The most outstanding teacher weakness found in this study is shown in Table VII. Thirty of the 261 teachers

10 Ibid., p. 158.
were judged very inferior as regards the extent to which they used environmental factors to enrich classroom experiences. Twenty-seven were considered very inferior in the effective use of these factors. In neither case was a teacher found very superior. The arithmetic mean scores for the extent and effectiveness of the use of community and environment are 2.44 and 2.50 respectively.

Textbooks. An evaluation was made on how satisfactory are the textbooks which are used and, also, on how well the teacher directs pupils in the proper and effective use of such books. In Virginia the selection of textbooks is generally an administrative function, and so this phase of the evaluation is not considered a teacher trait in this study because it would be unfair to evaluate teachers on something not generally considered their responsibility. The effective use of such books, however, is a responsibility of the teacher and is considered pertinent to the study.

No teacher, in the group of 261, was found to be very superior as to the proper and effective use of textbooks. However, on the whole, the group displayed a slight degree of strength in this trait. Table VIII shows that 161 of the teachers were considered average and 69 superior; whereas, only 31 were below average. The arithmetic mean score of the ratings given on this factor is 3.14.
Other instructional materials. Today, as never before, there is an abundance of helpful instructional materials that may be had for the asking. Such materials will probably never replace maps, tools, and laboratory equipment, which do cost money, but an alert teacher can enrich the experiences of his pupils with innumerable free aids, such as films, pamphlets, slides, charts, and collections of specimens for science. Aids of this kind cost nothing but a little planning and effort on the part of the teacher.

In this phase of the evaluation the committees found a general weakness on the part of the 261 teachers, both in how adequately they made provision for such materials and how effectively they used them. This weakness is more marked in the former factor than in the latter, the arithmetic mean scores being 2.62 and 2.75, respectively.

<table>
<thead>
<tr>
<th>TABLE VIII</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>USE OF TEXTBOOKS AND OTHER INSTRUCTIONAL MATERIALS</strong></td>
</tr>
<tr>
<td>Rating</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Proper use of textbooks</td>
</tr>
<tr>
<td>Other instructional materials</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>
Methods of teacher appraisal. In order to rate teachers on their methods of appraisal, the following principles were considered by the committees to be important, and evidence of their use by the teachers was looked for:

(1) An understanding of the value of the various types of tests and a realization of the limitations involved in each is an important factor in teaching. (2) Both standardized tests and teacher-made tests have a place in a well rounded school program and can render valuable service at appropriate times. (3) Other methods of measurement such as observation and pupil appraisal of his own work are, also, valuable aids. (4) Testing and measurement are an integral part of the teaching and learning process and are not activities set apart for special days. (5) Testing should emphasize pupil progress rather than comparison and should stimulate as well as evaluate such progress. (6) The results of such testing should be the basis for further instruction.11

Table IX reveals that in general there is a slight weakness in the manner in which the teachers adapted methods of appraisal to the purposes intended, as established in the principles stated above, the arithmetic mean score for this factor being 2.91. Weakness is also found in the way pupils were guided in their use of appraisal and in the way teachers

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11 Ibid., p. 160.
actually used tests themselves in determining desirable educational outcomes. The arithmetic mean score for the last two phases of appraisal are 2.61 and 2.87, respectively.

TABLE IX

<table>
<thead>
<tr>
<th>METHOD OF TEACHER APPRAISAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rating</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Adaptation of methods of appraisal to needs</td>
</tr>
<tr>
<td>Pupils' use of methods of appraisal</td>
</tr>
<tr>
<td>Teachers' use of methods of appraisal</td>
</tr>
</tbody>
</table>

Teaching experience. All but twenty-two of the teachers had previous teaching experience of one or more years. Thirty-four per cent of these teachers had from zero to five years of teaching experience and sixty-one per cent ranged from zero to ten years in teaching experience. One teacher reported having taught school for forty-four years. The arithmetic mean score of the teaching experience for the 261 teachers was 9.5 years. Seventy-four of the teachers reported having formerly taught school in states other than Virginia. One reported teaching experience outside the United States.

Besides their teaching experience, seventy-nine of
the 261 teachers had, at one time or another, been employed in other fields of work. The experience in other lines of endeavor of these seventy-nine teachers ranged from one to seven years. A count was not made of those teachers with only a part year of non-school working experience.

