71-18,179

CAIN, John Norman, 1931-
TEACHER CHARACTERISTICS AND BACKGROUND QUALIFICATIONS SIGNIFICANT TO MAXIMUM TEACHING EFFECTIVENESS WITH IMPLICATIONS FOR STAFFING VOCATIONAL EDUCATION CENTERS IN OAKLAND COUNTY, MICHIGAN.

Michigan State University, Ph.D., 1970
Education, vocational

University Microfilms, A XEROX Company, Ann Arbor, Michigan

TEACHER CHARACTERISTICS AND BACKGROUND QUALIFICATIONS SIGNIFICANT TO MAXIMUM TEACHING EFFECTIVENESS WITH IMPLICATIONS FOR STAFFING VOCATIONAL EDUCATION CENTERS IN OAKLAND COUNTY, MICHIGAN

By

John Norman Cain

A THESIS

Submitted to

Michigan State University

in partial fulfillment of the requirements

for the degree of

DOCTOR OF PHILOSOPHY

1970

ABSTRACT

TEACHER CHARACTERISTICS AND BACKGROUND QUALIFICATIONS SIGNIFICANT TO MAXIMUM TEACHING EFFECTIVENESS WITH IMPLICATIONS FOR STAFFING VOCATIONAL EDUCATION CENTERS IN OAKLAND COUNTY, MICHIGAN

by

John Normain Cain

The purpose of this study was to develop a rationally and empirically based design by which to select maximum effective teachers for nine selected courses offered in shared-time area vocational centers like those in Oakland County, Michigan. The nine courses were Advertising, Child Care, Data Processing, Dental Office Assisting, Display, Distribution and Marketing, Engineering Drafting, Greenhouse and Nursery Occupations and Total Office Procedures System.

Three postulates of theory provided the framework by which to develop the selection design:

(1) Selection must take place according to criteria, which will permit evaluation of the selection procedures.

(2) Selection must take place according to sound, empirically based principles derived from the practical experience of those immediately involved in selecting teachers.

(3) Selection must take place according to defined situational factors.

The criterion for evaluation of the design was placement of the student in the occupation for which he was trained.

Empirical bases for principles of selection were derived from instruments checked by seventy principals of vocational centers like those in Oakland County. The centers were situated in eleven states. Fifty-seven descriptors of teacher characteristics and background qualifications, selected from related literature, were rated on a dimensional scale of ineffective to maximum effective for each of the nine courses. The principals rated only those courses for which they selected teachers in their vocational centers. They also ranked ordinally the three most significant areas and one least significant area from the seven areas under which the descriptors were grouped--Work Experience, Formal Education, Teaching Ability, Personal Characteristics, Unmodifiable Physical Characteristics, Modifiable Physical Characteristics and Background Qualifications.

Situational factors were determined from responses to the instrument by all of the fourteen hiring personnel of Oakland County's four vocational education centers. For the greater flexibility and adaptability of the design, situational factors were behaviorally justified by relating a job function specification to each situational descriptor.

From 284 instruments, a seventy per cent return from the out-state survey, thirteen descriptors were interpreted to be common teacher characteristics and background qualifications for maximum effective teaching in all nine of the selected courses and were included in the design as principles for selection: work experience of three years or more and in the subject area taught; formal education of a Master's Degree; a teaching ability based on knowledge of the subject area taught, skill proficiency, and organizational ability; personal characteristics that reflect positive attitudes toward the subject area taught, toward teaching and toward students, cooperative attitudes toward other school personnel, enthusiasm

and a strong self-concept. One of the more salient means by which to assess a teacher-candidate's potential for maximum effectiveness is his background qualifications reported in a strong work experience recommendation. The three areas of most significance by which to select maximum effective teachers for the nine selected courses were Teaching Ability, Personal Characteristics and Work Experience. The least significant area was Unmodifiable Physical Characteristics.

Eleven additional descriptors were situational to Oakland County and sixteen were situational to selecting teachers for one or more (but not all) of the nine selected courses as interpreted from the 47 instruments returned from Oakland County's hiring personnel.

The teacher characteristics and background qualifications generalizable to both survey populations (Oakland County's personnel did not value cooperative attitude toward other school personnel) and those situational to Oakland County and to each of the nine courses were compiled into a design for appropriately staffing vocational centers like those in Oakland County. To illustrate the implementation of the design situational factors for Oakland County and for each of the nine courses were behaviorally related to anticipated teacher tasks or job function specifications by paradigms.

ACKNOWLEDGEMENTS

Few human activities can be completed by a man alone. Much of what all of us do depends either upon the aid of our contiguous contemporaries or upon some motivational force that occurred far back in our developmental process. I acknowledge both sources of help in completing this study. For my high esteem of education I credit my mother, who stressed its importance always. For my conviction in the social power of vocational education, I recognize the influence of my father, who performed his skilled labor with dignity and with pride in his competency.

For the time, encouragement, and resources to complete this work, I thank my employer, Oakland Schools a Regional Service Agency, and for their generous help and advice, I thank my colleagues, particularly Dr. Loyal Joos, Director of the Office of Systematic Studies, Oakland Schools. For her loyalty, skill and downright endurance, I thank Mrs. Gale Blackstone, my secretary, and for ably lending additional secretarial assistance when it was needed, I thank Miss Betty Osley.

For their advice and for their faith in permitting me the academic freedom to pursue a study of this scope, I appreciate my doctoral advisory committee, Dr. O. Donald Meaders, Dr. Samuel A. Moore, Dr. Dan Sturt and particularly its chairman, Dr. Peter G. Haines.

For the graciousness to give more of her time, talent and tolerance than I deserved, I praise my wife, Jean. For having enough understanding of a father who valued this study more than bowling,

skating or swimming, I am grateful to my daughter Cindie, 13, and to my son Jeff, 11. For controlling a garrulous nature for even short periods of time and for learning how to pronounce dissertation, I acknowledge my other daughter Jill, 4. And for confirming my confidence in the professional integrity of vocational educators, I endorse the respondents to the rather time-consuming instruments without whom this study would have been impossible.

J.N.C.

TABLE OF CONTENTS[1]

[1]This paper was prepared in accordance with the recommendations in: Kate L. Turabian, A Manual for Writers of Term Papers, Theses, and Dissertations, Third Edition, revised, (Chicago: University of Chicago Press, 1970).

LIST OF TABLES

LIST OF FIGURES

CHAPTER I

PROBLEM

Introduction

Education may be assessed in terms of a polarized continuum. The student, who proceeds through the workflow of the school, possesses certain characteristics at the age of five, one pole of the continuum, and might attain to other characteristics at the age of seventeen or eighteen, the other pole of the continuum. The second pole might be thought of as the model, the desired result of the developmental sequences through which the student must progress. Traditionally the developmental sequences are represented by grade levels in elementary schools and by departments in high schools. The division of teaching labor likewise is represented by specialization in these developmental sequences. The elementary teacher specializes in the skills and students to be taught in a particular grade. The secondary teacher specializes in subject matter.

Although curricular reforms in secondary schools in the past years represent moves away from this specialization (core curriculum, humanities studies, etc.), there are other indications that even higher degrees of specialization are required for teachers in secondary high schools. Many larger high schools are offering an increased variety of courses to meet the demand for individualization. Examples of such courses are art criticism, bio-chemistry, contemporary poetry, electronics,

marketing and dental assisting; as the titles indicate, greater in-depth study and specialization are being used.

Specialization is a highly significant factor in vocational education, and vocational area centers represent a specialization of the educational continuum for many non-college bound students. Vocational area centers are schools established to provide vocational education for pupils from several districts within a geographic or legally defined unit.[1] Because of the economic efficiency of exposing many students to a highly specialized master teacher working in a costly laboratory simulation, the area centers are becoming increasingly popular answers to our nation's vocational training problems.

The problem of selecting staffs in the area vocational centers is complex, for these schools' curricula are designed to reach to degrees of even more specificity than are the typical preparatory vocational programs presently in operation in American high schools. Certainly the dilemmas inherent in staffing are problems which could and do involve many variables. Such problems with their many ramifications were awaiting solution in Oakland County, Michigan. The intermediate school district, Oakland County Regional Service Agency, was authorized by voters to construct, develop curricula for and help to staff four vocational education centers to be operated on a shared-time basis in service to Oakland County's sending high schools. The schools were under construction; curricula and student selection criteria were established and equipment had been ordered.

Selecting teachers to implement the programs effectively must follow. Thus the staffing process and formulating a rationally defined

---

[1]William E. Hopke, Dictionary of Personnel and Guidance Terms, (Chicago: J. G. Ferguson Publishing Co., 1968), p. 322.

framework for effective application of a staffing design were the inducements for this study.

Theoretic Framework

The theoretic base for this study on selection of vocational teachers for a shared-time vocational education center can be related to three postulates.

(1) Selection must take place according to criteria, which will permit ultimate evaluation of the selection procedures. If standards for successful vocational teaching can be determined, the characteristics, behaviors and background data of those performing the successful teaching can be evaluated and used for subsequent selection procedures. One standard for vocational teaching (there could be many) was phrased as " . . . and the acid test of the quality of the vocational program is placement of graduates in the occupations for which they received instruction."[1] Successful teaching can then be translated into operational terms by verbalizing what is traditionally accepted as a basic goal for vocational centers. If a teacher effects the goal, ultimately evaluated by pupil placement, his characteristics, behavior and background data have combined to make him effective. Any selection study must be devoted, in part at least, to determining those components of the teacher which comprise his effectiveness. Therefore a corollary of this postulate is that teacher background, characteristics and

---

[1]President's Panel of Consultants, Vocational Education, United States Department of Health, Education and Welfare quoted in The Process of T & I High School Level Vocational Education in the United States, prepared by Max U. Eninger (Pittsburgh: American Institutes for Research, 1965), Foreword.

behavior are factorable. Precedent for this theoretic base can be found in the works of Ryans[1] and of Courtney.[2]

(2) Selection must take place according to sound, empirically based principles derived from the practical experiences of those immediately involved in selecting teachers. If sound principles can be used to select effective teachers rather than just screening techniques, an eventual evaluation of the criteria would be greatly facilitated. Principles of selection could be determined to be desirable teacher traits and functions which are common to maximum teaching effectiveness in all vocational classes. If some factors of the teachers' characteristics, behavior and background can be found to be held in common among Office, Distributive, Agricultural, Trade and Technical, Home Economics and Related Health Service teachers, those commonalities would be principles for easier and better selection. The principles could be thought of as the foundations of the staffing process, and the criteria used for evaluation of that process would ultimately inform administrators if the principles had indeed been soundly established and implemented. In addition, using sound principles for a base of selection would provide means of a more rational flexibility in times of greater teacher shortage or supply.

---

[1]David G. Ryans, "Notes on the Criterion Problem in Research with Special References to the Study of Teacher Characteristics," The Journal of Genetic Psychology, 91, (1957), pp. 31-61.

[2]E. Wayne Courtney, The Identification and Comparison of Common Professional Training Needs and Requirements for Teachers of Vocational Education: Phase I - The Instrument, Final Report of Project No. 3-8319 to U.S. Department of Health, Education, and Welfare, Office of Education, Bureau of Research (Menomonie, Wisconsin: Stout State University, 1967).

Deriving principles from those immediately involved in hiring, such as principals or directors of operational shared-time area vocational centers, would mandate soliciting appraisals of teacher characteristics, behaviors and background data in the real terms of what it is the teacher is expected to do and what factors would best predict that he does the job well. Precedent for this theoretic base (number two) can be found in the works of Brogden and Taylor,[1] Ryans[2] and Courtney and Halfin.[3]

(3) Selection must take place according to defined situational factors. Even though principles underlying selection procedures may be established, the differences leading to teacher effectiveness must be considered. These differences might be necessitated by the objectives of particular courses, the demography of the vocational area, and the teacher characteristics, behaviors and background data unique to each of the disciplines. Recognition of the differences should be used in conjunction with the empirically designed principles when selecting teacher candidates for maximum effectiveness. Use of both the differences and commonalities could be facilitated by demonstrating a specific job function which might be dependent upon a teacher characteristic for its

---

[1]Hubert E. Brogden and Erwin K. Taylor, "The Theory and Classification of Criterion Bias," Educational and Psychological Measurement, X, (1950), p. 161.

[2]David G. Ryans, Characteristics of Teachers: Their Description, Comparison and Appraisal, (Menasha, Wisconsin: George Banter and Company, 1960).

[3]E. Wayne Courtney and Harold H. Halfin, Competencies of Vocational Teachers: A Factor Analysis of the training needs of Teachers of Occupational Education. A study conducted in cooperation with the Department of Statistics (Corvallis, Oregon: Oregon State University, August, 1969), p. 43.

performance in a given situation. Precedent for this theoretic base can be found in the works of Corey,[1] Ryans[2] and Super.[2]

Statement of the Problem

Evolving from the previous discussion, the problem is: What is an appropriate design for selecting teachers of maximum effectiveness for schools such as Oakland County Vocational Centers? The problem can be defined by using the three postulates of theory as parallels to four problem stages.

(1) One recognized criterion for effective teaching in vocational schools is student placement in the occupation for which the student was trained. Such a criterion provided the focal point for all of the phases of this study because the design for appropriate staffing must be so formulated to allow for its subsequent evaluation in terms of the criteria. The problem of factoring teacher characteristics, behavior and background data required at least two steps:
(a) the factoring of significant problem areas in teacher selection;
(b) the factoring of each problem area into related teacher characteristics, behavior and background data for investigation.

(2) Directors or principals of shared-time area vocational centers similar to those of Oakland County must designate those factors

---

[1]Steven M. Corey, Action Research to Improve School Practices, (New York: Bureau of Publications, Teachers College, Columbia University, 1953), p. 143.

[2]Ryans, Characteristics of Teachers, p. 17.

[3]Donald E. Super, "A Developmental Concept of Vocational Behavior," Vocational Behavior: Readings in Theory and Research, ed. by Donald G. Zytowsky (Chicago: Holt, Rinehart and Winston, Inc. 1968), p. 128.

upon which they consider maximum effectiveness to be contingent. The second problem of the research task was to interpret the data for factors believed, by the survey population, to be common to the teachers of the courses selected for investigation.

(3) Investigating desirable teacher factors for nine selected courses (listed on p. 13) was aimed at supplying both commonalities and situational factors. The third research problem was the designation of the factors unique to each of the nine selected courses and the factors unique to Oakland County.

(4) The last phase of the problem was developmental, combining factors of commonality and factors of situational differences for analysis. Incumbent too upon this stage of the research was the problem of correlating maximum effectiveness factors to illustrative job function specifications for efficient use of the design in selecting vocational teachers and for eventual evaluation of the factors in terms of the stated criterion.

Need for the Study

The most immediate need for the study is that of selecting teachers for Oakland County's four vocational education centers, but a practical and well formulated design for selecting vocational teachers would be a desirable resource for future research on teacher competencies, on in-service and pre-service training, and on areas of needed change. The careful implementation of the design, accompanied by computerized recording, opens the way for valuable research in many areas.

> If we ask any man, "Why do research on teaching?" his answer is likely to be: "To discover what makes a good teacher." We can easily elaborate on his reply. We need such research in order

> to better select candidates for teacher training, to design teacher education programs, to provide a basis for teacher certification, to make possible better hiring and promotion policies, to enlighten the supervisors of teachers in service. There is no lack of practical justification for research on the question of how teacher effectiveness can be measured, predicted and improved.[1]

A design for selecting teachers is but a start in an area which has had little research according to Dr. Harry B. Gilbert of The Pennsylvania State University:

> "Interest in the area of teacher selection is minimal based upon the actual amount of research under way. However a great deal of interest does exist among teacher personnel selectors and universities. The problem is to make patent what is latent.[2]

Dr. Gilbert's opinion was corroborated by Harland E. Samson, "The practices and processess of staffing are not sufficiently well understood, nor have they been adequately evaluated!"[3] That some directional approach should be taken toward selecting effective staffs for vocational programs can be inferred from the polarization of opinions in the discussion of the significant problem areas in Chapter II.

---

[1]N. L. Gage, "Paradigms for Research on Teaching," appearing in Handbook of Research on Teaching, ed. by N.L. Gage (Chicago: Rand McNally and Company, 1963), p. 114.

[2]Harry B. Gilbert, "Needed Research in the Area of Teacher Selection," appearing in Teacher Selection Methods, ed. by Harry B. Gilbert and Gerhard Lang (New York: Board of Education of the City of New York, 1967), p. 107.

[3]Harland E. Samson, "Staffing," Review of Education Research, XXXVIII, No. 4 (1968), p. 413.

The whole problem of staffing is related to Oakland County's area vocational education centers.

Oakland County's vocational education centers are geographically, socially and economically dictated. The educational needs are specific, and therefore the staffing needs are specific. But the generalized problem of staffing is essentially the same in Oakland as it would be any place where effective vocational education is attempted.

Certainly an analysis must be attempted of those characteristics which exist already in an area and which might be relevant to the teacher selection process. Although one might decide on those qualities which would make an effective teacher, there are conditions of a practical nature in a designated area which could render seemingly unimportant characteristics desirable. One example could be cultural values as they are reflected in both the student body and in the hiring personnel. Other examples might be the political orientation of the community and the economic background of the students to be taught. These situational factors would be reflected in the staffing desires of an administration.

The administrative staffs of Oakland Vocational Education Centers and of Oakland County's Regional Service Agency are innovative by policy; the curricula for the centers have been researched according to the county's needs (Reported in A Systematic Study of Vocational Education Needs in Oakland County, Michigan) and according to educational expertise; the course content has been prescribed by craft committees composed of those working in the field for which the course is taught and by educational expertise; the prescriptive methods of teaching -- behavioral objectives, team teaching, media centers, differentiated staffing -- have been established. "Case study procedure permits

analysis of the ahead-of-his-time person or the out-in-front practice, concept or movement,"[1] but the uniqueness of Oakland does not in any real sense alter the whole problem. Hopefully it will provide the practical structure, the patterns over which a useful staffing design can be imposed. Its uniqueness will give perception and dimension to the problem and attempts at its solution.

Purpose of the Study

The purpose of this study was to develop a rationally and empirically based design by which to select maximumally effective teachers for nine selected courses offered in shared-time area vocational centers such as those in Oakland County. The developmental process and the implementation of the design anticipated five cognate objectives:

1. to illustrate the use of defined generalizable principles for selection of vocational teachers;
2. to illustrate the generalizable procedure of considering situational factors for selection for vocational teachers;
3. to provide a foundation for further research on the relationship of teacher characteristics and background data to effective vocational teacher behavior;
4. to imply areas of need for pre-service and in-service training, and
5. to attempt to provide additional research for meaningful answers to the following questions (the questions are explained and justified as contemporary problems in Part I of Chapter II):

---

[1]Frank W. Lanham and J.M. Trytten, Review and Synthesis of Research in Business and Office Education (Columbus, Ohio: The Center for Research and Leadership Development in Vocational and Technical Education, The Ohio State University, August, 1966), p. 99.

(a) How much value should be placed on work experience, on formal education, or on teaching skills?
   (1) Is the quality of work experience important?
   (2) Could a person have too many years of work experience?
   (3) How much formal education should a candidate possess?
   (4) Do schools prefer degree candidates?
   (5) What kind of formal education is significant to effective vocational teaching?

(b) What are the individual characteristics that would lead to effective vocational teaching?
   (1) What personal characteristics are desirable?
   (2) Should physical characteristics be important to a staffing design?
   (3) Are administrators and students influenced by unchangeable physical appearance?
   (4) Would some courses dictate sex differentiation?
   (5) Are changeable appearance factors significant in vocational staffing?

(c) How can an administrator appraise background data objectively?
   (1) How reliable are pre-service recommendations?
   (2) Can predictive instruments be used to assess factors leading to effective teaching?

Assumptions and Limitations

Assumptions

The primary assumption of this study was that teacher characteristics and background data are factorable and that the factors can be defined. A corollary to the primary assumption was that the factors, once defined, could be related to specified teacher behavior. Also corollary to this primary assumption was that the relationship of the factors to specified teacher behavior could be appraised by those

recognized as experts, in this case directors or principles and other hiring personnel of shared-time vocational education centers such as those in Oakland County, on an operationally defined dimensional scale such as ineffective to maximum effective.

A secondary assumption was the expertise of the consultants for Oakland Regional Service Agency and of the principals and hiring personnel of the four centers to relate factors of maximum effectiveness to rationally derived job function specifications.

A tertiary assumption was that 40 per cent frequency of responses checked maximum effective, computed on the total number of returned instruments, would justify designating a factor as contributory to maximum effectiveness.

Limitations

This study took the problem of staffing schools such as Oakland Vocational Education Centers to the point of measurement, but there was no teaching yet going on so one could not test the value of the design for prediction of effectiveness on a base of actual proficiency. Indeed, as stated earlier, the acid test for effectiveness could not be made until reliable follow-up studies of the student population have been reported.

That change in course structures will be dictated by changing training needs limited the assumed validity of the job function specifications to only the first year of the center's operation. After the first year, assessment may call for changes in job functions, but the efficiency of the anticipated design was that it should allow for changes in job functions without greatly altering their relationship to the design for staffing.

The study defined job function specifications for those factors situational to nine selected vocational courses. Those courses for which job functions were specified were Total Office Procedures System, Data Processing, Advertising, Display, Distribution and Marketing, which constitute the course offerings for distributive and office occupational education; Greenhouse and Nursery Occupations (Horticulture) for agricultural occupational education; Engineering Drafting for trade and technical education; Child Care for home economics occupational education; and Dental Office Assisting for health and related occupations education.

Definition of Terms

1. Criterion:

   A standard on which a judgment of decision may be based.[1]

2. Descriptors:

   A shortened statement symbolizing the characteristics to be rated.

3. Descriptive Rating Scale:

   A construction which employs a series of phrases designating various degrees of the characteristics rated. These phrases are usually arranged in order with instructions to the rater to check the phrases that come closest to describing the characteristics being constructed.[2]

---

[1]William E. Hopke (ed.), Dictionary of Personnel and Guidance Terms (Chicago: J. G. Ferguson Publishing Co., 1968), p. 98.

[2]Ibid., p. 190.

4. Factor:

A hypothetical trait, ability or component of ability that underlies and influences performance on two or more tests and hence causes scores on the tests to be correlated.[1]

5. Factor Analysis:

Any of several methods of analyzing the intercorrelations among a set of variables such as test scores.[2]

6. Function:

Specifies a way in which a professional worker performs or carries out a role.[3]

7. Job Function Specification:

Characteristics of one of a group of related actions contributing to teaching a vocational course. Job function specifications decrease generality or vagueness by supplying particularizing detail from the point of view of use.

8. Oakland County:

Defined in Appendix 3 for greater facility in reporting. The details were selected for the community description on the basis of a study done by C. L. Hulin.[4]

---

[1] Ibid. p. 139.

[2] Ibid.

[3] Ibid, p. 153.

[4] C. L. Hulin, "Effects of Community Characteristics on Measures of Job Satisfaction," in Vocational Behavior: Readings in Theory and Research, edited by Donald G. Zytowski (Chicago: Holt, Rinehart, and Winston, Inc., 1968), p. 143 ff.

9. Oakland Schools Consultants:

Those having competence in discrete academic fields. In the design of Oakland Schools the consultants represent the constituencies' access to high levels of preparation and experience.[1] The consultants of trade and industrial, home economics agriculture, and office and distributive vocational education and the director of vocational education were interviewed in this study.

10. Oakland Schools Regional Educational Service Agency:

A corporationally designed construct established to provide high level and specialized resources to the public and parochial districts of Oakland County.[2]

In 1963, Act 190, which was an amendment, permitted intermediate school districts to hold elections to adopt what was called the area vocational-technical education program. The intermediate board of education can initiate an election to be held throughout the immediate district. Following this authority came Act 114 in 1966, under which the intermediate board of education has a right with approval of the voters to issue bonds against the intermediate school district as security,

---

[1] William J. Emerson, "The Regional Educational Service Agency's Role in Educational Planning," unpublished paper (in the files of the Office of Superintendent of Oakland County Regional Educational Service Agency), not dated, p. 7.

[2] Ibid., pp. 1-7.

"For the purpose of purchasing, erecting, completing, remodeling, improving, furnishing, equipping, or re-equipping, area vocational technical buildings and other facilities, or any parts thereof or additions thereto; acquiring, preparing, developing or improving sites or additions for vocational-technical buildings and other facilities."[1]

11. Paradigm:

A model, pattern or schematic which represents relationships between variables.[2] The paradigm for each of the courses investigated in this study will be a graphic representation to indicate the relationship between job function specifications and the teacher characteristics and background data rated as maximum effective.

12. Shared-Time:

A cooperative agreement between public and private schools throughout the nation whereby facilities for specialized education programs are shared. Students in such participating schools have "dual enrollments." They at the same time maintain their identity with the "home" school.

"The concept is frequently referred to through the use of such phrases as 'area vocational education program' 'area vocational school' and 'shared-time vocational education programs.' Often

---

[1] Mrs. Fred Thrun, "Some Legal Considerations for Developing Shared Time (Dual Enrollment) Vocational Education Programs," A speech quoted in Research and Development Program in Vocational-Technical Education: Suggestions for Utilizing Shared-Time Concepts in Planning and Conducting Area Vocational Education Programs (East Lansing: Michigan State University, 1967), pp. 1-3.

[2] Gage, p. 95.

the phrases are used interchangeably even though there may be some fundamental differences among them.

. . . . . .

"The shared-time concept rests firmly on the joint efforts, cooperative efforts, of two or more schools to provide an educational program."[1]

---

[1] Ibid., p. iv.

CHAPTER II

REVIEW OF LITERATURE

The purpose of this chapter is to review the literature pertinent to the characteristics of teachers and teacher competencies as they might relate to vocational education. A preliminary review of mostly periodicals was reviewed to determine areas of significance. The reporting of those areas and justification for designating them as classifications for further factoring compose the first section of this study. In order to show precedent for the methodology and for the theoretic base used in this study the second section reviews literature and reports dealing with those areas.

The third section of the chapter reports work which has been done on selection procedures. The rest of the chapter follows the major classification system derived from the materials in the preliminary review subtitled "Problem Areas from Which Are Derived Groups of Teacher Characteristics and Background Data": (1) work experience, (2) formal education, (3) teaching ability, (4) personal characteristics, (5) modifiable physical characteristics, (6) non-modifiable physical characteristics, and (7) appraisal of background qualifications.

The summary is a compilation of those qualities of a vocational teacher which the previous workers in vocational education research have

found important for effective teaching. The compilation is concisely phrased into an instrument for distribution to the directors of shared-time area vocational centers for a consensus report and for use as an empirical base for this study.

Problem Areas from Which Are Derived Groups of Teacher Characteristics and Background Data

The problem areas for staffing vocational education centers were determined by a preliminary review of many sources. The areas were designated as problems to this study because the literature on general and vocational education either implied or stated them to be problems. The factoring for the groups of teacher characteristics and background data, which evolved from the preliminary review, was based on the diversity of opinion surrounding a conceptualized area. In some areas the controversy was clear-cut; in others the controversy was tangent to other problems. The sources cited or the discussion often represent opposite views to illustrate the rationale for selecting the area for study. Many of the sources for the problem areas were those which were not used for obtaining sub-factors of specific teacher characteristics and background data. They only aided in defining the problem, not in solving it. An arbitrary, but rational, means of selecting factors for investigation was supported by Ryans.[1]

---

[1] Ryans, "Notes on the Criterion Problem," p. 33.

How much value should be placed on work experience, on formal education, on teaching skills?

Work experience is more important according to some opinions.

In most vocational areas three years of work experience is the basis for vocational certification in Michigan. Depending on the teacher-training institution or on the State Department of Education in cases of teachers to be hired without degrees, twelve semester hours or eighteen term hours of formal education are required for state certification. Types of courses which are required vary with the teacher training institution and with the occupational programs within the institution. Therefore, a vocational training institution in Michigan has many alternatives in adapting vocational certifiability to the individual applicant and to its hiring needs.

As a result, factors on work experience, formal education and teaching skills still must be carefully considered. Prosser and Quigley in Vocational Education in a Democracy expressed this problem area concisely by a formula E (teaching efficiency) = C (content) X T (teaching technique).[1] They expanded the formula by outlining three plans by which these two components -- content and teaching techniques -- have been traditionally obtained. Plan A - the teacher-trainer institution gives both content and technique. Plan B - the institution, usually business, takes teachers and teaches them what to teach (or content). Plan C - (used to a great extent in training industrial education instructors)

---

[1] Charles A. Prosser and Thomas H. Quigley, Vocational Education in a Democracy, rev. ed. (Chicago: American Technical Society, 1963), p. 464.

the training school takes those people who know the content C and provides short periods of teacher-training. The following table (reproduced exactly) presents Prosser and Quigley's factoring of the characteristics of the three plans.

---

[1] Ibid., p. 465.

CHARACTERISTICS OF TEACHER TRAINING PLANS[1]

	Plan A	Plan B	Plan C
Place	Residential at the teacher training institution.	Residential at the teacher training institution or at the plant.	At any place where the work is easily accessible to prospective teachers.
Time required to complete the course.	Two to four years.	Depends upon time required to master the occupation. Up to four years in a highly skilled occupation or trade.	From 60 to 120 hours.
Content	"C" and "T" "C" in occupation to be taught.	"C" only in occupation to be taught.	"T" only.
Basis of group selection.	Acceptance of students on the basis of academic qualifications.	Selection of evidence of teaching ability in another field of education.	Selection of evidence of successful practice of the occupation to be taught.
Group from which selection is made.	The group usually entering institutions of the grade of the teacher training institution.	The group of successful academic teachers.	The group of trained and successful occupational workers.
Nature and amount of equipment required.	Production equipment of the occupation. "Equipment for training in "T".	The occupational equipment.	The equipment for training of "T".
Equipment to Teacher Training Staff.	Must know both "C" and "T"; how to teach them, and how to teach others to teach them.	Must know how to teach "C" and how to teach others to teach "C".	Must know "T" and how to teach "T" to others.

[1]Prosser and Quigley, p. 467.

Prosser and Quigley presented a logical case for asserting that Plan C is the best method of providing efficient vocational teachers. Thus it can be interpreted that they felt greater stress should be placed on work experience or the knowledge of the occupation to be taught than on formal education as one normally thinks of it.

Formal Education and teaching skills are more important.

Prosser and Quigley compiled their material before the Vocational Education Act of 1963, after which for various reasons schools were forced to hire teachers with more work experience and less formal education. However, some vocational education leaders have indicated concern with this situation. The following recounting of a few recently published statements indicates not necessarily the opposing view to Prosser and Quigley's stand on work experience, but it does indicate the importance of attempting to resolve the work experience - formal education - pedagogy problem.

Van Trump defined the ideal trade-tech teacher as a composite of occupational skill, academic background, industrial knowledge, and pedagogy.[1] E. Edward Harris in his critical requirements study of distributive and office education implied that effective behaviors of teachers related to academic background.[2]

---

[1] W. F. VanTrump, "How Can We Staff our Trade Technical Programs?," American Vocational Journal, April, 1967, pp. 23-24.

[2] E. Edward Harris, Requirements for Office and Distributive Education Teacher-Coordinators, Monograph 15 (Cincinnati, Ohio: South-Western Publishing Co., March, 1967), p. 75.

Bruce Reinhart pointed out that an increasing number of industrial education teachers are obtaining degrees. He suggested that college credit be given for competencies in vocational skills; from such a suggestion one can infer that the teachers and their colleagues might value at least the status of a formal education background.[1]

The above related opinions reflected in varying degrees the other spectrum of a problem which needs to be resolved before proper selection can proceed. Two other problematic concerns related to this area are:

1. What kind of work experience should a vocational teacher candidate have?

2. How much work experience should a vocational teacher candidate have?

(Traditionally agriculture, home economics, and distributive teachers have obtained their backgrounds for teaching by completing the requirements for a Baccalaureate Degree. Their work experience has either been a part of that program or has been obtained somewhere along the way. Industrial education teachers, on the other hand, have had occupational backgrounds which were not usually obtained through formal education leading to a Baccalaureate Degree.[2])

---

[1]Bruce Reinhart, "Trade and Technical Teachers; A Unique Teaching Force," Journal of Secondary Education, November, 1968, pp. 300-306.

[2]U.S. Department of Health, Education and Welfare, Education for a Changing World of Work (U.S. Government Printing Office, 1964), p. 237.

Is the quality of work experience important?

Although Michigan has established a quantitative base of three years of work experience in many occupational fields, it has not prescribed a qualitative procedure for determining the value of the work experience for the specific course(s) the instructor is to teach other than "related" work experience. Further could one assume that the more work experience a candidate has the better he will know his subject matter? Also should hiring personnel appraise work experience according to the hierarchical positions that were held by the candidates? If the candidate had been a supervisor on the job, for instance, would he be more effective than a person who had had no leadership role?

Could a teacher candidate have too many years of work experience?

Could a person have too much work experience to allow him to adapt to the relative ignorance or inability that his beginning students would have? Or a more practical consideration, could a person have so many years of experience that it would be impossible for a school to encourage him to become vocationally certified? Benjamin J. Stern, formerly administrative director of New York City Vocational High Schools, pointed out that 9 years of work experience, required by New York state, was too long. By that time the skills he learned can become obsolete, and at that point in his life the skilled worker is at the peak of salary and productivity and would not like to go into teaching, let alone go back to school for his required course work.

He further maintained that such an instructor does not need all of that experience in order to teach some of the micro-courses that are now being offered such as service station attendant.[1]

How much formal education should a candidate possess?

Do schools prefer degree applicants?

Michigan requires a base of twelve semester hours or eighteen term hours of formal educational background for permanent vocational certification, but the guidelines for formal education are not necessarily established. As stated earlier, it is generally accepted that in some of the disciplines, most occupational teachers have learned their fields by formal education. Can it be assumed that the more education one has the more effectively he will teach? Such an assumption seems to be generally held.

What kinds of formal education are significant to effective vocational teaching?

Some colleges are perhaps better equipped than others to train the kind of vocational teachers that area vocational centers need. Some teacher-trainer institutions do not have the funds to provide adequate laboratory experiences for their teacher training. Some schools have adequate teacher training programs in agriculture but not in industrial education for instance. Some teacher-trainer curricula provide more

---

[1] Benjamin J. Stern, "Trade Teachers: Recruitment and Training," Industrial Arts and Vocational Education, June, 1967, p. 44.

extensive student teaching experience for their students than do others. Some schools such as Stout State University in Wisconsin differentiate in their content teaching by providing more in-depth studies for better students such as an advanced placement course in drafting. All of these variances are ancillary to the formal education question, and a study which is to be complete must provide means of considerations for them.

What are the individual characteristics that would lead to effective vocational teaching?

Research seems to indicate that teacher behavior is related to personal characteristics.

The significance of the personality and of the individual qualities of a teacher on effective teaching has been studied extensively by behavioral researchers. It would be naive to assume that such factors about a candidate would be irrelevant to vocational teaching. Because of the over-all objective of vocational education -- to place students in the occupation for which they were trained -- such features of a vocational teacher might not be as important as for teachers in a comprehensive curriculum, but human relations cannot be ignored despite the simply stated criterion, and certainly the area is researchable.

---

[1] William P. Spence, "Recruiting Methods Industrial Arts Uses," Industrial Arts and Vocational Education, June, 1967, p. 48.

> In addition to occupational and educational requirements, certain personal characteristics are needed for successful teaching in various distributive education positions. Administrators, supervisors and teacher educators have been concerned about the identification and development of these traits.[1]

However, the personal qualities of teachers as they correlate to effectiveness are of such an untenable nature that classification and study have been difficult. Witness to the difficulty are the many lists of personality qualifications, the various titles given to the sub-functions of personality and the multitude of theories about effective behavior.

Should physical characteristics be important to a staffing design?

Are administrators and students influenced by unchangeable physical appearance?

Even a superficial check list of teacher qualities manifests a concern for appearance. How often an administrator has selected one applicant over another because he was consciously or conditionally impressed by his greater attractiveness can only be estimated. Just as the hiring administrator may have been favorably impressed by appearance, so might students. It is doubtful however that attractiveness or unattractiveness would have any long-range effect on teacher competency. In a profile study of vocational teachers rated by supervisors and

---

[1] Warren Meyer and William Logan, Review and Synthesis of Research in Distributive Education (Columbus, Ohio: The Center for Vocational and Technical Education, The Ohio State University, August, 1966), p. 72.

administrators most of those responsible for hiring indicated that they would readily hire a physically handicapped vocational teacher, but when asked if they ever hired a handicapped teacher, all answered that they had not.[1]

Few would admit that extreme body proportions (thinness, obesity), unusual facial contours or just plain ugliness would influence a hiring decision, but such qualities are usually non-modifiable; no amount of in-service training would improve them.[2] Therefore, administrators, whether by subjective or objective procedures, might very conceivably weight physical characteristics more heavily than any survey could determine.

Would some courses dictate sex differentiation?

As stated previously, there are differences in the work experience and formal education backgrounds that have been traditionally related to industrial education teachers. The traditional difference of sex seems almost too obvious to state; a child-care teacher would be female, but an auto-body repair teacher would invariably be male. Sex would be significant to hiring only in those areas such as industrial education or home economics which have normally been staffed by all male or all female teachers. That sex has bearing on teacher effectiveness is doubtful, but it would nonetheless take an administrator of some courage and a highly qualified applicant to place a female in an industrial

---

[1] Melvin L. Barlow and Bruce Reinhart, Profiles of Trade and Technical Teachers: Comprehensive Report (Los Angeles: Division of Vocational Education, University of California, 1968), p. 103.

[2] E. Wayne Courtney and Harold H. Halfin, Competencies of Vocational Teachers: A Factor Analysis of the Training Needs of Teachers of Occupational Education, p. 43.

staff position. However in recent years greater concern has been evident to afford equal opportunities to women in all areas of work. Detroit Public Schools, for instance, has hired several women for Industrial Education teaching positions.

Are changeable appearance factors significant in vocational staffing?