TABLE X

<table>
<thead>
<tr>
<th>Years Experience</th>
<th>Number of Teachers</th>
<th>Years Experience</th>
<th>Number of Teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>22</td>
<td>15</td>
<td>10</td>
</tr>
<tr>
<td>1</td>
<td>16</td>
<td>16</td>
<td>5</td>
</tr>
<tr>
<td>2</td>
<td>14</td>
<td>17</td>
<td>8</td>
</tr>
<tr>
<td>3</td>
<td>17</td>
<td>18</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>10</td>
<td>19</td>
<td>5</td>
</tr>
<tr>
<td>5</td>
<td>9</td>
<td>20</td>
<td>4</td>
</tr>
<tr>
<td>6</td>
<td>19</td>
<td>21</td>
<td>7</td>
</tr>
<tr>
<td>7</td>
<td>17</td>
<td>22</td>
<td>1</td>
</tr>
<tr>
<td>8</td>
<td>10</td>
<td>23</td>
<td>1</td>
</tr>
<tr>
<td>9</td>
<td>15</td>
<td>24</td>
<td>0</td>
</tr>
<tr>
<td>10</td>
<td>9</td>
<td>25</td>
<td>3</td>
</tr>
<tr>
<td>11</td>
<td>15</td>
<td>26</td>
<td>0</td>
</tr>
<tr>
<td>12</td>
<td>7</td>
<td>27</td>
<td>1</td>
</tr>
<tr>
<td>13</td>
<td>9</td>
<td>28</td>
<td>2</td>
</tr>
<tr>
<td>14</td>
<td>14</td>
<td>29 or more</td>
<td>8</td>
</tr>
</tbody>
</table>
CHAPTER V

RELATIONSHIPS BETWEEN TRAITS AND QUALITY OF INSTRUCTION

Technique used. The Pearson Product-moment method of correlation was used in determining the relationship existing between the various teacher traits and the quality of instruction given. Coefficients were worked out to two decimal places, the significance of a third decimal being negligible in a study of this kind. The formula employed is as follows:

\[ r = \frac{\sum xy - \frac{\sum x \sum y}{n}}{\sqrt{\left(\frac{\sum x^2 - \frac{\sum x^2}{n}\right) \left(\frac{\sum y^2 - \frac{\sum y^2}{n}\right)}}}} \]

In employing this formula, a table was made for each correlation. This table was a large square ruled off into twenty-five smaller squares. Along the vertical axis "Y" the five possible ratings on teaching efficiency were arranged in ascending order from bottom to top. Along the horizontal axis "X" the five possible ratings on the trait, to be correlated with efficiency, were arranged in ascending order from left to right. For each teacher a tally was entered in the cell common to his two ratings. The tallies in each cell were added.

The table was extended six columns to the right. In the first column the frequencies of the "Y" variables (fy) were entered. In the second column the deviations of "Y"
(dy) from the assumed mean were entered. In the third column
the products of the frequencies and the deviations (fdy) were
entered. In the fourth column the products of the frequencies
and the deviations squared (fd^2y) were entered. In the fifth
column the sums of the frequency deviations of "X" (Ex) were
entered. In the last column the products of the second and
fifth columns (Exy) were entered. All columns were added
algebraically except the second for which there was no need.
The same process was completed below the table for the "X" variables.

In making substitutions in the formula, "Exy" is the
sum of the products of the "Y" deviations and the frequency
deviations of "X", found at the bottom of column six. "N"
is the number of cases. "Cx", the correction of "X", is
found by dividing the frequency-deviation product of "X"
(fdX) by the number of cases. "Cy" is found in a like manner.

"SDX", the standard deviation of "X", is found as
follows: divide "fd^2x", found in the fourth column, by the
number of cases (261), subtract the square of the correction
of "X" and take the square root of the remainder. This is
multiplied by the class interval, which is one in these
tables. The standard deviation of "Y" is found in a similar
manner.

Validity of correlations. The coefficients of cor-
relation computed in this study show quite accurately the
relationships between certain teacher traits and the effectiveness of instruction, as found in the study of 261 teachers by the evaluating committees. The mathematics involved, while time consuming, was not particularly complicated. Checks were constantly made to avoid errors. The reader should not infer that these coefficients are absolute measures of this or any other group.

Interpretation of coefficients. The interpretation of coefficients of correlation may become involved and, at times, misleading. It is entirely possible, if a study were made of the size shoes worn by successful and unsuccessful lawyers, that a high degree of correlation might be found between big feet and success in law. It would be a gross assumption, however, to exclude other factors and conclude that having big feet is a prerequisite for one to become a good lawyer. The factors involved in this study were not carelessly selected, but are the result of intensive study and research by the Cooperative Study of Secondary School Standards. As such, the coefficients of correlation derived herein should be of considerable significance.

For the sake of simple interpretation, attention is called to the following statement taken from a standard text\(^1\) on the subject:

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Like all coefficients of correlation, the one yielded by this method (Pearson Product-moment) will approach $\neq 1.0$ to the degree that the relationship between the variables is close and positive, $-1.0$ to the degree that the relationship is close and negative, and $.00$ to the degree that there is an absence of any relationship between the two variables.

It is generally accepted by statisticians that a correlation must be at least four times as great as its probable error\(^2\) in order to be significant.

The correlations. Among the twenty-two factors correlated with quality of instruction in this study, one is not considered a teacher trait. Teaching load is in no sense a teacher characteristic in that it is a matter of administration and is controlled by the administration. However, since teaching load is generally considered among school people as an important factor in teaching, the investigator gathered the necessary data and included this factor along with the traits.