There are other ramifications of appearance which have a more logical base. Dress, neatness and cleanliness might be significant to office, distributive, health and home economics teaching effectiveness, for the teacher is a model, and such areas of appearance are directly related to the students' training. William P. Spence argued that improved dress is needed for a more favorable image of industrial teachers. A better image, he maintained, would allow industrial education to encourage more and better students to become industrial education teachers.[1]

Similar bases for implying significance of appearance to vocational agriculture can be used, particularly because those courses taught in schools like those in Oakland County are horticulture, floriculture and landscaping, which involve more public contact.

How can an administrator appraise background data objectively?

How reliable are pre-service recommendations?

When an applicant is being considered by staffing personnel, it is comparatively easy to review his educational and work experience

---

[1] William P. Spence, "Recruiting Methods Industrial Arts Uses," Industrial Arts and Vocational Education, June, 1967, p. 49.

backgrounds if a selection design with job functions is available. The design, of course, assumes that decisions have already been made about the comparative value of each, i.e., the kinds of teacher training curricula desirable for a specific course's teacher, the predictive value of scholarship, intelligence and other college activities, the kinds of work experience more valuable than others, etc. But what amount of faith should the administrator place in pre-service recommendations? How is the hiring agent to know if work experience or teaching experience or even student teaching experience has been of sufficient quality to merit employment? If a teacher candidate has been an ineffective teacher for eight years, the likelihood that his ineffectiveness will be perpetuated is great despite his change in environment.

Of course applicants would come for a new position with recommendations of some sort of rating from a supervisor, but such recommendations are almost always subjective and therefore probably contain criterion bias. The "halo effect" is one of the most noted biasing factors in supervisors' recommendations. Criterion distortion -- improper weighting in combining criterion elements -- is another.[1] The over-all problem of evaluating teachers and measuring their effectiveness is synonymous to this one of accepting at face the high or low recommendation of a supervisor, for that is in essence what a supervisor has done -- evaluated a teacher's effectiveness.

---

[1] Hubert E. Brogden and Erwin K. Taylor, "The Theory and Classification of Criterion Bias," Educational and Psychological Measurement, X, (1950), p. 161.

It might be said that recommendations are the only way administrators have of knowing the quality of an applicant's previous experience but how much significance can be attributed to them? (The advisability of requiring a sample lesson has been investigated, but that too is subject to predictive errors.) There is some doubt that even teacher-trainers can validly predict the future effectiveness of a teacher.[1]

How much stress should be placed on the job interview?

The job interview may be more heavily stressed by some administrators than by others. Whatever the stress, the interview's validity for pre-determining teacher characteristics is important to the selection study. The job interview is researchable if it is conducted systematically, with similar questions being asked to all applicants and with the responses coded and appraised and classified in terms of defined factors and sub-factors.

Can predictive instruments be used to assess factors leading to effective teaching?

Many predictive instruments have been developed to predetermine vocational teaching effectiveness.

Although it would appear that the use of predictive measurements would reasonably be assigned to the previous problem area -- how can an

---

[1] Gerald Fuller, "The Relationship of Characteristics of Prospective Student Teachers and Student Teaching Effectiveness in Agriculture Education," unpublished Ed. D. thesis (Cornell University: Dissertation Abstracts 24:2799, No. 7, 1964).

administrator appraise personnel data --, it requires special attention because so much research effort and money and time have been expended toward formulating some sort of test to determine if a teacher or worker can in fact teach. Tests have been and are being formulated for each one of the disciplines, for the sub-functions required of the teacher in each of the disciplines, such as occupational competency for industrial education[1], and for commonalities of teaching characteristics in all of the vocational disciplines.[2] Socio-psychological measurement tests such as the Edwards Personal Preference Schedule[3], the Just Suppose Inventory, the Quilford-Temperament Survey, Minnesota Counseling Inventory, Home-Economics Interest Survey[4] have been studied for their predictive value of effectiveness.

How are predictive tests set up and are they valid?

The procedures of establishing predictive measurements are essentially the same as will be used in this study -- determine the

---

[1] Adolf Panitz, "Breakthrough in Occupational Competency Testing," American Vocational Journal, October, 1969, pp. 49-51.

[2] Courtney and Halfin, pp. 16-20.

[3] Rex Albert Nelson, "Personality Variables of College Students Who Signify Industrial Arts as a Major Field of Educational Preparation," unpublished Ed. D. thesis (Greeley: Colorado State College, Dissertation Abstracts 25:300-301, No. 1, 1964).

[4] Beverly Crabtree, "Predicting and Determining Effectiveness of Homemaking Teachers," unpublished Ph. D. thesis (Ames: Iowa State University, Dissertation Abstracts 26:6013, No. 10, 1966).

measure of criteria of effectiveness, define how it is to be obtained, and classify those areas of qualifications which a person must have in order to effect the obtaining of the criteria. Those who set up predictive tests further breakdown the classifications of qualifications into sub-sets and into sub-functions and attempt to determine by responses to relevant questions or rankings or ratings how well a teacher will perform the overall process of teaching.

One such researcher Medley stated:

> . . . when you consider the nature of what you are trying to predict -- teacher competence -- it seems highly improbable that it can ever be measured with a paper and pencil test, or any other device which could conceivably be used on the scale necessary for teacher selection in large cities. There is considerable experimental data which confirms this pessimistic point of view. Most of the predictive validities obtained in studies done in the past have been below .30; very few have exceeded .40. And the improvement in predictive efficiency obtained with such small correlations is practically negligible.[1]

If there were a reliable and valid predictive test or even a series of tests, then certainly the staffing problem would be solved, and educators could go to other things. Or even if there were a consensus on the validity of a test to predict the success of one sub-function of the teaching process, the staffing problem would be mitigated somewhat. Original, provocative and profound as the research may be on predicting teaching competency, no general tests have been validated,

---

[1] Donald M. Medley, "Some Notes on Validating Teacher Selection Procedures," in Teacher Selection Procedures ed. by Harry B. Gilbert and Gerhard Lang (New York City Board of Education, 1967), p. 95.

but tests for sub-functions such as reported by Panitz for occupational competency[1] might have significance for selecting teachers for area vocational education centers such as those in Oakland County.

Areas of significance were factored from the contemporary vocational staffing problems.

The researched problem areas are summarized into a taxonomy.

To expedite the study the over-all problem was classified into factored areas of significance as they pertained to staffing generally and to the case study approach. Those classifications were:

1. Work experience
2. Formal education
3. Teaching ability
4. Personal characteristics
5. Unmodifiable physical characteristics
6. Modifiable physical characteristics
7. Appraising personnel data (background data)
8. Unchangeable situations specific to Oakland
9. Oakland County's Vocational Education Centers

The reporting of the study will adhere to these major classifications in the second part of the review of the literature, the description of the methodology, the analysis and presentation of data and in the conclusion.

---

[1]Adolf Panitz, "Breakthrough in Occupational Competency Testing," American Vocational Journal, October, 1969, pp. 49-51.

On Methodology

The case study approach has intellectual respectability.

Ascertaining, appraising and applying theoretical research to an existing situation is not a new process. In 1953 Steven M. Corey in Action Research to Improve School Practices added a dynamism to the educational case study by asserting that generalizability could be obtained on vertical terms within a given institution and would justify using sampling techniques within a single organizational structure. Traditional research uses horizontal terms by attempting to study several selected, similar organizations or procedures, but Corey stated "the differences in methodology between traditional research and action research (case-study) are minor. . . . Traditional research results in a more definite test of the stated hypothesis but precision is gained at the expense of the relevance of the findings."[1] The dominant theme of Corey's argument that the case study is necessary for educational research is that "research quality must be viewed in relative terms."[2]

Further justification for using the case study approach to determine what is being done and what should be done in employing teachers can be implied from an excerpt from a speech by Arthur F. Corey reported in Vocational Education: The Bridge Between Man And His Work:

---

[1] Steven M. Corey, Action Research to Improve School Practices, (New York: Bureau of Publications, Teachers College, Columbia University, 1953), p. 143.

[2] Ibid.

> That there is a wide divergence between our employment ethic and our employment service is obvious. Although the experience is unpleasant, one must inevitably conclude that in the occurrence of revolutionary change in American education and economy, disturbing disparity between what we profess and practice will rapidly get worse in the years ahead.[1]

The case-study methodology is not the only technique employed for this study. Harp and Richer reporting for The Review of Educational Research suggested that case study is a base with which other research methods may be used to provide greater generalizability without sacrificing the relevance which Corey mentioned as the advantage of case-study. Harp and Richer stated:

> Investigators tend to use observational methods in case studies and to choose individuals as the unit of analysis when doing surveys. We suggest that survey techniques be used with the organization as the unit of analysis. The insight gained from direct observation, use of performance, analysis of school documents, plus various means of collecting phenomenal data, must be integrated with survey methods if comprehensive research on schools and social organizations is to follow.[2]

Harp and Richer, repeating the precaution advised by William J. Goode and Paul K. Hatt that "the researcher must be on guard lest his interest in preserving the unitar character of the social object being studied jeopardizes his ability to generalize his materials,"[3]

---

[1]Arthur F. Corey reported in Vocational Education: The Bridge Between Man and His Work, general report of the Advisory Council on Vocational Education, 1968 (Washington: U.S. Government Printing Office, 1968), p. 162.

[2]John Harp and Stephen Richer, "Psychology of Education," Review of Educational Research: Methodology of Educational Research, Vol. 39, No. 5 (1969), p. 682.

[3]William J. Goode and Paul K. Hatt, Methods of Social Research (New York: McGraw-Hill, 1952), p. 130.

indicated that the case-study technique, when combined with observational techniques, is useful in the study of change. The case-study approach can distinguish between ideal and real normative patterns.[1]

Harp and Richer concluded with a suggestion for a method which approximates that used for this study of selection procedures for Oakland County Vocational Education Centers:

> Suffice it to say that what appears to be needed is not the elimination of case studies per se, as some have suggested, but a more effective utilization of case studies in conjunction with more sophisticated designs. One could wish for the completion of a series of case studies covering a range of educational organizations, all of which were classified a priori on certain relevant structural characteristics.[2]

On Selection Procedures

Ryan's work was reviewed to provide the theoretic framework of this study.

The theoretic base for this study has been derived in large part from the work of David G. Ryans, Characteristics of Teachers: Their Description, Comparison and Appraisal, a report of a research project of the American Council on Education and the Grant Foundation. Prior to the publication of the report (1960) Ryans wrote of the criterion problem for The Journal of Genetic Psychology.[3] The Teacher Characteristics Study attempted to establish criteria for predicting the effectiveness of a future teacher. "In prediction research, it is the behavior the

---

[1] Harp and Richer, p. 681.

[2] Ibid., p. 682.

[3] David G. Ryans, "Notes on the Criterion Problem in Research with Special Reference to the Study of Teacher Characteristics," The Journal of Genetic Psychology, 91 (1957), 33-61.

researcher attempts to predict and against which the relevance and usefulness of his predictors may be judged."[1] Noting that research in the area of teacher effectiveness has been inadequate due to difficulties in obtaining criterion measures, Ryans outlined the procedures whereby predictive measures might be established for selecting successful teachers. He suggested selecting criteria by three methods: the arm-chair approach, the rational approach and the empirical approach. The latter method is most desirable. After the selection of criteria has been made, the researcher must decide the criterion dimensions and the criterion measures. In order to determine the criterion dimensions one must decide "what the constituent behavioral elements are like and how they combine and are organized into meaningful patterns."[2] Sampling adequacy and sources of bias must be considered when arriving at a criterion for teacher effectiveness. Ryans further warned that the criterion composition must consider the assumed generalizability of the criterion, and it must deal with the magnitude of interrelationships of criterion dimensions because the dimensions may vary from teacher population to teacher population.

The next step in solving the criterion problem according to Ryans is a process which culminates in a set of judgments.

> Often the researcher (after extensive review of what other researchers have uncovered) feels more secure in his selection of criterion dimensions if the decisions are based on judgments of other qualified persons in addition to himself (i.e., authorities in the area of criterion).[3]

---

[1] Ibid., p. 33.

[2] Ibid., p. 39.

[3] Ibid., p. 42.

Ryans stated that the problem of defining the criterion through the employment of a jury consists of three steps: (a) selecting the authorities who will comprise the jury, (b) specifying the procedure to be employed by the judges, (c) assembling and analyzing the responses of the judges.[1]

Ryans suggested one of four means of selecting the jury of experts:

> (1) The totaling of the known group of experts
> (2) A random sample from the roster of a known group of authorities
> (3) A purposive sample drawn from the totality of experts for reasons of convenience, a specified minimum attainment, or selected "most expert" by the total group
> (4) A sample of specically trained individuals such as job analysts, trained observers.[2]

Ryans mentioned six methods of obtaining the designated components of the criterion from the jury of authorities:

> (1) free-response
> (2) check-list responses
> (3) job analysis
> (4) critical incidents description
> (5) time sampling
> (6) psycho-physical methods ("designation of criterion components by judgment of the relative importance of each hypothesized component through employment by the members of the jury of such methods as ranking, equal appearing intervals, paired comparisons, etc.")[3]

> Following polling of the jury of authorities and collection of their responses the researcher is faced with the important tasks of analyzing and sythesizing the data. Occasionally this

---

[1] Ibid., p. 43.

[2] Ibid.

[3] Ibid., p. 44.

> procedure may involve only the mechanical application of statistical methods, but more often content analysis is called for requiring comparison, judgment, interpretation, and classification of the authorities' responses in the process of deriving the criterion description or model.[1]

The remainder of the article discussed the appropriate procedures for measuring the criteria for teacher effectiveness. The procedures approximated that of obtaining the criteria. All of the foregoing is predicated on the feasibility of predicting teacher behavior, for once the criteria tests out to be valid, then instruments can be developed which will test a future teacher's potential for effective teaching.

Ryans applied the process which he described above in the Teacher Characteristic Study. He stated that "it should be possible to observe characteristics of competent teachers and develop devices utilizing correlates to predict success."[2]

The six-year study was a summation of 100 research projects surveying 6000 teachers, 1700 schools, and 450 systems.[3] Ryans, utilizing a staff of 75, derived three criteria by the critical incident technique and from the review of the literature. The criteria were behaviorally described patterns of teacher behavior: (a) understanding,

---

[1] Ibid.

[2] Ryans, Characteristics of Teachers: Their Description, Comparison and Appraisal, p. 5.

[3] Ibid., p. 8.

friendly versus aloof, egocentric, restricted teacher behavior; (b) responsible, business-like, systematic versus evading, unplanned, slipshod teacher behavior; (c) stimulating, imaginative, surgent or enthusiastic versus dull, routine teacher behavior.[1]

Researchers reviewed concluded on the value of predictive tests for effective teachers.

Principals of the randomly selected schools in the study were asked to name their most effective and their least effective teachers and to answer questions about each of these teachers to measure the validity and reliability of the criteria. Ryans and his associates developed and distributed to the least effective and most effective teachers a questionnaire to determine the characteristics of the teachers. Extensive analyses and statistical treatments were applied to the responses in an attempt to derive implications for prediction.

Although the study provided insights into teacher behavior and some correspondent characteristics of the tested population, Ryans' conclusion on the predictability of teacher behavior was:

> There is accumulating evidence that predictions can be accomplished with better than chance results for specified criterion dimensions. On the other hand, the prediction of over all teacher behavior would seem problematical. Certainly it is possible only to the extent that some general agreement can be reached regarding the dimensions comprising such behavior (involving, of course, acceptance of a common set of educational values) and how they should be combined to form a composite; and such a criterion by its very complexity limits the likelihood of discovering significant predictors.[2]

---

[1] Ibid., p. 77.

[2] Ibid., p. 377.

Donald M. Medley, working with a project supported by the U. S. Office of Education to determine teacher selection methods for New York City, indicated more strongly that predictive instruments could not be developed.

> It seems more realistic not to assume that the future of any of the candidates has been (or should have been) decided at the time when the selection takes place, but only that the candidates will vary in the degree to which they have mastered that part of their preparation which can be obtained before they enter the system. The selection problem would then be seen as one of assessing past learning rather than one of predicting future performance.[1]

Other researchers have derived similar conclusions. Warmke (1960) reported that 50 leaders felt that objective requirements could never serve as the complete answer in selecting distributive education personnel.[2]

Crabtree used the Just Suppose Inventory, Quilford-Zimmerman Temperament Survey, Minnesota Counseling Inventory, Home Economics Interest Inventory to predict the effectiveness of homemaking teachers and found "little predictive value."[3]

Juergenson asked students, principals, supervisors and teacher educators to rate 50 experienced and 20 new vocational agriculture teachers whom he had tested for logical, mechanical and social reasoning

---

[1]Medley, p. 96.

[2]Meyers and Logan, p. 72.

[3]Beverly Crabtree, "Predicting and Determining Effectiveness of Homemaking Teachers," unpublished Ph.D. thesis (Ames: Iowa State University, 1964, Dissertation Abstracts 25:300-301; no. 1).

situations. No correlations between the test scores and rated teaching success were found.[1]

Reams related grade point average to six academic variables and thirteen parental and personal variables on 75 cases to determine the prediction value of grade-point average for industrial arts teachers. "None of the factors studied were efficient in terms of forecasting effectiveness. It is unlikely that efficient predictors will be observed without the consideration of motivation and personality, which at present are very difficult to assess."[2]

Grinstead studied the pattern of motivation for 282 business teacher graduates and undergraduates in 1961. She correlated aptitude tests, grade point averages and ratings of the teachers by their supervisors to categories of security, work satisfaction, prestige and social motivation. She found no significant relationship between intelligence, scholastic achievement or sex and teaching success.[3]

---

[1]Elwood M. Juergenson, "The Relationship Between Success in Teaching Vocational Agriculture and Ability to Make Sound Judgments as Measured by Selected Instruments," unpublished Ph.D. thesis (The Pennsylvania State University, 1958, Dissertation Abstracts 19:96; No. 1).

[2]Jake W. Reams, "The Relationship of Selected Factors to the Scholarship of Industrial Arts Teacher Education Students at Ball State Teachers College," unpublished Ed.D. thesis (Bloomington, Indiana: Indiana University, 1963, Dissertation Abstracts 34:3222; No. 8).

[3]Edna Pierce Grinstead, "The Study of the Relationship of Stated Motives of Students and Graduates of Iowa's State Teachers College for Selecting Business Education as the Major to Superior Intellectual Ability and Reported Success on the Job," (New York: New York University, 1961, Dissertation Abstracts 23:544; No. 2).

Research has taken a different approach to study the teacher's performance.

Other studies on the selection of teachers used a different method of investigation and relate more significantly to this study. Working from a premise similar to that of Ryans, the studies sought to establish criteria in terms of what the teacher is to do. The teacher's role was defined by various methods. Samson's critical incidents study is an example. Harris, defining critical requirements for distributive and office education, established job classifications and studied effective and ineffective teacher behavior.[1]

Courtney designed a research model for investigating job classifications and functions through the use of factor analysis. The purpose of his factor analysis was to determine commonalities for the programs of occupational education.[2]

Courtney and Halfin applied Courtney's model in studying 40 teachers and principals. They classified 31 items of occupational teacher behavior into 14 vectors or groups.[3]

McComas studied teacher effectiveness in terms of the teachers' functions or roles by analyzing and describing teachers' and administrators' perceptions on the role for the teacher of vocational

---

[1] E. Edward Harris, "Requirements for Office and Distributive Education Teacher-Coordinators," Monograph 15 (Cincinnati, Ohio: South-Western Publishing Company, March, 1967).

[2] E. Wayne Courtney, "A Conceptual Basis for Developing Common Curricula in Teacher Education Programs for Occupational Education," (Menomonie, Wisconsin: Stout State University, Graduate Studies in Education, III, No. 2, 1968).

[3] Courtney and Halfin, p. 12.

agriculture. Eight Ohio state supervisors determined criteria for effectiveness and three state supervisors supplied the sample of 15 effective teachers and 15 least effective teachers. McComas used 70 role defining items for his interview schedules. Using this approach, McComas found that teachers rated most effective and their administrators had greater agreement on role expectations in role performance than did teachers rated as least effective and their administrators. Teacher effectiveness was positively related to job satisfaction; job satisfaction was related to consensus on role definition among the teachers.[1]

Sears studied the role of business education teachers by obtaining consensus criteria from 149 administrators, 154 business teachers and 24 placement directors. Having developed items for tentative criteria from a jury of selected experts and from related literature, she sent the list of items, classified into six factors, to her survey population. After analysis and statistical treatment and suggestions from a second jury of experts, she compiled her findings into a check list for use in selecting business teacher candidates.[2] The check list was divided into six sections, each of which included a number of items related to that section. Her factors for determining effectiveness of a candidate were: (1) reference letter factors, (2) interview factors, (3) professional preparation factors, (4) experience factors, (5) activity record factors, and (6) other

---

[1]James Douglas McComas, "The Role of the Teacher of Vocational Agriculture as Perceived by Selected Ohio Teachers and Their Administrators," unpublished Ph.D. thesis (Columbus: The Ohio State University, 1969, Dissertation Abstracts 24:145; No. 1).

[2]Mildred Louise Sears, "Criteria for the Selection of Business Teachers in Secondary Schools." (Los Angeles: University of California, Thesis No. 1945, August, 1959).

administrative appraisal factors.[1] The procedures which Sears used followed that suggested by Ryans.[2]

Theory on teacher characteristics (criteria) and job behavior can be shown by paradigms.

Further theoretic justification for determining criteria based on job functions or role performance can be found in the work of Brogden and Taylor, Waks and Gage. Brogden and Taylor differentiated between criteria and predictors by stating:

> Criteria differ from predictors in that the former must be tested in terms of concept that we carefully avoid in the last.
>
> . . . . . .
>
> The criterion can be subjected to no wholly satisfactory empirical test of its adequacy. Criterion must consequently be logically justifiable as valid in its own right.[3]

Brogden and Taylor pointed out that job analysis criteria are not sufficient to determine overall on-the-job success, that personality variates must be considered also. Otherwise criteria deficiency will exist.[4]

Expanding the idea that behavioral aims must be linked to conceptual aims, Waks stated that behavioralists make objections to any aim or goal which is not stated in behavioral terms, but he argued that what

---

[1] Ibid., p. 220.

[2] Ryans, "Notes on the Criterion Problem in Research with Special Reference to the Study of Teacher Characteristics," 33-61.

[3] Brogden and Taylor, p. 60.

[4] Ibid., p. 168.

might seem to be grandiose or vague aims might have behavioral criteria for the process of achieving those aims.[1] Waks asserted that the proper answer to the effectiveness of teaching problems is that where possible to state exhaustive necessary efficient behavioral conditions for satisfaction of mentalistic goals, and not merely behavioral criteria with a normality qualification. Then, of course, satisfaction of the conditions would logically entail satisfaction of the aim.[2] Such a procedure would imply both conceptual criteria and job functions under specifically defined organizational procedures.

Gage illustrated a means of presenting the relationship between conceptual criteria and role performance or job functions of the teacher. By using a graphic model it is possible to indicate the relationships and interrelationships of job functions and of criteria. Gage represented how paradigms (the graphic models) have been used by researchers on teaching to provide directions for measurement of criteria.[3]

> As soon as the idea of effectiveness enters the research, the question of criterion of effectiveness is raised. The paradigm has then taken the following form: Identify or select a criterion (or a set of criteria) of teacher effectiveness. This criterion then becomes the dependent variable. The research task is then (1) to measure this criterion, (2) to measure potential correlates of this criterion, and (3) to determine the actual correlations between the criterion and its potential correlates. In short, variables in research on teaching conducted according to the "criterion-of-effectiveness" paradigm have typically been placed in two categories: criterion variables and potential correlates.[4]

---

[1]Leonard Joseph Waks, "Philosophy, Education and the Doomsday Threat," Review of Educational Research: Methodology of Educational Research, XXXIX, No. 5 (1969), p. 618.

[2]Ibid.

[3]Gage, p. 114.

[4]Ibid.

The preceding studies have provided the direction for this study of staffing. It can be inferred that teaching effectiveness cannot be predicted by any one method. The teaching role is predicated upon a complex and varied structure and choosing an efficient staff for a specific organizational type must employ a variety of techniques and of theoretic criteria. The remainder of this chapter reviews works which pertain to the major areas of qualifications derived from the preliminary review of literature and which have direct application to developing the selection criteria used in obtaining an opinion consensus from the survey population of principals of shared-time area vocational centers.

On Work Experience

Research reviewed pointed to a strong work experience, necessitated by the nature of vocational teaching.

Perhaps one of the strongest appeals in the literature reviewed for a strong work experience background was made by Prosser and Quigley in Vocational Education in a Democracy. They stressed work experience by describing three plans for teacher training (Plan A - the teacher-trainer institution gives both content and technique; Plan B - the institution takes teachers and teaches them what to teach; Plan C - the educational system takes those people who know content and provides short periods of teacher training) and by stressing Plan C as the most desirable plan.[1] "We do believe that from the standpoint of securing an efficient instructor, the essential thing is thorough mastery of the occupation to be taught, after that the more education acquired the better."[2] They

---

[1] Prosser & Quigley, p. 483.

[2] Ibid., p. 487.

advocated a short period course in pedagogy of 60 to 100 hours and argued that in most four year college programs the student will have only about 350 hours of professional training including practice teaching. "Of this a great deal of it is informational rather than of practical value."[1]

Prosser and Quigley wrote before the Vocational Education Act of 1963 and therefore dealt with trade and industrial, agriculture and homemaking areas. The authors pointed out that most agriculture teachers are trained by Plan A, "and more often than not are inadequately trained."[2] They supported the need for more work experience, particularly in the area in which the teacher is to work, for agricultural teachers:

> It is necessary that agriculture teachers be able to determine local community needs and be able to establish a curriculum which will give adequate training to meet local needs.[3]

Prosser and Quigley made similar objections to college trained homemaking teachers. "Their (homemaking teachers) occupational equipment as well as the professional equipment is of doubtful adequacy."[4]

The Advisory Council on Vocational Education, 1968, supported the statements on the training of agricultural teachers but indicated changes in college curricula are taking place.

---

[1] Ibid., p. 492.

[2] Ibid., p. 501.

[3] Ibid.

[4] Ibid., p. 510.

> Much change has taken place in recent years and the undergraduate curriculums for prospective vocational agriculture instructors are in order. Instructors must be knowledgeable about off-farm agriculture in addition to farming because they will be facing the student with local off-farm agricultural businesses and industries for employment experience.[1]

The council reported a Detroit profile of trade and industrial teachers which showed that supervisors rated knowledge of work as the most significant qualification for teachers.[2]

Stern, writing for Industrial Arts and Vocational Training, made a well-supported suggestion similar to that of Plan C of Prosser and Quigley. If a teaching candidate had four or five years of work experience outside high school, a two year teacher-training program could be set up for him by the colleges.[3]

Ellis studied 40 beginning business teachers using work experience as a criterion. Twenty-three supervisors rated the teachers with one year or more of work experience higher, but the ratings of 897 pupils showed no difference. They rated teachers with one year or more of work experience no higher than those with less. The teachers themselves, however, felt that work experience had a positive effect.[4]

---

[1] U.S., Department of Health, Education and Welfare, Office of Education, Vocational Education: The Bridge Between Man and His Work, general report of the Advisory Council on Vocational Education, 1968 (Washington: U.S. Government Printing Office, 1968), p. 84.

[2] Ibid., p. 92.

[3] Benjamin J. Stern, "Trade Teachers: Recruitment and Training," Industrial Arts and Vocational Education, June, 1967, p. 44.

[4] William G. Ellis, "The Relationship of Related Work Experience to the Teaching Success of Beginning Business Teachers," (Ed.D. thesis, Pennsylvania State University, 1968), reported in National Business Education Quarterly, XXXVIII, No. 1, (1969), p. 12.

Although Courtney and Halfin did not draw the implication, it appears that two of the 31 items which loaded as commonly significant for five vocational disciplines (vocational agriculture, home economics, trade and industry, distribution and business education) could be directly related to work experience background: (1) relate technological advances to laboratory instruction; (2) conduct periodic up-dating of the course of study in accord with recent occupational trends.[1]

Status and consensus studies reviewed reported work experience characteristics.

In Sears' survey of the administrators of business teachers in California, she found that 23.8 per cent indicated that they prefer business teacher candidates who had had six to twelve months business experience; however the minimum special secondary credential in business for California is six months of business experience.[2]

In her survey of business teachers she found that the type of business experience held by the business teachers was generally low level of attainment in business such as typist, general-clerical, etc.[3]

In California, Schill studied the career patterns of 991 men from five selected occupational areas: (1) electronic trades, (2) engine mechanic trades, (3) woodworking trades, (4) metal machining trades, and (5) printing trades, who later entered the teaching field. He followed

---

[1] Courtney and Halfin, p. 12.

[2] Sears, p. 123.

[3] Ibid., p. 126.

the teaching careers of 161 of the men in the first part of his study to attempt to establish some predictive value of the career patterns in the work experience background. He used 14 criteria for his study prior to the men's teaching and 9 criteria to study their teaching careers. He used upward and downward mobility as a measure of patterning. One of his findings has implications for this section on work experience. None of the men experienced downward mobility after they had entered the teaching field.[1]

In Maryland, Minton did a status study of 119 vocational and technical teachers and 76 comprehensive high school teachers in which he attempted to determine significant differences between the two groups according to three basic approaches: (1) the trades approach (he selected 10 different trades), (2) a demographic approach of high and low population areas, and (3) a school category approach of vocational-technical high schools and comprehensive high schools.

He found a significant difference in the amount of time teachers in vocational-technical schools spent in a specific trade directly related to the trade being taught. The average was 15 years and 4 months for vocational-technical schools and an average of 12 years and 9 months for comprehensive high schools.[2]

---

[1] John Willis Schill, Career Patterns of Technical and Vocational Educators, (Danville, Illinois: The Interstate Printers Publishers, Inc., 1963).

[2] Gene Dwaine Minton, "A Study of Selected Characteristics of Trade and Industrial Teachers in the State of Maryland," Ed.D. thesis, University of Maryland, 1968 (Ann Arbor: Michigan, University Microfilms Inc.), p. 165.

On Formal Education

Some writers and researchers reviewed concluded that more formal education is desirable than is traditional for vocational teachers.

In the first part of this chapter the contradictions apparent in the research on vocational education between the amount of work experience and the amount of formal education that an effective teacher should have were discussed. Most of the literature dealt with both factors in a candidate's background, and most of the literature, other than Prosser and Quigley, assumed that a teacher's knowledge of methodology is obtained through his formal education.

McLeroy reported a study of 202 teachers of business education from 44 schools who were rated by their department chairmen and found that those rated highest possessed Master's Degrees or were engaged in graduate work activity.[1]

Rutherford studied the professional needs of beginning industrial arts teachers in California by surveying both the teachers and their administrators. The most important areas in which beginning teachers needed preparation were: (1) mathematics, (2) practice teaching, (3) physical sciences, (4) communication skills, (5) psychology and personnel relations, and (6) art and design. He concluded that physics and more mathematics should be required in the preparation program. He

---

[1] Thomas McLeroy, "An Analysis of Teaching Beliefs on an Evaluation of Teacher Effectiveness of Typewriting and Shorthand Teachers as Viewed by Department Chairmen in Selected Schools in the Chicago Suburban Area," reported in National Business Education Quarterly, XXXVIII, No. 1, (1969), p. 30.

indicated that there is a need for five years of preparation for the credentials and that there should be investigation to determine its feasibility in values.[1]

The Barlow-Reinhart study entitled Profiles of Trade and Technical Teachers, 1966 to 1967 in California indicated that in recent years there is a tendency for more formal education.[2]

Status studies reviewed showed the implications of formal education.

Schill found a relationship between upward mobility and educational achievement in his study of tradesmen after they had entered teaching. However the credential structure of California may explain the mobility. He found that the educational orientation patterns after entry into teaching were highly related to teaching career patterns and to the educational orientation patterns before teaching. Schill made the implication of this finding significant to staffing:

> This relationship was significant and directional and is considered to be important in the light of current emphasis upon teacher education and the upgrading of educational standards. This relationship seems to provide a basis for selecting applicants for Technical and Vocational Education who will through time become academically acceptable and able to teach in areas other than those covered by their vocational credentials.[3]

---

[1] William Edgar Rutherford, "Personnel Relations: A Study of the Selection, Assignment and Guidance of Beginning Industrial Arts Teachers in California Secondary Schools," unpublished Ed. D. thesis (Bradley University, 1962, Dissertation Abstracts 23:3791, No. 1).

[2] Vocational Education: The Bridge Between Man and His Work, pp. 89-91.

[3] Schill, p. 77.

Courtney and Halfin listed 11 job functions which would seem to be related directly to knowledge obtained, if not solely than most efficiently through formal education. The functions, as stated, largely imply a theoretic development, and they were found to be common role performances for the five disciplines studied.

1. Understand the role of the school in providing vocational preparation for the student.
2. Utilize your background in general or liberal studies to advantage while participating in community activities.
3. Interpret the results of vocational interest inventories.
4. Understand the goals of vocational education.
5. Understand the goals of general education.
6. Understand the role of the school in providing vocational preparation for the student.
7. Use formalized criteria in the selection of textbooks.
8. Aid in the development of the total school program.
9. Locate available standardized tests.
10. Develop objective tests to measure achievement.
11. Understand the history of vocational education.[1]

Sears reported that 130 administrators were asked to state preferences on formal education by a rank order from (1) teachers with Bachelor Degrees with special secondary credentials in business,

---

[1]Courtney and Halfin, pp. 12-31.

(2) teachers with Bachelor Degrees with general secondary credentials, (3) Masters Degrees, (4) Master's Degree + 15, and (5) Ph.D. or Ed. D. The majority of them preferred the two lowest educational attainments.[1]

> The report of the administrators might indicate that although degrees are an important qualification to be considered, they are not of primary importance in the selection of a candidate for a business teaching position. The degree held by a candidate becomes relevant to other qualifications.[2]

Her findings further showed that slightly more than one-half of the administrators preferred candidates who had received their business teacher education in California institutions, assuming the availability of equally qualified candidates.[3]

More than one-third of the administrators indicated that they had no preference for the business subject areas in placing candidates for business teaching positions in their districts. Of those who did express a preference, the largest number indicated the skill fields of office or secretarial subjects, record keeping or bookkeeping subjects, or clerical training.[4]

In Minton's comparative status study, he found that 50 per cent of the trade and technical teachers in the vocational-technical high schools had no semester hours, while the comprehensive high school teachers recorded 48 per cent in the same category.[5] Eighteen per cent

---

[1]Sears, p. 100.

[2]Ibid., p. 101.

[3]Ibid., p. 111.

[4]Ibid.

[5]Minton, p. 181.

of the teachers in vocational-technical high schools had at least 120 hours of college credit, and 27 per cent of the comprehensive high school teachers had at least 120 hours.[1] Ninety-six of the teachers in vocational-technical high schools had no graduate hours, while 85 per cent of the comprehensive high school teachers had no graduate hours.[2] He found that health services had the highest average number of undergraduate hours -- 61 semester hours, and that there was a difference of 42 per cent in the number of teachers holding a bachelor of science degree in health services.[3]

On Teaching Ability

Opinions of experts reviewed suggested a need for new approaches in training vocational teachers.

As stated previously, most researchers reviewed assumed that teaching ability could best be assimilated through a college experience. Although some researchers have indicated failure on the part of teacher-training institutions to prepare properly occupational teachers, their research is based on the premise that the college should adequately train occupational teachers. Prosser and Quigley in discussing the feasibility of their Plan B - giving a teacher the subject matter for vocational instruction - made this implication as well as indicated the need for teacher-training to take place for a specific occupational field - thus stressing the importance of subject matter knowledge.

---

[1] Ibid.

[2] Ibid., p. 186.

[3] Ibid., p. 197.

> Efficient vocational education must be based on habit psychology. Methods and teaching devices aimed at doing ability, rather than at the imparting of information, at drill and at abstract subject matter, are distinctly different. Organization and working conditions are equally so. It would therefore appear probable that, if this plan were to be tried out to any extent, prospective vocational instructors would be found to need about as much training in teaching techniques as if they had no teaching experience at all.[1]

Resh in writing for the Education Digest deplored the common practice of hiring tradesmen to teach trade and industrial and stressed the importance of pedagogy for that vocational area as well as for others.[2] Draper, outlining a program for teacher excellence for business education teachers, compared business education to trade and industrial areas and stated that the two areas were becoming more parallel in merging to work-experience requirements and broader education. Like Prosser and Quigley, she stated that vocational teachers should be able to apply the psychology of skill development and that subject-matter comptency and methodology were important to effective vocational teaching.[3]

Reports of research reviewed agreed that teaching ability must be related to other factors for effectiveness.

Nuccio, on the other hand, found that those factors which generally shape professional opinions and which are relevant to teaching

---

[1]Prosser and Quigley, p. 481.

[2]Mary S. Resh, "Teaching in Vocational Education Areas," Education Digest (October, 1965), pp. 28-31.

[3]Dorothy Draper, "A Program for Teacher Excellence," American Vocational Journal, February, 1967, pp. 24-26.

ability, of no significant difference. She asked 31 leaders in business education to select 15 major educational issues. She asked business teachers to rank the issues and compared their rankings to such factors as position, degrees, time lapse since formal education, size and location of school, subscriptions to periodicals, years of teaching experience, membership attendance and duties in professional organizations. Ninety per cent of her survey population agreed on four issues, but the background factors caused no significant differences in the ranking of the issues.[1]

Nichols, using the premise antithetical to that used by Courtney, researched the differences for the various trade and industrial teachers' tasks. He asked 412 vocational teachers in Ohio to rate 98 tasks. If 60 per cent of his population performed a task daily, it made it significant to his study. He found that 25 of the tasks determined significant were not included in teacher-education programs.[2] However, the tasks were often those which involve both teaching ability and the personal characteristics of a teacher such as human relations, development of student attitudes and personal adjustment.

Ryans found that teachers with 10 years or more of teaching experience were more traditional in their edicational viewpoints, which

---

[1]Carmella Elizabeth Nuccio, "Opinions of Business Teachers on Major Issues in Their Field and Significance of Selected Background Factors in Shaping Beliefs," unpublished Ph.D. dissertation (The Ohio State University, 1965, Dissertation Abstracts 26:895; No. 2).