Teachers' traits are listed in Table XI in the descending order of trait effectiveness. Their correlations with teaching effectiveness range from $\neq .70$, with a probable error of $\neq .02$, to $\neq .02$, with a probable error of $\neq .04$. Nineteen of the twenty-two correlations may be considered significant since they are four times greater than the probable error. There are no negative correlations.

\(^2\) The limit of probable error as used in computations made in this study ranges from the plus to the minus value of the figure found. The true correlation lies somewhere between the coefficient plus the P.E. and the coefficient minus the P.E.
### TABLE XI
THE RELATIONSHIP OF CERTAIN TEACHER TRAITS TO THE QUALITY OF INSTRUCTION

<table>
<thead>
<tr>
<th>Trait</th>
<th>r</th>
<th>P.E.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher's ability to stimulate pupils to desirable learning activities</td>
<td>.70</td>
<td>.02</td>
</tr>
<tr>
<td>Cooperation between pupils and teacher</td>
<td>.65</td>
<td>.03</td>
</tr>
<tr>
<td>Adequate provision for desirable outcomes (knowledge, skills, understandings)</td>
<td>.65</td>
<td>.03</td>
</tr>
<tr>
<td>Stimulation of instructional procedures</td>
<td>.65</td>
<td>.03</td>
</tr>
<tr>
<td>Teacher's ability to use methods of appraisal</td>
<td>.58</td>
<td>.03</td>
</tr>
<tr>
<td>Teacher's preparation for classroom activities</td>
<td>.53</td>
<td>.03</td>
</tr>
<tr>
<td>Effectiveness of effort to improve in service</td>
<td>.52</td>
<td>.03</td>
</tr>
<tr>
<td>Proper and effective use of textbooks</td>
<td>.52</td>
<td>.03</td>
</tr>
<tr>
<td>Use of other instructional materials</td>
<td>.52</td>
<td>.03</td>
</tr>
<tr>
<td>Adaptiveness of methods of appraisal to purposes intended</td>
<td>.50</td>
<td>.03</td>
</tr>
<tr>
<td>Personal qualifications</td>
<td>.47</td>
<td>.03</td>
</tr>
<tr>
<td>Provision of other instructional materials</td>
<td>.46</td>
<td>.03</td>
</tr>
<tr>
<td>Effectiveness of use of environmental factors</td>
<td>.45</td>
<td>.03</td>
</tr>
<tr>
<td>Pupil's use of methods of appraisal</td>
<td>.45</td>
<td>.03</td>
</tr>
<tr>
<td>Extensiveness of use of environmental factors</td>
<td>.44</td>
<td>.03</td>
</tr>
<tr>
<td>Extensiveness of effort to improve in service</td>
<td>.43</td>
<td>.03</td>
</tr>
<tr>
<td>Up-to-dateness of preparation and procedures</td>
<td>.43</td>
<td>.03</td>
</tr>
<tr>
<td>Comprehensiveness of preparation and procedures</td>
<td>.37</td>
<td>.04</td>
</tr>
<tr>
<td>Professional preparation</td>
<td>.19</td>
<td>.04</td>
</tr>
<tr>
<td>Academic preparation</td>
<td>.02</td>
<td>.04</td>
</tr>
<tr>
<td>Teaching experience</td>
<td>.02</td>
<td>.04</td>
</tr>
<tr>
<td>Teaching load</td>
<td>.02</td>
<td>.04</td>
</tr>
</tbody>
</table>
Stimulation of pupils to desirable learning activities.
The highest correlation found in this study, .70, is between
effectiveness of instruction and the teacher's ability to
stimulate pupils to desirable learning activities. As shown
in Table II, three of the 261 teachers were given overall
teacher ratings of very inferior. These same three teachers
were found to be very inferior in their ability to stimulate
pupils to desirable learning activities. Of the fifty-eight
teachers who were rated superior on the quality of instruction
given, thirty-four were found superior, and two, very superior
in their ability to stimulate pupils to desirable learning
activities.

Much has been written in recent years about teacher
stimulation and pupil interest. One school of thought be-
lieves that if learning is to be effective, it must be guided
by the pupil's choice of content and activity. This idea,
critics point out, would sacrifice to a great extent a well
balanced pupil program for the sake of capturing the child's
interest. No argument for or against this concept is
presented here, but the fact is emphasized that interest and
motivation, which are closely related, must be critical
factors in learning, since experts in the field of education
place a very high premium upon them. Psychologists now tell
us that interest is not a native characteristic like instinct,
but rather is a result of satisfying experiences and maturity,
and is something that can be developed within wide limits.

The teacher definitely has the opportunity to arouse the interest of the child, to stimulate it, and to guide it in the right direction; and when he is clever enough to catch and stimulate the pupil's interest in desirable learning activities, effective learning will take place.

Supported by the highest correlation found in this study between a teaching trait and the quality of instruction given, it is fitting to conclude that a teacher who has the ability to stimulate boys and girls, to the extent that they are interested in desirable learning activities, is more than likely to be a superior teacher.

Cooperation. There are three traits in this study whose correlations with general teaching effectiveness are .65, which is high and significant, the probable error being only ±.03. The first of these is cooperation between the teacher and the pupils in carrying on classroom activities.

A real spirit of cooperation among the members of any group of individuals depends upon their common interests, especially if these interests are stimulated and guided in the right direction. It follows then that cooperation, along with the first trait discussed in this chapter, is high on the list of teacher traits that correlate closely with good teaching.
Through a spirit of cooperative planning and carrying out of classroom activities together, the teacher gets an insight into the perplexities and difficulties encountered by the pupil in his work and guides him in an understanding manner. The pupil, on the other hand, quickly senses that he is working with and not for the teacher. This feeling is reflected in the breaking down of a barrier into which the child often withdraws when he feels coerced, or when he becomes frustrated. Thus, the satisfying experience of working and accomplishing something takes the place of seeking an avenue of escape.

One naturally expects to find a high degree of cooperation present in the classroom where effective learning is taking place. The correlation found, .65, between cooperation and effectiveness of instruction bears out the hypothesis that where a strong spirit of cooperation exists between the teacher and his pupils, the teacher is giving effective instruction and the pupils are experiencing satisfying and worthwhile learning.

Provision for desirable outcomes. How adequately are desirable outcomes (knowledge, skills, understandings, judgments, appreciations, and attitudes) provided for? This question should be a constant reminder to classroom teachers and to school supervisors and administrators that unless
adequate provision is made for desirable outcomes, learning may become meaningless, or, in unusual circumstances, even detrimental. Before teaching becomes truly effective, objectives must be set up and activities planned in the light of these objectives.

The relationship between this factor and the quality of instruction given is the second of the three correlations of .65. This correlation clearly indicates that teachers who provide adequate, desirable outcomes for their pupils are generally found to be better teachers than those who are inclined to teach lessons from day to day with little or no conception of the final outcome of the child's experiences.

Stimulation of procedures. The stimulation of instructional procedures is the third trait, found in this study, to correlate to the degree of .65 with teaching effectiveness. Stimulation of procedures is not to be confused with the first trait discussed; namely, stimulation of pupils, since the latter trait considers how stimulating the teacher is, himself. The two, however, are closely related and, as may be expected, there is not a big difference in the extent to which they appear to be related to successful teaching. Buswell\(^3\) emphasized the importance of

stimulating procedures when he wrote:

The function of good methodology is to stimulate active learning. Good instructional procedures must be functional and diagnostic. They must let the teacher know what is going on in the pupil's thinking during the process of learning. It is only during the process of learning that methodology can be effective. . . . It means that effective methods must be sufficiently diagnostic to enable the teacher to identify the various stages during the act of learning and to know what kind of stimulation to introduce from stage to stage.

A correlation of .65 shows that in the majority of cases where an instructor employs stimulating procedures in teaching, he is found to be a good teacher, doing an effective piece of work.

Teacher's use of methods of appraisal. Must of the curriculum construction done in various parts of the country during the past decade has been developed more rapidly than tools of evaluation. Consequently, the attention of many educators has recently centered upon the development of a broadened, more comprehensive system of pupil appraisal.

It is interesting to note that a correlation of .58 between the teacher's ability to use methods of appraisal and his general teaching effectiveness is found in this study. With a probable error of only ± .03, this relationship is significant and strongly supports the thesis that ability to teach and ability to appraise go hand in hand.

Teacher's preparation for classroom activities. The
expression, "Learning by doing", is quite frequently used today by school teachers, supervisors, and administrators. This expression could have been an adaptation of the old adage, "Experience is the best teacher". Be that as it may, the underlying principle is that the child learns more effectively if provision is made for appropriate classroom activities in which he can participate while working on a particular lesson or unit of work. "Learning by doing", does not necessarily mean that all learning activity is physical in nature. Physical activity has its place in a total school program, but intellectual activity, much of which occurs while pupils are sitting quietly, is extremely important and will occupy much time, depending on the level of work.

The correlation found between the preparation that the teacher makes for classroom activities and the effectiveness of his instruction is .53, with a probable error of \( \pm .03 \). This coefficient of correlation is positive and significant and indicates that the planning and preparation of appropriate classroom activities is definitely related to successful teaching.

**Effectiveness of effort to improve in service.** At this point it is interesting to recall that in Chapter IV it was pointed out that the majority of the 261 teachers were below average in the effectiveness of their efforts to improve in service. Further study revealed that those who were
weakest in this trait were often the poorer teachers; whereas, the superior and very superior teachers were generally found strong in this trait.