[2]Charles Wesley Nichols, "An Analysis of the Tasks of Selected Ohio Vocational Trade and Industrial Education Instructors," unpublished Ed.D. thesis (University of Cincinnati, 1964, Dissertation Abstracts 26:895; No. 2).

tends to disagree with the study done by Nuccio. He found "traditional" to be slightly positively correlated to "business-like, systematic classroom behavior."[1]

In relating his characteristics to teaching experience, Ryans found no significant difference except under stimulating, imaginative classroom behavior, those of little experience and those of much experience scoring lower than those of intermediate experience. For friendly, understanding behavior in each sample, the group which was most unlike the others was that made up of teachers with 20 years or more of experience; their scores being lower.[2]

In Ryans'validating study of principals who ranged their highest teachers in certain qualities and poor teachers in certain qualities for mathematics and science teachers, 61 per cent of those nominated as superior were said to have an ability to teach subject matter as their outstanding characteristic. Whereas 36 per cent of the principals named lack of system organization and responsibility to teachers' poorest characteristics.[3]

Ryans also reported that respondents in the survey sample who reported membership in some professional teaching organization had higher average scores on each dimension of the schedule than did teachers who reported no professional affiliation.[4]

---

[1]Ryans, p. 152.

[2]Ibid., p. 293.

[3]Ibid., p. 265.

[4]Ibid., p. 305.

Of those items of Courtney and Halfin's commonality of role performances, 10 of them seem to relate directly to the teaching ability category for this study:

1. Relate technological advances to laboratory instruction.
2. Select appropriate visual materials for instructional purposes.
3. Maintain discipline in the shop or laboratory.
4. Motivate the student in the classroom.
5. Interpret statements of ethics as set forth by your professional organization.
6. Use questions during classroom presentations to aid student learning.
7. Use questions during laboratory demonstrations to aid student learning.
8. Provide appropriate practice for classroom learning experience.
9. Use sociograms.
10. Make a shop or laboratory demonstration meaningful to the individual student.[1]

Minton found in his status study for Maryland that the teachers in the vocational technical high schools had the greater amount of experience in teaching trade and industrial subjects. He found that drafting teachers had a difference of four years and three months in the amount of public school teaching prior to the application date of their employment at the time of his study.[2]

---

[1]Courtney and Halfin, pp. 12-31.

[2]Minton, p. 197.

Sears reported that administrators regarded a business teaching candidate's philosophy of education[1] and the candidate's knowledge of methods of principles of education as highly important.[2]

Prosser and Quigley summarized the activities which a vocational teacher must perform to be efficient. They listed 20 "efficiency devices," some of which overlap those presented earlier, all of which relate, however, to teaching ability.

1. Selected groups of instruction
2. Efficient methods of selecting groups
3. Functioning subject matter
4. Exclusion of non-functioning subject matter
5. Occupationally trained instructors
6. Individual instruction
7. Labor-saving devices in training
8. Use of performance tests
9. The use of efficient teaching technique
10. Timeliness of instruction
11. Individual progression of promotion
12. Good personnel management of learners
13. Recognition of biological stages of learners
14. Training on real jobs
15. Effective instructional order
16. Recognition of group characteristics in learners
17. Training in the occupational environment
18. Adequate repetitive training

---

[1]Sears, p. 160.

[2]Ibid, p. 171.

19. Observance of occupational standards

20. Utilization of best ways for giving manipulative skill, technical knowledge, job intelligence, and auxillary information.[1]

On Personal Characteristics

Attitude seemed inseparably associated with teacher personality in reports reviewed.

Much of the research on vocational teachers dealt in part at least with the personal factors of the teachers. Changes in education in recent years have motivated the research. A greater stress on individuation of instruction, on developing student attitudes, on motivation and on problem-solving capabilities has extended the parameters for the teaching functions.

Mager used the conceptual base that students' attitudes are shaped and developed by the teacher, particularly the attitudes toward subject-matter. He used analogy after analogy to support his theory of teacher modeling. The teacher, above all else, must be enthused about his subject.[2] He illustrated a questionnaire to determine a student's and teacher's approach-tendency toward subjects.[3]

Jones, in trying to determine how background factors of business teachers related toward attitudes toward subject matter, interviewed 60 Florida business teachers. He broke down his data to preference for skill and/or basic business subjects and found that teachers with "no preference" had little confidence in teaching. He also reported that teachers

---

[1]Prosser and Quigley, p. 360.

[2]Robert F. Mager, Developing Attitude Toward Learning, (Palo Alto, California: Fearon Publishers, 1968).

[3]Ibid., p. 73.

engaged in stenographic-clerical type of work experience had a more favorable attitude toward skill subjects.[1]

Fuller researched that personal characteristics of prospective student teachers in agricultural education and rated their effectiveness by critical behavior as fair, kindly, alert, attractive, responsible, steady and poised. Ineffective behavior was evading, dull, sterotyped, uncertain, disorganized, inflexible and narrow. The characteristics he found most frequently associated with behavior patterns of highly effective student teachers were interest in society and self, attitude toward people, attitude toward pupils and three unnamed personality factors.[2]

In investigating selection procedures for industrial arts teachers and their relationships to rated teaching success, Scherer found that 50 per cent of the school systems would not consider further a candidate if he were not qualified on (1) recommendations from a teacher education institution, (2) recommendations from a former school official, (3) personality, (4) health, and (5) professional attitude.[3]

---

[1] Raymond Lawrence Jones, "Relationships Between Certain Background Factors of Selected Business Teachers and Attitudes Toward Teaching Basic Business Subjects," unpublished Ed.D. thesis (University of Florida, 1960, Dissertation Abstracts 21:213; No. 9).

[2] Gerald Fuller, "The Relationship of Characteristics of Prospective Student Teachers and Student Teaching Effectiveness in Agriculture Education," unpublished Ed.D. thesis (Cornell University, 1964, Dissertation Abstracts 24:27799; No. 7).

[3] Harlan Leonard Scherer, "Procedures and Factors Involved in the Selection of Industrial Arts Teachers and Their Relationship to Rated Teaching Success," unpublished Ed.D. thesis (University of Missouri, 1960, Dissertation Abstracts 21:2565; No. 9).

Attitudes might be manifested through role performance--two theories.

Although attitude appears to be a highly valuable characteristic for teachers, researchers do not appear to agree upon its operational nature. The following two reviews do not relate to the personal characteristic of attitude for teachers, but they do have strong implications for teachers as they perform their job if teaching itself is viewed as a vocation. The first is a summation of Herzberg's theory by Ewen. If one thinks of the teacher as employee and of the school as employer, the relationship to teaching attitude can be established.

> The factors of interesting work recognition, achievement, responsibility, and advancement stand out strongly as the major factors involved in producing high job attitudes. Their role in producing poor job attitudes is by contrast extremely small. Contrariwise, company policy and administration, supervision (both technical and inter-personal relationships), and working conditions represent the major job dissatisfiers with little potency to affect job attitudes positively.[1]

If attitudes can be affected positively, but not negatively, or negatively, but not positively by situational factors, then attitudes must be a manifestation of more deeply rooted personal characteristics. Explanations for these underlying characteristics can be found in the following two theories of Super.

> The process of vocational development is essentially that of developing and implementing a self-concept. There is a compromise process in which the self-concept

---

[1] Robert B. Ewen, "Some Determinants of Job Satisfaction: A Study of the Generality of Herzberg's Theory," in Vocational Education: Readings in Theory and Research, ed. by Donald G. Zytowski (Chicago: Holt, Rinehart and Winston, Inc., 1968), p. 420.

> is a product of the inter-action of inherited aptitudes and opportunities to play various roles in evaluations of the extent to which the results of role planning meet with the approval of superiors and fellows.[1]
>
> Work satisfaction and life satisfaction depend upon the extent to which the individual finds adequate outlets for his abilities, interests, personality traits and values. They depend upon his establishment in the type of work situation and a way of life in which he can play the kind of role which his growth and exploratory experiences have led him to consider congenial and appropriate.[2]

McComas' study on the role of the vocational agriculture teacher related the previous two theories to vocational education and supported them. He found that the teachers rated most effective and their administrators had greater agreement on role expectations in role performances than did teachers rated as least effective and their administrators. Teacher effectiveness was positively related to job satisfaction; job satisfaction was related to consensus on role definition among the teachers. Further validating Mager as well as Super and Herzberg, he found that the most effective teachers and their administrators indicated higher appraisals for 11 program areas than did least effective teachers and their administrators.[3]

---

[1]Donald E. Super, "A Development Concept of Vocational Behavior," in Vocational Behavior: Readings in Theory and Research, ed. by Donald G. Zytowski (Chicago: Holt, Rinehart and Winston, Inc., 1968), p. 128.

[2]Ibid.

[3]McComas, p. 2

Other reviewed factors of personality were viewed in behavioral and developmental terms.

Ryans, considering personal characteristics as a major cause of teacher behavior, based his extensive study on the assumption that "teacher behavior is a function of situational factors and characteristics of the individual teacher,"[1] and one of his apostulates was that teacher behavior is a function of the personal characteristics of the individual teacher. His general conclusion was:

> Superior intellectual abilities, above average school achievement, good emotional adjustment, attitudes favorable to pupils, enjoyment of pupil relationships, generosity in the appraisal of the behavior and motives of other persons, strong interest in reading and literary matters, interest in music and painting, participation in social and community affairs, early experiences in caring for children and teaching, history of teaching in family, family supportive of teaching as a vocation and strong social service interest appear to apply very generally to teachers judged by various kinds of sets of criteria to be outstanding.[2]

Another minor finding of Ryans, but one significant to this study, was that sympathetic, understanding teacher classroom behavior and stimulating teacher behavior had low, but positive correlations with verbal intelligence scores. Business like, systematic classroom behavior was slightly positively related to verbal intelligence.[3]

Perhaps one of the most quoted works on personal characteristics is the Taxonomy of Educational Objectives: Affective Domain by Krathwohl,

---

[1] Ryans, p. 17.

[2] Ibid., p. 366.

[3] Ibid., p. 157.

Bloom and Masia. They have classified in behavioral terms the emotional and attitudinal growth of the individual. Pertinent to this study is that class assigned to the most complete and acceptable affective behavior -- characterization by a value or value complex. They defined this affective response as:

> The individual acts consistently in accordance with the values he has internalized at this level, and our concern is to indicate two things: (a) the generalization of this control to so much of the individuals' behavior that he is described and characterized as a person by these pervasive controlling tendencies, and (b) the integration of these beliefs, ideas, and attitudes into a total philosophy or world view.[1]

Sears reported that administrators ranked as highly important those factors included in the personal interview which are directed toward an appraisal of the candidate's appearance and personality, his professional attitude, plans and interests and his basic philosophy of education.[2]

On Unmodifiable Physical Characteristics

Sedgwick's work was the theoretic source for the use of the terms modifiable and unmodifiable.

This classification and the next one, Modifiable Physical Characteristics, deal with those dimensions of a teacher candidate which can be readily determined by records or observations. The terms modifiable

---

[1] Krathwohl, Bloom and Masia, p. 184.

[2] Sears, p. 160.

and unmodifiable are those adapted from a study by Sedgwick to guide curriculum development for the American Industry Project. Working for a classified system to establish a teacher model, he classified teacher characteristics into modifiable characteristics supported by opinion, modifiable characteristics supported by data, not modifiable characteristics supported by opinion and not modifiable characteristics supported by data.[1]

He investigated the characteristics of teachers through the use of various instrument measures and classified them according to whether or not the dimension of the characteristic could be changed under the control of a teacher from the university or of an immediate supervisor. "Not modifiable implied those teacher dimensions which may not be predictably affected by the direct actions of a supervisor under typical conditions."[2]

Although Sedgwick applied the terms to teacher characteristics generally, it did not seem feasible to do so for this study because the efficient opportunity to alter such dimensions as knowledge of subject matter would not exist for those hiring teachers after they had been trained. This study will use the terms only in relation to physical characteristics.

Sedgwick classified two teacher dimensions into the non-modifiable characteristics supported by consensus:

---

[1]Larry K. Sedgwick, Teacher Model, (Menomonie, Wisconsin: Stout State University, American Industry Project, U.S.O.E. Contract No. OE-5-85-060, August, 1969), p. 33.

[2]Ibid., p. 35.

(1) Acceptable Physical Appearance

> Students often react strongly to the appearance of a teacher. It can be an asset or a liability. Does the teacher have characteristics that are likely to be drawbacks to his acceptance: too thin, too fat, unusual facial contours, large hands or feet?

(2) Acceptable Societal Model

> This dimension implies that a teacher must be a good example, a model for his pupils. This responsibility makes a teacher continually conscious of the impact of his behavior on his students.[1]

Four researchers reviewed studied the characteristics of age, sex and marital status.

Minton, in his status study of trade and industrial teachers, of ten subject areas in Maryland, found that the building trades teachers had an average difference of ten years older than those in the other trades.[2] He also found that the electricity, electronic trades had a difference of 18 per cent in the number of teachers from the military service.[3]

In Sear's qualifying factors for assessment for business teacher candidates study, she reported that 44.6 per cent of the administrators stated that the minimum age required for a candidate was 21; 84.6 per cent had no reply on the maximum age and on sex, 93.8 per cent indicated no preference.[4]

---

[1] Ibid., p. 43.

[2] Minton, p. 197.

[3] Ibid.

[4] Sears, p. 115.

Ryans, however, found some differences in the teaching characteristics of his population when he treated his data according to age and sex. Teachers under 30 years of age appeared to be more liberal in their educational beliefs while teachers over 45 years of age appeared to be the most traditional (sympathetic, understanding behavior correlated slightly positively with permissive, child - centered liberal educational viewpoints and business-like, systematic behavior slightly positively associated with traditional viewpoints).[1] There appeared to be a slight trend for older teachers to receive higher verbal intelligence scores. Those teachers under 30 scored significantly lower than those over 30.[2]

When the emotional adjustments relationships were related to age, Ryans reported that in general older teachers appeared to be slightly less emotionally stable than the younger ones. A low positive relationship existed between emotional stability and sympathetic, understanding classroom behavior.[3]

On stimulating, imaginative classroom behavior statistically significant differences were found in each sample with the older teachers showing notably lower scores. But on favorable opinions of pupils and favorable opinions of democratic pupil practices, the survey sample showed no significant differences between age groups.[4]

---

[1]Ryans, pp. 151-152.

[2]Ibid., pp. 155-158.

[3]Ibid., p. 157.

[4]Ibid., p. 290.

> "There seems to be ample support for the common sense observation that older teachers are likely to be less active and vigorous, but more reflective and dependent upon their own resources, than are younger teachers."[1]

Ryans found some differences between male and female teachers. Women teachers obtained higher verbal intelligence scores than did men,[2] but male teachers scored higher on emotional adjustment items than did female teachers.[3]

On marital status Ryans reported highly significant female ratios were obtained with differences favorable to the single teacher relative to responsible, business like behavior, favorable attitude toward democratic classroom practices, permissive educational viewpoints, and verbal understanding. But married teachers obtained superior scores relative to emotional stability.[4]

Schill, working on the premise that marriage is a signal for mobility or stability, found no relationships between marital status and the five occupational trades which he investigated.[5] He found a positive correlation between age at the time of entry into technical and vocational education and the total number of months in the trade.[6]

---

[1] Ibid., p. 293.

[2] Ibid., p. 155-158.

[3] Ibid., p. 157.

[4] Ibid., p. 301.

[5] Schill, p. 35.

[6] Ibid., p. 38.

On Modifiable Physical Characteristics

Modifiable physical characteristics were theorized by some researchers reviewed to be relevant to teaching effectiveness.

Sedgwick classified under modifiable characteristics supported by opinion:

> Has Acceptable Appearance
>
> This statement refers to such things as one's clothes and hair style which should be neat and fairly conservative.[1]

But such a referral to appearance did not appear in his list of dimensions of modifiable characteristics supported by data.

Sears reported that administrators ranked as highly important the factor of appearance as determined through the personal interview.[2] Spence writing in Industrial Arts and Vocational Education on recruitment for better qualified teachers suggested that wider sources be investigated by encouraging Negroes and women to enter the teaching field. He stated that better qualified teachers might be encouraged to enter the field if the trade and industry image could be improved through such means as more fashionable dress and grooming and a generally more attractive role.[3]

---

[1]Sedgwick, p. 38.

[2]Sears, p. 160.

[3]William P. Spence, "Recruiting Methods Industrial Arts Uses," Industrial Arts and Vocational Education, June, 1967, p. 49.

On Background Qualifications

Research and opinion reviewed cast doubts on the reliability of academic records to forecast teaching effectiveness.

This area, used in part as a validation for the other classifications of qualifications, is the heart of the teacher selection problem. It is reasonably easy to indicate that a teacher candidate should have certain potentials for future classroom behavior, but it is more difficult to determine whether or not that candidate has the potential for such behavior. There are certain traditional assumptions that seem reasonable, but research has not borne them up. For instance, if a teacher had a successful student teaching experience, it would appear logical to assume his successful teaching. However, Brogden and Taylor, by citing a study conducted by the Army, stated:

> Little if any research has been reported demonstrating a positive relationship between training success and later success on-the-job. The low correlation of the academic achievement of West Point Cadets with later success as Army officers argues strongly that training success cannot be assumed to have the appreciable relationship to success on-the-job.[1]

Relating the above quote to teacher training is a study done by Foss on teachers rated by half-day observations as superior, satisfactory and less satisfactory. He prepared case reports through interviews with the teachers, principals and superintendents. His conclusions were: (1) that administrators should take better care in noting areas

---

[1]Brogden and Taylor, p. 177.

in which candidates are well prepared; (2) college ratings are generally so high that they are worthless; and (3) "It would not have been possible to predict teaching success on the basis of recorded campus data."[1]

Callan did a catalog study of 39 industrial arts curriculums in 37 colleges and related his findings through a field study of practices of industrial arts teachers. He found the average requirement for student teaching was seven and one-half semester hours, and that the teachers felt it was faulty. He found a wide variation in requirements and generally concluded the courses to be too narrow in scope. He found that two-thirds of the colleges required a minor, but only one out of twenty-five of the practicing teachers used his minor. He reported evidences of low standards for entrance, and he reported a grade point ratio of 2.0.[2]

Ryans reported very little significance between practice teaching scores and the scores on various characteristics. "Interestingly those who had been deferred once in student teaching scored fairly respectively on most of the characteristics and even obtained a means score higher than

---

[1]Maurice F. Foss, "Implications for Industrial Arts Teachers Education from Case Studies of Selected Teachers," unpublished Ed.D. thesis (University of Cincinnati Teachers College, 1958, Dissertation Abstracts 19:2288; No. 9).

[2]Louis John Callan, "Industrial Arts Teacher Education Programs: A Comparative Analysis and Evaluation of Selected Teachers and Colleges," unpublished Ph.D. thesis (The Ohio State University, 1952, Dissertation Abstracts 17:2515; No. 11).

those of the other groups with respect to verbal understanding suggesting perhaps that other variables may influence professors and supervisors responsible for assigning practice teaching marks."[1]

In relation to academic success in general those people who reported themselves as being outstanding students scored higher on all of the tests, except on favorable attitude toward administrative and other school personnel.[2]

Ryans found very little significant differences between the characteristics of teacher behavior and the type of college attended except that women's college graduates scored higher on most of the characteristics. On stimulating, imaginative classroom behavior state or teacher college graduates scored lower. On verbal understanding teachers college graduates scored lower.[3]

That hiring personnel for vocational programs cannot rely unequivocally on college transcripts and recommendations can be implied in the following statements from the Advisory Council on Vocational Education 1968 which designated shortcomings in the various teacher education programs themselves.

Agriculture

> Staff members in agricultural education may need retooling. Many are oriented toward production agriculture. Many have been removed from production agriculture for many years and are not knowledgeable in present day agricultural technology. Many know little about off-farm agricultural businesses and industries.[4]

---

[1]Ryans, p. 315.

[2]Ibid., p. 312.

[3]Ibid., p. 305.

[4]Vocational Education: The Bridge Between Man and His Work, p. 125.

Business and Office Occupations

The effectiveness of business and office teachers' contributions must be increased through more systematic and appropriate pre-service and in-service teacher education programs.[1]

Distributive Education

The typical distributive teacher education program has been staffed with only one individual who is expected to perform all the duties necessary in the professional phase of teacher education. The limitations are obvious, and the ability of one person to deal effectively with the varied facets of education and business as they apply to a distributive teacher education program is necessarily limited.[2]

Home Economics

Certain vocational educators question the assumption generally accepted by home economics educators that teacher education for homemaking and for wage-earning occupations using knowledge and skills of home economics can be one coordinated program.[3]

Technical Education

A very close working relationship between the training institution and business, professional, governmental or industrial establishments employing technical workers must be established to handle new problems of training workers for occupations presently unnamed that may exist only three to five years.[4]

Trade and Industries

Far too many professional teacher education programs have shown little or no change over a long period of years.[5]

---

[1] Ibid.

[2] Ibid., p. 125.

[3] Ibid., p. 126.

[4] Ibid.

[5] Ibid., p. 127.

Other researches reviewed specified additional areas of appraisal for vocational teacher candidates.

McComas reported that background data revealed that teachers rated as most effective were more active in community affairs, conducted more classes for the young and adult farmers, earned more hours beyond their highest degree, and taught in larger schools having slightly larger enrollments in vocational agriculture.[1] All of these conclusions agreed with those in the Ryans' teacher characteristics study.

Although there are many efforts presently underway to develop occupational competency tests for predicting teacher effectiveness[2] and although the Advisory Council on Vocational Education, 1968, projected the need for developing vocational competency tests,[3] the research reviewed indicated them to be of doubtful value in selecting qualified teachers.

> It is probable that a similar biasing effect is often obtained in relating any ability test measure to success in training. Generally speaking, ability test scores have shown uniformly high validity in this area; such validities are suspect however since they are obtained by relating initial test scores to measures of proficiency after training and after experience.[4]

Scherer's findings agreed, for he found that written and oral examinations on subject matter did not obtain top-rated teachers.[5] Scherer also concluded that when recommendations from former school

---

[1]McComas, p. 2.

[2]Adolph Panitz, "Breakthrough in Occupational Competency Testing," American Vocational Journal, (October, 1969), pp. 49-51.

[3]Vocational Education: The Bridge Between Man and His Work, p. 127.

[4]Brogden and Taylor, p. 176.

[5]Scherer, p. 2.

officials were used to eliminate teacher candidates, they resulted in higher rating teachers. He suggested too that the selection factor of "scholarship in professional education courses" should be employed as one of the factors.[1]

Sears asked her survey population of administrators to rank factors from college transcripts which they considered to be important in determining a potential business teacher's effectiveness. They ranked as most important degrees in credentials held. The order of their subsequent rankings were:

1. college entrance test scores
2. a cumulative point average for the total units completed for graduation
3. total units of grades in business education courses
4. total units in general and cultural courses
5. grade point average in business subjects
6. record of professional honors
7. participation in special activities and services performed following graduation
8. recommendations by supervisors of student teaching
9. grade or other evaluation for student teaching[2]

The lower rankings of the last two items agreed with the conclusions of the other researchers reviewed.

Sears reported that administrators found four of the factors included in letters of recommendation as highly important:

1. those items relating to the source of the letter
2. the specificity of the letters

---

[1] Ibid.

[2] Sears, p. 141.

3. that the person making the recommendations be associated professionally with the applicant

4. that the content of the letter should show the applicant's capabilities, strengths, weaknesses and professional achievements.[1]

Summary

The case-study approach, when used with more sophisticated survey research techniques, is valid because it attempts to satisfy the goals of generalizability and of relevance to situational factors. When these research approaches are applied to selection procedures for teachers, the mentalistic goals of conceptualizing desired teacher behavior must be considered as well as the operational description of role performance. As a result, job function specifications, or what it is the teacher is expected to do, and the characteristics or background data that might predict that behavior became important facets of the research problem. Various methods can be employed to indicate the interdependence of the variables of criterion or characteristics and the teacher-behavior anticipated as a result of those characteristics. A paradigm is one way.

Some researchers of selection procedures have attempted to establish prediction instruments for use in staffing effective teachers. Others have measured selected areas of teacher characteristics for use in selection, and others have developed assessment check lists, classification systems, or teacher models for use in selection. All have dealt with the implications of the criterion problem.

---

[1] Ibid., p. 150.

Teacher characteristics from the research reviewed represented the immediate criterion for this study.

The categorization of the seven areas of characteristics pertinent to selection procedures, derived from the preliminary review of the literature, were summarized by selecting those descriptive characteristics from this chapter's review of the literature. According to the classification coding presented on page 35, the following items were considered by researchers to related effective instruction. The references listed under each item do not necessarily imply that those are the only writers who have found the characteristics or qualifications to be important for effective teaching.

1. Work Experience

1.1 of 1 or 2 years

Ellis, p. 12
Sears, p. 119

1.2 of 3 years or more

Stern, p. 44
Minton, p. 165

1.3 in subject area taught

Prosser and Quigley, p. 501
Minton, p. 165

1.4 in a leadership or supervisory role

Sears, p. 126
Ewen, p. 420

1.5 in a large business or industrial concern

Minton, p. 49
Schill, p. 35

1.6 in a local business or industrial concern

Minton, p. 49
Schill, p. 35

2. Formal Education

2.8 10-24 hours

Minton, p. 181

2.9 2 years

Prosser and Quigley, p. 492

2.10 Baccalaureate Degree

Sears, p. 101

2.11 Master's Degree

McLeroy, p. 30

3. Teaching Ability

3.13 knowledge of subject area

Advisory Council on Vocational Education: 1968, p. 92
Prosser and Quigley, p. 487
Ryans, p. 265

3.14 skill proficiency

Prosser and Quigley, p. 360
Advisory Council on Vocational Education: 1968, p. 127

3.15 knowledge of related subjects

Draper, pp. 23-24
Sedgwick, p. 38

3.16 knowledge of psychological and sociological applications

Prosser and Quigley, p. 481
Ryans, p. 17

3.17 ability to use audio-visual equipment

Courtney and Halfin, p. 12

3.18 knowledge of training techniques

Prosser and Quigley, p. 481

3.19 organizational ability

Ryans, p. 77
Fuller, Ed.D. thesis

3.20 3 years or more teaching experience

Ryans, p. 152, p. 293
Minton, p. 197

3.21 membership in professional organizations

Ryans, p. 305
Courtney, p. 13

4. Personal Characteristics

4.23 favorable attitude toward subject area

Mager, p. 73
Jones, Ed.D. thesis
McComas, Ph.D. thesis

4.24 positive attitude toward teaching

Ryans, p. 17
Ewen, p. 420
Super, p. 128

4.25 positive attitude toward students

Fuller, Ed.D. thesis
Ryans, p. 17, p. 77

4.26 cooperative attitude toward other school personnel

Ryans, p. 312
Courtney and Halfin, p. 13

4.27 strong self-concept (poise, ambition, etc.)

Fuller, Ed.D. thesis
Ewen, p. 420
Super, p. 194
McComas, Ph.D. thesis

4.28 enthusiasm

Ryans, p. 17
Mager, p. 73

4.29 leadership

Sedgwick, p. 46
Krathwohl, Bloom and Masia, p. 184

4.30 valuing (ethical principles, democratic ideals)

Krathwohl, Bloom and Masia, p. 184

4.31 above average intelligence

Ryans, p. 157

5. Unmodifiable Physical Characteristics

5.32 20-30 years old

Sears, p. 115
Ryans, pp. 151-152

5.33 30-40 years old

Ryans, p. 290

5.34 40-55 years old

Minton, p. 197, p. 293

5.35 over 55

Ryans, p. 240
Sears, p. 115

5.36 married

Schill, p. 35
Ryans, p. 501

5.37 single

Schill, p. 35
Ryans, p. 501

5.38 male

Ryans, p. 501
Sears, p. 115

5.39 female

Ryans, p. 501
Sears, p. 115
Spence, p. 49

5.40 Negro or minority group

Spence, p. 49

5.41 any disability

Scherer, Ed.D. thesis

6. Modifiable Physical Characteristics

6.43 attractive

Fuller, Ed.D. thesis
Sedgwick, p. 43

6.44 neat dress and grooming

Sears, p. 160
Sedgwick, p. 43, p. 38

6.45 fashionable dress

Sedgwick, p. 43

6.46 favorable image

Sedgwick, p. 43

7. Background Qualifications

7.48 successful student teaching

Scherer, Ed.D. thesis
Foss, Ed.D. thesis
Callan, Ph.D. thesis
Ryans, p. 315

7.49 job interview

Sears, p. 115

7.50 high scores on predictive test

Scherer, Ed.D. thesis
Reams, Ed.D. thesis
Medley, p. 95

7.51 strong work experience recommendation

Sears, p. 150

7.52 strong recommendations from a school administrator

Sears, p. 150
Scherer, Ed.D. thesis

7.53 certifiable

Sears, p. 101
Minton, p. 181

7.54 high grade point count

Foss, Ed.D. thesis
Ryans, p. 312
Sears, p. 141

7.55 analysis of college curriculum

Sears, p. 101
Callan, Ph.D. thesis
Ryans, p. 305

7.56 previous experience with youth groups

McComas, Ph.D. thesis
Ryans, p. 17

CHAPTER III

METHODOLOGY

Method of Investigation

The groups and descriptors were determined from the literature.

To determine the problem areas relevant to staffing area vocational centers, a review of the following kinds of literature was made: professional periodicals, reviews of general and educational research, monographs, government publications on the status of vocational educational research, dissertation abstracts obtained by a Datrix search through the Educational Resource Information Center, pertinent dissertations, and other vocational books.

The problem areas, discussed in the first section of Chapter II, were classified into (1) work experience, (2) formal education, (3) teaching ability, (4) personal characteristics, (5) unmodifiable physical characteristics, (6) modifiable physical characteristics, (7) background qualifications for appraising personnel data, (8) unchangeable situations specific to Oakland County, and (9) the case-study -- Oakland County's Vocational Education Centers. All of these except eight and nine are problems generalizable to the staffing of all shared-time area vocational centers as indicated by the literature.

A more extensive review of the literature was made to determine a consensus of research and expert opinion on factors which should be considered in hiring vocational teachers for maximum effectiveness. These

factors, or descriptor characteristics or qualifications, were those which appeared, either verbatim or by implication, most often in the literature. The descriptors to be used on the instrument were rationally selected and grouped under the major categories of the problem areas. This method of selecting descriptors for a survey instrument is validated by both Ryans[1] and Brogden and Taylor.[2] The descriptors are those characteristics or qualifications which the author(s) considered generally to be desirable for effective vocational teaching. Some few descriptors were those which were found to be relevant to effective teaching, but the author made no conclusive value judgment on the desirability of the descriptor for effective teaching.

The instrument was formulated.

The descriptors were listed under the seven major categories and compiled into a one-page survey instrument. Each category, except Personal Characteristics, allowed for a free-response descriptor designated "other" for the respondent. It was thought that the Personal Characteristics descriptors could be phrased so variously that any free-response would be liable to a too subjective interpretation. The instrument was color-coded for ease in responding and in interpretation.

The green box was designated maximum effectiveness; the yellow, average effectiveness; the orange box, minimum effectiveness; and the red box was labeled ineffective. In the top left hand corner of the

---

[1]Ryans, "Notes on the Criterion Problem in Research with Special Reference to the Study of Teacher Characteristics," pp. 33-61.

[2]Brogden and Taylor, p. 160.

instrument the colors of the boxes were superimposed over a behavioral description of the ratings as follows:

(1) red -- would not hire (ineffective)
(2) orange -- would hire with reservation (minimum effectiveness)
(3) yellow -- would hire (average effectiveness)
(4) green -- would hire with enthusiasm (maximum effectiveness)
(See Appendix 6 for instrument)

These above behavioral descriptions of the terms ineffective through effective were provided to facilitate the respondent's understanding of the instrument and to aid in the interpretation of the data. The respondents were asked to assume that they were hiring for one of the specific courses which were being analyzed in the study and which are parts of the curricular offerings of Oakland County. The name of the course for which the respondent was to assume the hiring situation was placed at the top of the instrument. No attempt was made to delineate course content to vocational educators because the occupational course titles were self-explanatory in terms of what the student should be prepared for, and because bias might result from inadvertently phrasing course content to reflect personal views. Assuming that they were hiring for the specific course, the respondents placed a check in one of the four boxes by the descriptor according to that descriptor's value in determining a candidate's ineffectiveness, minimum, average or maximum effectiveness. If the respondents believed a descriptor to be irrelevant to the teaching of a course, they were asked to ignore it. In order to determine the relative value of the major categories of descriptors for enabling the respondent to determine teaching effectiveness, the respondents were asked to rank ordinally the three most critical areas and the least critical area of descriptors by placing in parentheses by the

title of the area the numbers 1 for the most critical, 2 for the next in importance, 3 for the third in importance, and 7 for the least critical area. (See Appendix 6 for letter of transmittal and directions).

Three uses of the instrument derived the data.

The instrument was used in three ways. A packet of nine instruments, each of which designated one of the nine courses under study, was sent to the hiring personnel, usually principals or directors, of 100 vocational centers in the nation. The survey population was selected on the following basis in an attempt to approximate the Oakland County Vocational Centers:

1) They were shared-time.
2) They were operated by an intermediate or local administrative body (not by a junior college or degree-granting college).
3) They had a demography similar to that of any one of Oakland County's four centers -- 7 to 31 program offerings and disadvantaged to affluent population.
4) They were in operation at the time of the study.
5) They offered courses similar to that to be offered by Oakland County's centers.

This selection of organizational types, based on structural characteristics relevant to the case under study, is validated by Harp and Richer.[1]

The names and addresses for the vocational centers were obtained from documents compiled through 1966 by Dr. O. Donald Meaders, Michigan State University. Names and addresses of centers operational after 1966 were obtained from the Michigan State Department of Education and from

---

[1] Harp and Richer, p. 681.

telephone calls made to the state vocational directors of the states which had centers meeting the five structural requirements listed above. Those states operating the vocational centers to which the packet of instruments was sent are Arizonia, California, Florida, Georgia, Illinois, Indiana, Kentucky, New York, Oregon, Pennsylvania, and West Virginia (anonymity was promised them). The hiring personnel responding to the instruments represent the jury of experts validating criteria, deemed necessary by Ryans[1], and the generalizability dimension for case-study supported by Harp and Richer.[2]

The second use of the instrument was to derive information to permit the case-study and to investigate the problem areas classified under eight (unchangeable situations specific to Oakland). The hiring personnel for Oakland County's four centers were asked to respond to the instrument, and taped interviews were conducted with them. (See Appendix 4 for personnel and schools.)

The third use of the instrument was to determine solutions to problem area nine (Oakland County's Vocational Education Centers). Taped personal interviews were conducted with the professional consultants of Oakland County's Regional Service Agency. The instrument was employed, but the consultants were asked to state why they rated each qualification as ineffective, minimum, average or maximum effectiveness

---

[1]Ryans, "Notes on the Criterion Problem in Research with Special Reference to the Study of Teacher Characteristics," p. 43.

[2]Harp and Richer, p. 681.

in terms of the anticipated functions of the teaching jobs for the specific courses. (See Appendix 7 for names of consultants and vocational education director.) These functions were placed into clusters to expedite the reporting, and the clusters were approved by the consultants. The job function specifications for each selected course were determined from the consultants, the principals and from the literature. The second and third use of the instrument satisfy the relevancy dimension judged necessary to research by Corey.[1]

A pilot study was made.

A pilot study to ascertain the reliability and validity of the instrument was conducted. The Kolmogorov-Smirnov One-Sample Test was applied to descriptors which did not appear to have decided preferences. In all cases of analysis the maximum deviation from the theoretical normal distribution was greater than the .01 level of significance, chosen for rejection of a descriptor. The pilot study supported the reliability and validity of the instrument.

The percentage of mailed returns was 70 per cent.

One hundred packets of instruments were mailed to the selected states. The number of packets mailed to each state was:

Arizonia	1
California	10
Florida	10
Georgia	10

---

[1]Corey, p. 143.

Illinois	18
Indiana	9
Kentucky	10
New York	9
Oregon	3
Pennsylvania	10
West Virginia	10

Seventy packets were returned so the percentage of return was 70 per cent. However, the total number of instruments was computed for the data rather than the number of directors or principals responding, for the survey population responded to from one to nine instruments each. The number of instruments each returned reflected the number of courses each center offered. The total number of instruments returned was 284. The breakdown of the total into the number returned from the mailed instruments for each of the nine courses was:

Advertising	31
Child Care	30
Data Processing	32
Dental Office Assisting	28
Display	27
Distribution and Marketing	34
Engineering Drafting	38
Greenhouse and Nursery Occupations	30
Total Office Procedures System	34
Total number of returned instruments	284

The Oakland County return was 100 per cent.

All of the hiring personnel of the four centers in Oakland County, the four consultants and the director of vocational education of Oakland Schools Regional Service Agency responded to those course instruments for which their position made them authoritative. Nineteen

people responded to instruments, and taped interviews were conducted with them. The total number of instruments obtained from the Oakland County survey was 47. The course breakdown for the total is:

Advertising	3
Child Care	5
Data Processing	5
Dental Office Assisting	7
Display	5
Distribution and Marketing	7
Engineering Drafting	5
Greenhouse and Nursery Occupations	5
Total Office Procedures System	5
Total number of instruments	47

Interpretation of the Data

The instruments were classified into two categories -- in-state and out-state -- and computer processed by the Office for Systematic Studies of Oakland Schools. The descriptors which were most often (40 + per cent of the respondents) checked green or maximum effectiveness were determined to be most significant in determining a candidate's potential for outstanding teaching performance in a specific course. It was anticipated that most of the descriptors would be marked average or maximum effectiveness. The responses on the returned instruments from the survey population were treated in the following ways:

(1) The out-state data were analyzed cumulatively to determine those descriptors checked maximum effectiveness and to determine those areas of descriptors judged most critical and least critical.

(2) The out-state data were separated into the nine courses, and the data for each course were analyzed to determine the maximum

effective descriptors and to determine the areas of descriptors judged most and least critical.

(3) The percentages and mean scores of maximum effectiveness responses for each of the nine courses were compared for differences and similarities.