The coefficient of correlation between effectiveness of effort to improve in service and the quality of instruction given is .52, with a probable error of \( \pm .03 \). While this correlation is not outstanding, it is positive and definitely significant. It may be inferred that there is a definite tendency for poor teachers to be ineffective in their efforts to improve in service; whereas, superior teachers generally do improve.

**Proper and effective use of textbooks.** The selection of textbooks is not considered in this study as a fair basis upon which to judge the efficiency of a teacher because the classroom teacher does not generally make these selections. However, the manner in which pupils are guided in the proper and effective use of such books is considered pertinent.

The coefficient of correlation between this latter factor and the quality of instruction given is .52, with a probable error of \( \pm .03 \). This correlation indicates to a significant degree that teachers who recognize the textbook is not to be regarded as full authority in its field, but rather that it is composed of selected materials to be used in conjunction with materials and information from other sources, are generally good teachers.
Use of other instructional materials. An interesting finding in this study is that the effectiveness with which the teacher uses other instructional materials has the same relation to success in teaching as has the proper and effective use of textbooks, the correlation being .52, with a probable error of ± .03, in both cases. It is not to be inferred, however, that textbooks and other instructional materials are to be used to the same extent in order to have a well balanced program. Each has its proper place in the program and the determining factors in their use are the needs of the pupils and the objectives of the course.

The correlation is significantly indicative that the teacher who uses these means of instruction, to the extent and in a manner suitable to the situation, is usually doing good teaching.

Adaptiveness of methods of appraisal. How well are methods of appraisal adapted to the purposes intended? This is a pertinent question in schools today because appraisal can improve instruction or, if improperly used, it can be of little real value. Authorities in the field of education agree that appraisal should be a continuous process that stimulates as well as evaluates progress. Both standardized tests and teacher constructed tests are integral parts of a good teaching program and when used properly make an excellent basis for further instruction.
The correlation between this factor and general teaching effectiveness is .50, with a probable error of \( \pm .03 \). This reveals that in some situations, where effective teaching is taking place, the methods of appraisal are not particularly well adapted; but the teacher who is wise enough to adapt suitable ways of appraisal is more likely to be successful.

**Personality.** Personality and its relationship to successful teaching continually appears in educational literature. Practically all studies dealing with teacher qualifications give ample space to a discussion of personality, and several very high correlations have been found between this trait and good teaching.

The highest correlation that Odenweller found in his study was between personality and success in teaching. Critics, however, have pointed out that in some instances where the same raters judged teachers on personality and also on the quality of instruction given, a halo effect was obtained and this tended to make the coefficients greater. In Rostker's study, personality was rated by means of the Bernreuter Personality Inventory and when this was correlated

4 Odenweller, *op. cit.*, p. 3

with teaching ability, the relationship was negligible.

The correlation between personality and teaching success, as found in the present study, is .47, with a probable error of $\pm 0.03$. This coefficient is positive and definitely significant, and it shows that the teacher with a pleasant personality is generally more successful than the teacher who lacks this trait.

**Provision for other instructional materials.** The adequacy with which the classroom is provided with other instructional materials, i.e., other than textbooks, is not to be confused with the effectiveness of the use of such materials. The latter was discussed earlier in this chapter.

Mention has been made of the abundance of free teaching materials available to schools in this day and time. Many teachers are taking advantage of this opportunity to enrich the learning experiences of their pupils. Some teachers, either because they attach no value to these aids or because of pure indifference, are making little or no effort to obtain teaching materials other than those required.

The correlation between the adequacy with which such materials are provided by the teacher and the quality of instruction given is .46, with a probable error of $\pm 0.03$. This cannot be considered high; yet it is significant and indicates that a greater number of good teachers make adequate provision for such materials than do poor teachers.
Use of community and environment. This study approaches the question of the importance of the community and environmental factors to instruction in two ways. One deals with the extent to which these factors are used to enrich classroom experiences; the other deals with the effectiveness of the use of such factors. In reflecting upon this phase of teaching, the following questions come to mind: Is the teacher aware of the larger aims of education or does he permit his instruction to be enclosed in self built walls of his own subject field? Does he limit the child's experiences to a narrow conception of learning or does he seek activities which will broaden the child's experiences and promote a better understanding of the relation of classroom learning to out-of-school life?

The extensiveness of the use of environmental factors has a correlation of .44, with a probable error of \( \pm 0.03 \), with the quality of instruction, while the effectiveness of such use has a slightly higher correlation of .45, with a probable error of \( \pm 0.03 \). Both coefficients are of significant value and indicate that the successful teachers in this study made provision for, and used effectively the community and environment in enriching teaching and learning experiences.

Pupils' use of methods of appraisal. Pupils evaluate their own progress in one way or another. In some instances this is done at random and in a purposeless manner, the
result being of questionable value. In other situations, pupils appraise their own progress in such a way that it becomes meaningful to them and challenges them to further accomplishments. Quite often this type of pupil appraisal has been carefully planned and guided by the teacher.

It is entirely possible to imagine a classroom situation where pupils, because of previous training or exceptional ability, are evaluating their own progress quite accurately despite having an inferior teacher. Consequently, it is reasonable not to expect to find an exceptionally high correlation between this factor and the teacher's success.

The correlation, as found in this study, between these two factors is .45, with a probable error of \( \pm 0.03 \). One might expect to find such a correlation since it indicates that when pupils are found to be making meaningful self-evaluations, more of these situations will be under the direction of good teachers than under the direction of poor teachers.

**Extensiveness of effort to improve in service.** There is a considerable difference between the degree in which effectiveness of effort to improve in service and extensiveness of effort to improve in service correlate with quality of instruction. As pointed out earlier in this chapter, the former coefficient is .52, with a probable error of \( \pm 0.03 \); whereas, the correlation between the latter trait and teach-
ing effectiveness is .43, with a probable error of ± .03. This difference is to be expected, though, because one readily realizes that extensiveness of effort will not necessarily have the same degree of effectiveness in all teachers.

The correlation of .43 between the extent to which a teacher tries to improve while in service and the quality of his work as a teacher is positive and significant. While it shows that in some cases, because of meagerness of native ability or poor adjustment to the profession, a teacher's efforts to improve in service does not make him a good teacher; it shows that the efforts of a teacher to improve while on the job will more often result in a definite improvement of the quality of teaching he does.

**Instructional preparation.** An interesting comparison of two traits dealing with instructional preparation is uncovered when each is correlated with teaching success. The up-to-dateness of the teacher's preparation in his teaching field and teaching procedures has a correlation of .43 with teaching effectiveness, the probable error being ± .03. The comprehensiveness of such preparation as it bears on his understanding of relationships of his teaching field with other fields and with life activities out of school has a correlation of .37 with effectiveness, the
probable error, likewise, being $\pm .03$. There is a difference of .06 between the two, the former being higher. Both of these coefficients of correlation are significant and, while not high, they indicate that the preparation of good teachers is usually up-to-date and comprehensive, the former having a more marked effect on the quality of instruction than the latter.

Some educators may not agree on the order of their relationships to good instruction. It appears in this study that the teacher who keeps up with new ideas and developments in his teaching field and shares this knowledge with his pupils, proves more stimulating to them than the teacher who has a broader preparation but is less inclined to emphasize new concepts and new developments.

**Professional preparation.** The coefficient of correlation between professional preparation and quality of instruction, as found in this study, is .19, with a probable error of $\pm .04$. This coefficient is significant, but very small, and shows that with the 261 teachers there is not a close relationship between the two factors.

In the related studies the investigator found more differences of opinion concerning the relative value of professional training than for any other teaching trait. Knight 6 found that the relationship of professional knowledge

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6 Odenweller, *op. cit.* p. 76.
to teaching success is .541; whereas, Crabbs\textsuperscript{7} found a correlation of only .046, and Tiegs\textsuperscript{8} one of only .02. In a summary of eleven studies\textsuperscript{9}, Yaukey and Anderson reported a median correlation of .26 between professional tests and teaching success.

One would expect a closer relationship between professional preparation and teaching success than found in this study since professional preparation is for the purpose of training good teachers. Could it be that teacher training institutions are not offering the type of professional training that is needed? This could be a partial explanation of the situation, but more than likely there are other factors involved. An outstanding one is that most teachers have received some professional training before entering the profession, and it is possible that with additional preparation of this kind, the law of diminishing returns sets in. This seems to be one explanation of the low correlation found here, in view of the fact that sixty-four teachers in this study had from thirty to forty-three hours of professional training, and thirty-five others had forty-four or more hours.

\textsuperscript{7} Crabbs, \textit{op. cit.} pp. 27-31.

\textsuperscript{8} Tiegs, \textit{op cit.} p. 73

Academic preparation. It is surprising to find that with the 261 teachers the coefficient of correlation between academic preparation and quality of instruction is only .02. The probable error is ± .04; consequently, this correlation has no statistical significance.

The majority of related studies considered academic preparation to include all work taken in the various academic fields, and some significant correlations have been found. Odenweller\textsuperscript{10} reported a correlation of .28, and Boyce\textsuperscript{11}, one of .41 between academic preparation and teaching effectiveness. As was pointed out in Chapter IV, the present study restricts academic preparation to the work a teacher has taken in his own teaching field.

On the secondary school level it appears that the teacher who has concentrated in one or two academic fields, to the neglect of other academic fields, is no more likely to be a good teacher than the one whose academic training is broader and less concentrated.

Exclusive of the teachers of physical education, only two of the 261 teachers were reported as having less than twelve semester hours of preparation in the fields taught. Both of these were in the field of music. Only fourteen of the 261 teachers had received less than the equivalent of

\textsuperscript{10} Odenweller, \textit{op. cit.}, p. 38.