(4) The percentages and mean scores of maximum effectiveness responses for each course were compared to the cumulative percentages to determine the commonalities of maximum effective descriptors for each of the courses.

(5) The mean scores of the ordinal rankings were compared to determine the areas of most and least significance for vocational teacher selection.

(6) The in-state data were analyzed similarly to that of the out-state data.

(7) Then the two sources of responses were compared for cross-validation, for implications, for generalizability of the study to other shared-time vocational centers offering the nine selected courses, and for determination of those descriptors unique or situational to Oakland County.

The comparative analyses of the responses were summarized into pertinent tables and further validated by findings from the literature. The instruments and taped interviews of the consultants of Oakland County and the taped interviews of the hiring personnel of the county's centers were used to establish, in terms of job function specifications, the rationales for the descriptors judged by the respondents to the instrument to be maximum effective.

Those qualifications determined from the four sources of investigation (mailed respondents, hiring personnel of Oakland County's four centers, Oakland's Regional Service Agency's consultants, and the literature) to be significant in predicting a teacher's maximum effectiveness were selected to be included in paradigms for each of the nine

courses. The rationales for the selected qualifications were functionally and graphically demonstrated by showing each qualification's logical relationship to the job clusters which the maximum effective teacher is anticipated (by the consultants and the hiring personnel of the four vocational centers of Oakland County) to do. The theoretical justification and precedents for this method of presenting researchable teacher characteristics in relationship to desired teacher behavior operationally described was supported by Gage.[1] His theory was predicated on an embrasive organizational research design, which would be an implication of this study.

---

[1]Gage, pp. 94-113.

CHAPTER IV

PRESENTATION AND ANALYSIS OF FINDINGS

This chapter is composed of three major parts. The first part reports the findings of the out-state survey -- descriptors interpreted to be both unqualifiedly and qualifiedly (high average percentage for the nine selected courses, but some course differences) common to the nine selected courses; descriptors interpreted to be specific to one or more courses; and the rank-order of the classification areas. The second part of the chapter reports the findings of the in-state or Oakland County survey in the same manner as the out-state survey is reported. The third part compares the out-state findings to the in-state findings as a means of reporting common and situational classification areas of significance.

The total findings of the study are reproduced in Table 1. As was anticipated and discussed in Chapter III, few descriptors were rated "ineffective" or "minimum effectiveness" to the point of significance. Most of the descriptors were rated "average effectiveness" or "maximum effectiveness" because the instrument was composed of those descriptive teacher characteristics, behaviors and background qualifications which previous researchers had found contributed to effective occupational teaching. After Table 1, the findings of only the maximum

effectiveness ratings are presented because the study focuses upon developing a design for staffing which will reflect, according to the value judgments of the survey population, the factors of a teacher candidate most likely to predict the candidate's maximum effectiveness. Thirty-eight of the 57 descriptors were interpreted as significantly rated "maximum effectiveness" for at least one course.

TABLE 1

The Total Findings Reported in Percentages
N = 331

Descriptor	Blank Items	Ineffective	Minimum Effectiveness	Average Effectiveness	Maximum Effectiveness
Work Experience 1 or 2 years	10	25	36	26	3
Work Experience 3 years or more	6	1	13	36	44
Work Experience in subject area taught	8		4	36	51
Work Experience in a leadership or supervisory role	11	1	12	52	24
Work Experience in a large business or industrial concern	19	1	14	47	18
Work Experience in a local business or industrial concern	20	1	11	51	18
Work Experience _____(Other)	84		1	5	9

Table 1 con't.

Descriptor	Blank Items	Ineffective	Minimum Effectiveness	Average Effectiveness	Maximum Effectiveness
Formal Education 10-24 hours	18	40	24	16	
Formal Education 2 years	10	8	35	39	8
Formal Education Baccalaureate Degree	8		5	57	30
Formal Education Master's Degree	15	1	5	20	58
Formal Education _____(Other)	91			2	7
Teaching Ability knowledge of subject area	6		2	32	60
Teaching Ability skill proficiency	6			37	56
Teaching Ability knowledge of related subjects (economics, etc.)	8		12	59	21

Table 1 con't.

Descriptor	Blank Items	Ineffective	Minimum Effectiveness	Average Effectiveness	Maximum Effectiveness
Teaching Ability knowledge of psychological and sociological applications	11	1	15	50	22
Teaching Ability ability to use audio-visual equipment	9	2	21	50	18
Teaching Ability knowledge of training techniques	7		2	50	41
Teaching Ability organizational ability	8		2	44	45
Teaching Ability 3 years or more teaching experience	8	1	9	44	38
Teaching Ability membership in professional organizations	15	5	28	37	15
Teaching Ability _____(Other)	94		1	1	4
Personal Characteristics favorable attitude toward subject area	5		4	25	65

Table 1 con't.

Descriptor	Blank Items	Ineffective	Minimum Effectiveness	Average Effectiveness	Maximum Effectiveness
Personal Characteristics positive attitude toward teaching	4		1	22	73
Personal Characteristics positive attitude toward students	4		1	17	78
Personal Characteristics cooperative attitude toward other school personnel	8		1	49	42
Personal Characteristics strong self-concept (poise, ambition, etc.)	6			53	40
Personal Characteristics enthusiasm	8		1	20	70
Personal Characteristics leadership	8		3	57	32
Personal Characteristics valuing (ethical principles, democratic ideals)	9		2	52	37

Table 1 con't.

Descriptor	Blank Items	Ineffective	Minimum Effectiveness	Average Effectiveness	Maximum Effectiveness
Personal Characteristics above average intelligence	12		6	59	23
Unmodifiable Physical Characteristics 20-30 years old	23	2	9	56	10
Unmodifiable Physical Characteristics 30-40 years old	21	2	3	44	30
Unmodifiable Physical Characteristics 40-55 years old	27	2	11	50	10
Unmodifiable Physical Characteristics over 55	27	12	29	30	1
Unmodifiable Physical Characteristics married	33	1	5	42	18
Unmodifiable Physical Characteristics single	37	2	14	43	3
Unmodifiable Physical Characteristics male	31	3	11	43	11

Table 1 con't.

Descriptor	Blank Items	Ineffective	Minimum Effectiveness	Average Effectiveness	Maximum Effectiveness
Unmodifiable Physical Characteristics female	32	3	13	44	8
Unmodifiable Physical Characteristics Negro or minority group	40	4	10	40	5
Unmodifiable Physical Characteristics any disability	36	4	23	36	1
Unmodifiable Physical Characteristics____(Other)	94		1	5	
Modifiable Physical Characteristics attractive	16	1	8	56	19
Modifiable Physical Characteristics neat dress and grooming	9		2	53	37
Modifiable Physical Characteristics fashionable dress	17	5	22	44	11
Modifiable Physical Characteristics favorable image	14		1	47	38

Table 1 con't.

Descriptor	Blank Items	Ineffective	Minimum Effectiveness	Average Effectiveness	Maximum Effectiveness
Modifiable Physical Characteristics_____(Other)	95			3	2
Background Qualifications successful student teaching	13	2	8	56	21
Background Qualifications job interview	9		15	52	24
Background Qualifications high scores on a predictive test	12	4	21	53	10
Background Qualifications strong work experience recommendation	7		1	40	52
Background Qualifications strong recommendations from a school administrator	11	1	12	50	26
Background Qualifications certifiable	11		15	40	34
Background Qualifications high grade point count	11	2	26	56	5

Table 1 con't.

Descriptor	Blank Items	Ineffective	Minimum Effectiveness	Average Effectiveness	Maximum Effectiveness
Background Qualifications analysis of college curriculum	12	5	21	51	11
Background Qualifications previous experience with youth groups	13	1	12	42	31
Background Qualifications _____(Other)	97			2	2
Work Experience	24	22	27	27	
Formal Education	75	4	11	7	
Teaching Ability	32	28	28	11	
Personal Characteristics	36	26	14	25	
Unmodifiable Physical Characteristics	41				
Modifiable Physical Characteristics	82				2
Background Qualifications	80	3	3	11	

Findings from the Out-State Instruments

Eight factors were interpreted as rated unqualifiedly in common for the nine courses from the outstate instruments.

The analysis of the data from the instruments returned from out-state yielded eight descriptors considered by 40 per cent + of the survey population to be significant to maximum effective vocational teaching for all nine of the selected courses. The respondents indicated that they would hire with enthusiasm vocational teacher candidates possessing the following eight characteristics or background qualifications for any of the nine courses (the descriptors are listed under the factored group headings and classification numbers):

2. Formal Education
   11. Master's Degree

3. Teaching Ability
   13. knowledge of subject area
   14. skill proficiency

4. Personal Characteristics
   23. favorable attitude toward subject area
   24. positive attitude toward teaching
   25. positive attitude toward students
   28. enthusiasm

7. Background Qualifications
   51. strong work experience recommendations

Table 2 shows the percentag of those who checked maximum effectiveness for each of the eight descriptors for each course. The commonality of the eight descriptors for the nine courses under study can be induced.

TABLE 2

PERCENTAGES OF OUT - STATE MAXIMUM EFFECTIVENESS RESPONSES FOR EIGHT DESCRIPTORS UNQUALIFIEDLY COMMON TO NINE COURSES

Descriptors	Advertising	Child Care	Data Processing	Dental Office Assisting	Display	Distribution and Marketing	Engineering Drafting	Greenhouse and Nursery Occupations	Total Office Procedures System	ALL
	N=31	N=30	N=32	N=28	N=27	N=34	N=38	N=30	N=34	N=284
*11	48	60	56	50	48	56	61	53	65	56
*13	58	50	66	61	56	56	66	70	53	60
*14	55	40	66	61	52	47	63	63	50	55
*23	65	57	56	54	67	65	58	60	59	60
*24	71	60	69	64	74	76	74	73	71	70
*25	74	80	72	71	85	76	74	77	76	76
*28	77	60	66	68	74	76	63	63	68	68
*51	48	47	50	46	56	50	63	60	50	52

*11. Master's Degree
*13. knowledge of subject
*14. skill proficiency
*23. favorable attitude toward subject area
*24. positive attitude toward teaching
*25. positive attitude toward students
*28. enthusiasm
*51. strong work experience recommendation

No Work Experience descriptors were rated 40 per cent + maximum effectiveness for all courses.

Although no Work Experience descriptors were rated commonly for the nine courses, the highest percentage of free-response descriptors occurred in this group(7 per cent), indicating perhaps the situational application of the work experience background to specific teaching needs. As will be seen in the reporting of the out-state ranking of crucial areas for selection (p.106), the value of work experience itself cannot be interpreted to have been considered less important.

One Formal Education descriptor was interpreted as in common for nine courses.

Fifty-six per cent of the out-state questionnaires showed the "Master's Degree" descriptor rated maximum effectiveness. The findings further substantiated that of McLeroy[1] and tended to indicate that those workers who advocated a two-year formal education plan, such as did Prosser and Quigley,[2] as being sufficient for outstanding vocational teaching were not supported in their thinking by the

---

[1]McLeroy, p. 30.

[2]Prosser and Quigley, p. 492.

practitioners in the field. When the "Masters Degree" frequency (56 per cent)is compared to the cumulative ratings for "3 years or more of work experience" (47 per cent), the comparison suggests that the quantity of formal education is more directional to maximum effectiveness than is the quantity of work experience.

Two Teaching Ability descriptors were rated maximum effectiveness on the majority of the out-state questionnaires.

The descriptor "knowledge of subject area" was rated on 60 per cent of the responses as maximum effectiveness, and the rating frequency wad well supported by the opinions of the Advisory Council on Education: 1968[1] and by the findings of Ryans.[2] The percentage of responses for "knowledge of subject area" was highest on the Greenhouse and Nursery Occupations course questionnaire (70 per cent), indicating the specific nature of the subject area. "Skill proficiency," the other Teaching Ability descriptor rated maximum effectiveness in common to all nine courses, had the lowest percentage of any of the ratings in common for Child Care (40 per cent). The highest percentage rating for "skill proficiency " was compiled on the Data Processing questionnaires (66 per cent). The 26 per cent difference, though falling within the measure of central tendency chosen for significance for the study, is indicative of the differing background needs for anticipated behaviors specific to the two courses. Although "skill proficiency" was considered by the survey population to be important

---

[1] Vocational Education: The Bridge Between Man and His Work, p. 92.

[2] Ryans, The Characteristics of Teachers, p. 265.

to maximum effective teaching in Child Care, the respondents considered it to be more important to maximum effective teaching in Data Processing. The frequency of response for "skill proficiency" can be further validated by the opinons of Prosser and Quigley[1] and The Advisory Council on Vocational Education: 1968.[2]

More Personal Characteristics descriptors were rated maximum effectiveness.

The high frequencies of responses for three of the descriptors factored under Personal Characteristics-- "positive attitude toward teaching," "positive attitude toward students," and "enthusiasm"-- were supportive of the teacher modeling theory of Mager[3] and of the findings of Ryans[4]. That the highest percentage of responses (76 per cent) indicated "positive attitude toward students" as significant to maximum effectiveness might reflect the administrators' valuing a student-centered classroom atmosphere more highly than might be expected for vocational instruction.

Two of the Personal Characteristics descriptors--"positive attitude toward teaching" and "positive attitude toward students"-- would be among the more difficult characteristics to assess in a

---

[1] Prosser and Quigley, p. 360.

[2] Vocational Education: The Bridge Between Man and His Work, p. 127.

[3] Mager, p. 73.

[4] Ryans, The Characteristics of Teachers, p. 77.

teacher candidate. The job interview might be one means of assessment, but the only Background Qualification descriptor rated maximum effectiveness by a majority of the respondents was not the job interview but "strong work experience recommendations." A rational correlation might be found between the ratings if Super's[1] theory of role planning (discussed in Chapter II, p.61) is considered. If, as Super asserts, work satisfaction and life satisfaction are dependent upon personality traits, interests and values and the outlets for those qualities, then an administrator might be able to assess attitudes through "strong work experience recommendations", for the candidate's role planning, according to Super, is developmental. If the candidate's job satisfaction is assumed, correlated by Herzberg to definable factors,[2] his role planning and performance would be basically the same in all jobs falling into his role-planning classification.

Five descriptors had a cumulative rating of 40 per cent +, but the course ratings indicated some slight course differences.

The descriptors "of 3 years or more," "in subject area taught," "organizational ability," "cooperative attitude toward other school personnel," and "strong self-concept" were rated on 40 per cent or more of the 284 responses as maximum effectiveness, but as Table 3 illustrates, the descriptors were not rated maximum effectiveness by 40 per cent or more of those responding to each course separately.

---

[1] Super, p. 128.

[2] Ewen, p. 420

TABLE 3

PERCENTAGES OF OUT-STATE MAXIMUM EFFECTIVENESS RESPONSES FOR FIVE DESCRIPTORS CUMULATIVELY BUT QUALIFIEDLY COMMON TO NINE COURSES

Descriptors	Advertising	Child Care	Data Processing	Dental Office Assisting	Display	Distribution and Marketing	Engineering Drafting	Greenhouse and Nursery Occupations	Total Office Procedures System	ALL
	N=31	N=30	N=32	N=28	N=27	N=34	N=38	N=30	N=34	N=284
* 2		57		46	48	44	58	53	53	47
* 3	45	50	41	43	52		63	60	41	48
*19			44		41	56	47		50	43
*26	52		41	46	44	53	53	43	42	45
*27	45	40	41		41	47				40

*2. of 3 years or more
*3. in subject area taught
*19. organizational ability
*26. cooperative attitude toward other school personnel
*27. strong self-concept (poise, ambition, etc.)

Two Work Experience descriptors differed from the cumulative ratings.

The Work Experience descriptor "of 3 years or more" was not rated maximum effectiveness by 40 per cent of the 31 respondents to the Advertising questionnaires or by the 32 respondents to the Data Processing questionnaires. It cannot be concluded, however, that the descriptor is not important to the teaching effectiveness of the two courses. The amount of work experience may have been thought to be more basic to the teaching function of the two courses because the sum of average and maximum effectiveness ratings on "3 years or more" of work experience for Data Processing was

seventy-eight per cent, and that descriptor's average effectiveness rating for Advertising was 55 per cent.

The Work Experience descriptor "in subject area taught" was not rated maximum effectiveness by 40 per cent of those 34 administrators responding to the Distribution and Marketing questionnaire or by the 34 administrators responding to the Total Office Procedures System questionnaires. The differences might be explained by the broader parameter of skills implied from the course titles.

The higher percentages of ratings for the two Work Experience descriptors, "of 3 years or more" and "in subject area taught," on the 38 returned questionnaires for Engineering Drafting reflected support for the findings of Minton.[1]

One Teaching Ability descriptor showed a qualified maximum effectiveness commonality for the selected courses.

That the Teaching Ability descriptor, "organizational ability," received a cumulative maximum effectiveness rating above the 40 per cent level of significance chosen for this study (43 per cent) seemed to validate Ryans' findings in a similar study of administrators' ratings for teachers of maximum effectiveness.[2] Ryans later found a slightly positive correlation between organizational ability and business-like, systematic classroom behavior.[3] Considerations of the

---

[1]Minton, p. 165.

[2]Ryans, Characteristics of Teachers, p. 152.

[3]Ibid., p. 77.

nature of the courses for which percentages of ratings fell above the 40 per cent level and of the nature of the courses for which percentage of ratings fell below the 40 per cent level might supply a rationale for the ratings similar to the correlation found by Ryans.

TABLE 4

COURSE COMPARISONS OF RATED MAXIMUM EFFECTIVENESS FOR "ORGANIZATIONAL ABILITY"

Courses for which "organizational ability" was rated maximum effectiveness by 40 per cent + of respondents	Courses for which "organizational ability" was not rated maximum effectiveness by 40 per cent + of respondents
Data Processing	Advertising
Display	Child Care
Distribution and Marketing	Dental Office Assisting
Engineering Drafting	Greenhouse and Nursery Occupations
Total Office Procedures System	

Two Personal Characteristics descriptors indicated qualified maximum effectiveness commonality for the selected courses.

The descriptor,"cooperative attitude toward other school personnel,"was rated maximum effectiveness above the 40 per cent level of significance for all courses except Child Care. Such a difference might be related to the self-contained nature of the classroom necessitated by the presence of younger children in the situational factor of Child Care.

The Personal Characteristics descriptor,"strong self-concept," received the lowest maximum effectiveness rating (40 per cent) of all the commonality descriptors, but that it was deemed significant for

five of the nine ratings tends to relate to the theory of successful job performance's dependence on strong self-concept advanced by Super.[1] The courses which differed on the "strong self-concept" maximum effectiveness ratings were Dental Office Assisting, Engineering Drafting, Greenhouse and Nursery Occupations, and Total Office Procedures System. Those courses for which the "strong self-concept" descriptor was rated maximum effectiveness by 40 per cent of the respondents were Advertising, Child Care, Data Processing, Display, and Distribution and Marketing. A possible rationale for the commonality might be the dependence of teaching effectiveness on specific attributes possessed by the teacher such as imagination or creativity for Advertising and Display, tolerance for Child Care, rational judgment for Data Processing, and poise for Distribution and Marketing.

Seven descriptors were rated as maximum effectiveness specifically to the selected courses.