\textsuperscript{11} Boyce, \textit{op. cit.}, p. 67.
twenty-four semester hours of preparation in their fields. Thus, those with the least preparation of this type were by no means wholly unprepared. The academic preparation of the other teachers ranged anywhere from twenty-four to 124 semester hours in their subject fields.

Since those of the 261 teachers, who had received most academic preparation, were generally rated no better in quality of instruction than the ones with less preparation, and in view of the facts mentioned above, it is possible that the law of diminishing returns sets in when teachers of the secondary school level concentrate strongly in their own fields.

Experience. The coefficient of correlation, as found in this study, between teaching experience and teaching efficiency is .02, with a probable error of ± .04. Such a correlation is, in itself, of no statistical significance.

Previously made related studies have found this relationship low, but the investigator found none as low as .02. Both Odenweller\(^{12}\) and Rostker\(^{13}\) found a correlation of only .146 between teaching experience and quality of instruction. However, in a study made in 1915, Boyce\(^{14}\) found that

\(^{12}\) Odenweller, op. cit., p. 38.

\(^{13}\) Rostker, op. cit., p. 74.

\(^{14}\) Boyce, op. cit., p. 74.
experience is important for fifteen or twenty years.

A correlation of .02, as such, indicates that there is practically no relationship between teaching experience and teaching efficiency. This figure shows quite accurately the relationship between the two factors when correlated for all of the 261 teachers, the previous teaching experiences of whom ranged from zero to forty-four years; however, this does not tell the whole story.

The investigator computed the arithmetic average of the efficiency ratings for the teachers having no full years of previous teaching experience. The same procedure was followed for those teachers with one year of experience, two years' experience, and so on for all of the 261 teachers. This revealed that with the 261 teachers, efficiency did increase constantly with experience up to approximately five years. After that time the average efficiency ratings leveled off and fluctuated around the five-year peak until about twenty years' experience was reached. From this point the average efficiency ratings began to decline slightly below the five-year peak but not as low as the average rating for teachers with one or even two years of experience.

From the evidence cited above, one may conclude that teaching efficiency does not increase constantly with teaching experience for an indefinite period of time. Rather, with secondary school teachers, efficiency increases with
experience up to around five years. After that time it begins to level off for approximately the next fifteen years. After twenty years of experience there seems to be a slight decrease in efficiency.

**Teaching load.** As previously mentioned, teaching load is not considered a teaching trait, but since the investigator had collected the necessary data, the relationship between this factor and successful teaching was found. In the computation, the hypothesis that a small class is conducive to good teaching was assumed and the frequency table was drawn up accordingly.

The relationship between these two factors was found to be $.02$, with a probable error of $\pm .04$. This correlation reflects that small classes do not necessarily mean improved instruction.

There are several possible explanations for the lack of any positive relationship between these two factors, but two seem more plausible than the others. First, if a teacher is given a small class, he might continue to teach in the same manner that he does with a large class or he might, even, slacken in his efforts. Second, it has often happened that when there is a shortage of teachers and an overload of pupils, the principal, in order to take care of the situation in the most feasible way, will arrange for his good teachers to carry heavier pupil loads than usual.
CHAPTER VI

CONCLUSION

Someone once expressed the thought that Mark Hopkins was such an inspiring teacher that a log, upon which the students could sit, would become a great university if he were instructing them. Stimulation, which is synonymous to inspiration, emerges as the outstanding factor in the success of the 261 teachers in this study.

These data are convincing evidence that pupils of secondary school level need much more than exposure to subject matter. Their interests must be developed in meaningful, worthwhile experiences. It is apparent, then, that good instruction must be stimulating instruction.

The personal qualifications of the teacher, with the significant correlation coefficient, .47, is doubtless closely associated with stimulation. It would be difficult, indeed, to picture a marked presence of one without the other.

Both cooperation and an adequate provision for desirable outcomes were found to have correlation coefficients of .65 with the quality of instruction. This relationship is high, and it is safe to conclude that both these traits are highly important factors in the relative success of the teacher involved.

The other traits that were found to relate closely
enough with teaching efficiency to warrant a marked significance are as follows: teacher's ability to use methods of appraisal, .58; teacher's preparation for classroom activities, .53; effectiveness of efforts to improve in service, .52; proper and effective use of textbooks, .52; use of other instructional materials, .52; adaptiveness of methods of appraisal to purposes intended, .50; and provision for other instructional materials, .46.

The six traits listed in Table XI with coefficients of correlation ranging from .37 to .45 may be considered mathematically significant. These coefficients of correlation are comparatively low, however, and indicate rather weak relationships between these traits and teaching success.

The correlation coefficient, .19, between professional preparation and teaching efficiency does not indicate a close relationship between these two factors. In view of the extensive amount of professional training the 261 teachers in this study had received, it is apparent that with extended preparation of this type, the law of diminishing returns sets in.

A low correlation coefficient of .02, with a probable error larger than the coefficient itself, reveals that with the 261 teachers included in this study, little or no relationship exists between academic preparation and teaching efficiency nor between teaching load and teaching efficiency.
Evidence indicates that after a secondary school teacher has received from twelve to twenty-four semester hours in his subject field, he is no more likely to improve his efficiency by additional study in that field than by broadening his academic preparation in other fields.

The hypothesis that a small class is conducive to good teaching proved false for the 261 teachers. This could be caused by a number of contributing factors, but two seem to emerge above the others. First, a teacher, when given a small class, may continue to teach by the same methods he used with a large class. Second, with a shortage of teachers and an increased pupil enrolment, some principals give larger classes to the best teachers in order to provide for the pupils' needs in the most adequate manner possible.

Hastily drawn conclusions would point out that a coefficient of correlation as low as .02 between teaching experience and teaching efficiency shows that there is no relationship between these two factors. This coefficient of correlation is mathematically accurate for the 261 teachers. It covers a wide range of experience, however, and the investigator found that efficiency increases constantly with experience up to around five years. From five to twenty years it levels off and after that time there seems to be a slight decrease in the quality of instruction. This trend of efficiency accounts for the extremely low correlation
between these two factors.

Obviously, many factors are important in determining what constitutes a competent teacher and it is possible that some have not been considered in this study. If, on the other hand, all the factors have been considered, it would be unwise to attempt to isolate them and conclude that an individual possessing certain of these traits will be assured of success in the teaching profession. Evidence leads to the conclusion that it is a combination of many factors in varying degrees of importance and not certain isolated factors of equal value that make a teacher superior or inferior.

Since no negative correlations were found in this investigation, and in view of the foregoing conclusion, it seems safe to believe that all the traits considered here do contribute more or less to the success of a teacher. It is a matter, then, of the relative importance of each trait in the combination of all.

Before advising an individual to enter the teaching profession at the secondary school level, counselors should ascertain if that person has, in addition to normal intelligence and an interest in teaching, such native traits as the ability to stimulate others, the desire to cooperate, a definite interest in his own environment, a mind open to new ideas, and a pleasant personality. Without such traits pre-service training will not produce an efficient teacher.
Those who are engaged in the pre-service training of teachers may find this study of value insomuch as the relative importance of various factors involved in good teaching has been pointed out. Evidence shows that in the professional preparation of prospective teachers emphasis should be placed on training them to devise more stimulating instructional procedures, to use methods of appraisal more appropriately, to prepare more adequately for classroom activities, to use textbooks more effectively, to make broader provision for and to use more intelligently other available instructional materials, and, finally, to have a fuller comprehension of the relationship of their own field to other fields and to life's activities in general.

In selecting good teachers, division superintendents and secondary school principals may be helped by some of the findings in this study. Among the 261 teachers the most efficient possessed all of the twenty-one traits. The relationship of each of these traits to the success of those teachers is indicated by the coefficients of correlation in Table XI. The information in this table may well be used as a criteria for predicting teaching success. The extent to which an applicant possesses all of these traits may not be fully determined before employment; however, by means of written applications and personal interviews the employer is able to obtain most of the necessary information if he has
clearly in mind what he is seeking.

Finally, supervisors may find this study a useful guide for the in-service training of teachers. Several of the traits are native in character but their value to teaching efficiency can be emphasized and teachers encouraged to develop such traits if they be latent. A knowledge of the relative importance of the remaining factors dealing with preparation, procedures, and materials can be a determining factor in the daily growth of the classroom teacher and result in the continual improvement of secondary school instruction throughout our nation.
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APPENDIX
Mr. Cameron B. Dickerson  
College of William and Mary  
Williamsburg, Virginia  

Dear Mr. Dickerson:

I know of no study which has been made on the relationship of qualifications of teachers to the quality of instruction as revealed by Cooperative Study materials.

We have reference to a Master's dissertation in 1937 at the University of Texas on the subject, "Correlation Between Certain Qualities of Teachers and Administrator's Efficiency Rating." William Glenn Hutson is the author of this thesis. I assume, if interested, you can probably secure a copy through inter-library loan with the University of Texas.

The University of Wisconsin has, over a period of time, been interested in problems of teacher success. In 1945, for instance, the University had a Doctor's thesis by Jean Francis Rolfe entitled "The Study of the Validity of Certain Measures of Teaching Ability." In 1941, Charles B. LaDuke of the University of Wisconsin wrote his Doctor's dissertation on "The Measurement of Teaching Efficiency" and, in 1939 Leon E. Rostker wrote a Doctor's dissertation at the University of Wisconsin on "The Measurement and Prediction of Teaching Ability." Some of these studies may be significant in supplying information concerning methods of evaluating teaching efficiency. It occurs to me that you may want to write the University of Wisconsin regarding any studies pertinent to your problem which may have been made there in recent years.

I am glad to know that you are making a study of this sort and hope that you will put me on the mailing list for a report of your findings when that report is ready.

Sincerely yours,

(Signed) Carl A. Jessen

Carl A. Jessen  
Secretary--Treasurer