The questionnaires for Advertising and Engineering Drafting revealed no descriptors which were rated maximum effectiveness by 40 per cent of the 31 respondents for Advertising and of the 38 respondents for Engineering Drafting, other than those considered to be held in common for all the courses by comparison to the cumulative percentages. It can be stated then that no factors were situational to Advertising and Engineering Drafting.

---

[1]Super, p. 128.

Table 5 shows five descriptors common to two or more courses, one descriptor unique to Child Care and one descriptor unique to Distribution and Marketing.

TABLE 5

PERCENTAGES OF OUT-STATE MAXIMUM EFFECTIVENESS RESPONSES FOR SEVEN DESCRIPTORS SPECIFIC TO SEVEN OF THE NINE COURSES

Descriptors	Advertising	Child Care	Data Processing	Dental Office Assisting	Display	Distribution and Marketing	Engineering Drafting	Greenhouse and and Nursery Occupations	Total Office Procedures System	ALL
	N=31	N=30	N=32	N=28	N=27	N=34	N=38	N=30	N=34	N=284
*18				43		41			44	
*20		40		43	41	41		40	41	
*29						44				
*30			44						41	
*44		40				41				
*46		43				44				
*56		50								

*18. knowledge of training techniques
*20. 3 years or more teaching experience
*29. leadership
*30. valuing
*44. neat dress and grooming
*46. favorable image
*56. previous experience with youth groups

One descriptor of the Teaching Ability group, which was considered situational because the cumulative percentage of the total N=284 fell below the 40 per cent level of significance, was common to three courses. "Knowledge of training techniques" was deemed pertinent to maximum effective teaching for Dental Office Assisting (43 per cent), Distribution and Marketing (41 per cent),

and Total Office Procedures System (44 per cent). A second Teaching Ability descriptor, "3 years or more teaching experience," was common to six courses in maximum effectiveness ratings: Child Care (40 per cent), Dental Office Assisting (43 per cent), Display (41 per cent), Distribution and Marketing (41 per cent), Greenhouse and Nursery Occupations (40 per cent), and Total Office Procedures System (41 per cent).

Two Personal Characteristics descriptors were rated as maximum effectiveness situational to three courses. "Leadership" was rated by 44 per cent of the 34 respondents to the Distribution and Marketing instruments as significant to maximum effective teaching for that course. "Valuing" was common to two courses, Data Processing (44 per cent), and Total Office Procedures System (41 per cent), but it was nonetheless considered situational for the purpose of the study.

Two Modifiable Physical Characteristics were situational to the maximum effective teaching of four courses. "Neat dress and grooming" was rated by 40 per cent of the 30 respondents as significant to maximum effective teaching in Child Care and rated by 41 per cent of the 34 respondents as significant to maximum effective teaching in Distribution and Marketing. The same courses held "favorable image" in common -- 43 per cent for Child Care and 44 per cent for Distribution and Marketing.

One descriptor of the Background Qualifications group was situational to Child Care; "previous experience with youth groups" was rated by 50 per cent of the 30 respondents to the Child Care instrument as being significant to the maximum effective teaching of that course.

Rankings of the out-state responses on areas of teacher characteristics and background qualifications were analyzed by mean score.

Those areas of descriptors which the out-state administrators in the survey population ranked as the three most significant (by responding 1, 2 and 3) and least significant (by responding 7) to maximum effective teaching for the nine courses are compiled in Table 6. Because the respondent gave the lowest ranking (1) to the area he believed to be most significant to maximum effectiveness, the lowest mean score designates the most significant area; the second lowest mean score, the second most significant area, etc.; and the highest mean score designates the least significant area of descriptors.

TABLE 6

MEAN SCORES OF CLASSIFICATION AREAS RANKED BY OUT-STATE ADMINISTRATORS AS AREAS MOST AND LEAST SIGNIFICANT TO MAXIMUM EFFECTIVE TEACHING IN THE NINE SELECTED COURSES

Classification Areas	Advertising	Child Care	Data Processing	Dental Office Assisting	Display	Distribution and Marketing	Engineering Drafting	Greenhouse and Nursery Occupations	Total Office Procedures System	ALL
*W.E.	2.04	1.95	2.09	2.00	2.04	2.13	1.93	1.96	2.39	2.06
*F.E.	3.00	2.43	2.83	2.75	3.57	2.67	2.80	3.00	2.50	2.84
*T.A.	1.76	1.84	1.68	1.65	1.72	1.62	1.64	1.72	2.09	1.75
*P.C.	2.00	2.05	2.00	2.06	2.00	2.18	2.24	1.94	1.84	2.04
*Umpc	7.00	7.00	6.79	7.00	7.00	7.00	7.00	7.00	7.00	6.97
*Mpc	7.00	7.00	7.00	5.50	7.00	6.33	7.00	7.00	6.17	6.61
*B.Q.	2.88	4.11	3.00	2.83	3.75	2.67	2.20	2.50	3.00	3.03

*W.E. Work Experience
*F.E. Formal Education
*T.A. Teaching Ability
*P.C. Personal Characteristics
*Umpc. Unmodifiable Physical Characteristics
*Mpc. Modifiable Physical Characteristics
*B.Q. Background Qualifications

The comparison of the cumulative mean scores revealed Teaching Ability to be the most significant area by which the survey population determined teaching effectiveness. The least significant areas were Modifiable and Unmodifiable Physical Characteristics, Unmodifiable being less significant. Personal Characteristics was cumulatively ranked second; Work Experience, third; Formal Education, fourth; and Background Qualifications, fifth. There were three factored descriptors under Teaching Ability rated as maximum effectiveness on 40 per cent or more of the 284 instruments -- "knowledge of subject area," "skill proficiency," and "organizational ability." There were six factored descriptors under Personal Characteristics rated cumulatively as maximum effectiveness -- "favorable attitude toward subject area," "positive attitude toward teaching," "positive attitude toward students," "cooperative attitude toward other school personnel," "strong self-concept," and "enthusiasm." Two Work Experience descriptors received cumulative maximum effectiveness ratings -- "of 3 years or more" and "in subject area taught." "Master's Degree" was the only Formal Education descriptor rated maximum effectiveness, and "strong work experience recommendation" was the only Background Qualification rated maximum effectiveness.

That Teaching Ability, Personal Characteristics and Work Experience were ranked as the three most crucial areas of concern for hiring vocational teachers for the nine selected courses is validated by much of the literature reviewed. However the greater significance assigned to Work Experience over Formal Education tends to disagree with the opinions of some workers such as Sears[1] and Resh.[2] The lower ranking of Background Qualifications suggested that the administrators of the out-state survey population were at least tacitly aware of the elements of criterion bias that Brogden and Taylor stated to be inherent in any kind of delimited pre-service predictors.[3]

TABLE 7

COMPARISONS OF RANKINGS ON THE OUT-STATE INSTRUMENTS OF CLASSIFICATION AREAS FOR THE NINE SELECTED COURSES

Rank Order	Advertising	Child Care	Data Processing	Dental Office Assisting	Display	Distribution and Marketing	Engineering Drafting	Greenhouse and Nursery Occupations	Total Office Procedures System	ALL
*1	T.A.	T.A.	T.A.	T.A.	T.A.	T.A.	T.A.	T.A.	P.C.	T.A.
*2	P.C.	W.E.	P.C.	W.E.	P.C.	W.E.	W.E.	P.C.	T.A.	P.C.
*3	W.E.	P.C.	W.E.	P.C.	W.E.	P.C.	B.Q.	W.E.	W.E.	W.E.
*4	B.Q.	F.E.	F.E.	F.E.	F.E.	F.E.	P.C.	B.Q.	F.E.	F.E.
*5	F.E.	B.Q.	B.Q.	B.Q.	B.Q.	B.Q.	F.E.	F.E.	B.Q.	B.Q.
*6	Mpc	Mpc	Umpc	Mpc	Mpc	Mpc	Mpc	Mpc	Mpc	Mpc
*7	Umpc	Umpc	Mpc	Umpc	Umpc	Umpc	Umpc	Umpc	Umpc	Umpc

[1]Sears, p. 101.

[2]Resh, p. 31.

[3]Brogden and Taylor, p. 177.

*W.E. Work Experience
*F.E. Formal Education
*T.A. Teaching Ability
*P.C. Personal Characteristics
*Umpc. Unmodifiable Physical Characteristics
*Mpc. Modifiable Physical Characteristics
*B.Q. Background Qualifications

The comparative rankings of the classification areas for the nine selected courses are easily discernible in Table 7. Personal Characteristics was ranked first for Total Office Procedures System, the only course which differed from the others in the first ranking. Teaching Ability, Personal Characteristics and Work Experience were the three most crucial areas of concern for every course except Greenhouse and Nursery Occupations, for which Background Qualifications was ranked third and Personal Characteristics, fourth. Formal Education was ranked fifth for three courses -- Advertising, Engineering Drafting and Greenhouse and Nursery Occupations, and was designated the same mean score as Background Qualifications for Distribution and Marketing.

Findings from the In-State Instruments

Nine descriptors on the in-state instruments were interpreted to be unqualifiedly common to the nine courses.

The hiring personnel of Oakland County's four vocational centers and the vocational education consultants and the vocational education director of Oakland Schools checked nine descriptors as significant to maximum effectiveness for all nine of the selected courses. Table 8 illustrates the cumulative and course percentages of the 47 instruments marked in the county.

TABLE 8

PERCENTAGES OF NINE DESCRIPTORS CHECKED UNQUALIFIEDLY COMMON TO MAXIMUM EFFECTIVENESS FOR THE NINE COURSES ON THE IN-STATE INSTRUMENTS

Descriptors	Advertising	Child Care	Data Processing	Dental Office Assisting	Display	Distribution and Marketing	Engineering Drafting	Greenhouse and Nursery Occupations	Total Office Procedures System	ALL
	N=3	N=5	N=5	N=7	N=5	N=7	N=5	N=5	N=5	N=47
*11	100	100	80	86	40	86	80	40	60	74
*13	67	60	60	57	60	71	40	40	80	60
*14	67	60	40	71	40	43	60	80	80	60
*16	100	60	40	71	40	71	60	40	100	64
*23	100	100	100	100	80	86	100	80	100	94
*24	100	80	100	86	60	86	100	80	100	87
*25	100	100	100	100	60	86	100	80	100	91
*28	100	100	100	71	80	86	60	80	80	83
*53	100	80	100	86	80	86	100	80	100	89

*11. Master's Degree
*13. knowledge of subject area
*14. skill proficiency
*16. knowledge of psychological and sociological applications
*23. favorable attitude toward subject area
*24. positive attitude toward teaching
*25. positive attitude toward students
*28. enthusiasm
*53. certifiable

No Work Experience descriptors were marked as unqualifiedly in common, but the highest percentage of free-responses were indicated under this classification area, signifying the greater situational value to the Work Experience area. One Formal Education descriptor, "Master's Degree," was checked as maximum effectiveness on 74 per cent of the in-state instruments.

Three Teaching Ability descriptors were rated as maximum effectiveness -- "knowledge of subject area" (60 per cent), "skill proficiency" (60 per cent), and "knowledge of psychological and sociological applications" (64 per cent). Four Personal Characteristics descriptors were checked by 40 per cent of the in-state survey population to be significant to maximum effective teaching for all nine courses under study. "Favorable attitude toward subject area" was marked more often than any other descriptor on the in-state instruments (94 per cent). Three other Personal Characteristics descriptors also received maximum effectiveness ratings on a high percentage of the instruments -- "positive attitude toward teaching" (87 per cent), "positive attitude toward students" (91 per cent), and "enthusiasm" (83 per cent).

But one Background Qualification descriptor was checked unqualifiedly in common to the nine courses -- "certifiable." The high situational value of that descriptor for Michigan is explained by the vocational reimbursement policy implemented in the State Plan of the Division of Vocational Education of the Michigan Department of Public Education.

Ratings of thirteen descriptors on the in-state instruments were interpreted as qualifiedly in common to the nine selected courses.

TABLE 9

PERCENTAGES OF THIRTEEN DESCRIPTORS CHECKED QUALIFIEDLY COMMON TO MAXIMUM EFFECTIVENESS FOR THE NINE COURSES ON THE IN-STATE INSTRUMENTS

Descriptors	Advertising	Child Care	Data Processing	Dental Office Assisting	Display	Distribution and Marketing	Engineering Drafting	Greenhouse and Nursery Occupations	Total Office Procedures System	ALL
	N=3	N=5	N=5	N=7	N=5	N=7	N=5	N=5	N=5	N=47
* 3	67	100	80	57	80	71	60		100	70
* 4			60	43	60		40		80	43
*10			60	71	40			40	40	40
*18	100	60	60		80	71	80	40	80	64
*19	67	80	40	57	60	71	40		60	55
*27	67		60		40	57	60		40	43
*30	100	60			60	57	40	60		47
*33	67	60	60	57	60	43	40		60	51
*44	67	60		43	60	71	40		100	51
*46	67	80	40	57	60		60	40	60	53
*49			60	43	80	43	60	40	40	47
*51		40	40		80	57	40	40	60	47
*56	100	80	60	43	60	57	100	80		64

* 3. in subject area taught
* 4. in a leadership or supervisory role
* 10. Baccalaureate Degree
* 18. knowledge of training techniques
* 19. organizational ability
* 27. strong self-concept (poise, ambition, etc.)
* 30. valuing (ethical principles, democratic ideals)
* 33. 30-40 years old
* 44. neat dress and grooming
* 46. favorable image
* 49. job interview
* 51. strong work experience recommendation
* 56. previous experience with youth groups

As Table 9 illustrates, the cumulative percentages of 13 descriptors checked on the in-state instruments were above the 40 per cent + level of significance chosen for this study and thus were interpreted to be common to the nine selected courses, but qualifying conditions existed; for the descriptor did not reach 40 per cent on the components of the total percentages. Two Work Experience descriptors were rated maximum effective in this set of findings. Seventy per cent of the 47 in-state instruments indicated that work experience "in the subject area taught" was significant to maximum effective vocational teaching. However 40 per cent + of the five respondents for Greenhouse and Nursery Occupations did not rate it so for that course. Forty per cent + of the respondents to the instruments for Data Processing, Dental Office Assisting, Display, Engineering Drafting and Total Office Procedures System checked work experience "in a leadership or supervisory role" to be significant to maximum effective teaching.

One additional Formal Education descriptor, "Baccalaureate Degree," was interpreted to be common to the selected courses, but qualifiedly so. Forty per cent of the cumulative instruments showed that descriptor to be significant, but as shown in Table 8, page 109, 74 per cent of the average percentages indicated a Master's Degree as significant. A comparison of the individual course ratings on those two descriptors is shown in Table 10.

TABLE 10

COMPARISON OF INDIVIDUAL COURSE MAXIMUM EFFECTIVENESS RATINGS FOR TWO FORMAL EDUCATION DESCRIPTORS FROM THE IN-STATE SURVEY POPULATION

Classification Areas	Advertising	Child Care	Data Processing	Dental Office Assisting	Display	Distribution and Marketing	Engineering Drafting	Greenhouse and Nursery Occupations	Total Office Procedures System	ALL
	N=3	N=5	N=5	N=7	N=5	N=7	N=5	N=5	N=5	N=47
*M.D.	100	100	80	86	40	86	80	40	60	74
*B.D.			60	71	40			40	40	40

*Master's Degree
*Baccalaureate Degree

The acquisition of a Master's Degree seemed to be more significant to maximum effective teaching in Oakland County than was a Baccalaureate Degree for all courses except Display and Greenhouse and Nursery Occupations. It appeared that the in-state respondents believed the acquisition of a Master's Degree as more significant than the acquisition of a Baccalaureate Degree to the maximum effective teaching of Advertising, Child Care, Distribution and Marketing and Engineering Drafting.

Two Teaching Ability descriptors were interpreted so as to be added to common descriptors for the in-state findings, but "knowledge of training techniques" was not considered significant by 40 per cent + of the seven respondents to the Dental Office Assisting instruments. Nor was "organizational ability" considered significant for maximum effectiveness by the Greenhouse and Nursery Occupations respondents.

Two Personal Characteristics descriptors were also interpreted to be additional to the commonality descriptors from the in-state percentage averages. However, "strong self-concept" differed from the average percentage for Child Care, Dental Office Assisting, and Greenhouse and Nursery Occupations. The descriptor "valuing," differed in Data Processing, Dental Office Assisting and Total Office Procedures System.

Fifty-one per cent of the 47 questionnaires were checked maximum effectiveness for the Unmodifiable Physical Characteristics descriptors, "30-40 years old," indicating a majority of the respondents of the in-state survey population believed that descriptor to relate significantly to maximum effective teaching. The finding was supportive of Ryans' implicating statements relevant to his findings on age-groups.[1] One course, Greenhouse and Nursery Occupations, differed from the other selected courses on the "30-40 years old" descriptor.

Two Modifiable Physical Characteristics descriptors showed maximum effectiveness ratings of 40 per cent + on the average percentages. "Neat dress and grooming" was rated maximum effectiveness on 51 per cent of the instruments but not by 40 per cent + of the Greenhouse and Nursery Occupations respondents. Fifty-three per cent of the questionnaires showed "favorable image" as being significant to the selected courses except for Distribution and Marketing.

---

[1]Ryans, Characteristics of Teachers, p. 290.

Three additional Background Qualifications descriptors were interpreted from the in-state data to be commonly significant to selecting maximum effective teachers. The "job interview" was checked maximum effectiveness on 47 per cent of the questionnaires, but the ratings fell below the 40 per cent level of significance on the Advertising and Child Care questionnaires. "Strong work experience recommendation" was rated maximum effectiveness on 47 per cent of the instruments, but Advertising and Dental Office Assisting differed. The ratings for all of the selected courses except Total Office Procedures System were 40 per cent + for the descriptor "previous experience with youth groups."

Sixteen descriptors were rated on the in-state instruments as maximum effectiveness specifically to the selected courses.

Findings from the in-state instruments showed 16 descriptors to be unique to one or more of the nine selected courses as interpreted by the 40 per cent + level of significance for the descriptors in each course compared to the average percentage of each descriptor. Table 11 shows the individual percentages of the descriptors specific to selected courses on the in-state instruments as rated maximum effectiveness.

TABLE 11

PERCENTAGES OF IN-STATE MAXIMUM EFFECTIVENESS RESPONSES FOR FIFTEEN DESCRIPTORS SPECIFIC TO THE NINE SELECTED COURSES

Descriptors	Advertising	Child Care	Data Processing	Dental Office Assisting	Display	Distribution and Marketing	Engineering Drafting	Greenhouse and Nursery Occupations	Total Office Procedures System	ALL
	N=3	N=5	N=5	N=7	N=5	N=7	N=5	N=5	N=5	N=47
* 2				43					60	
* 5					40	57	40		100	
* 6		60		43						
*15					40	57	40		80	
*20		40	60			43			40	
*21					40	43	40		40	
*26			40		40					
*29	100					43	40		40	
*34					40					
*36			40	43		43			40	
*38	67		40		60		40	40		
*39		80		57					60	
*43									40	
*45									40	
*50			40							
*55		60			40	43	40	40		

*2. three years or more
*5. in a large business or industrial concern
*6. in a local business or industrial concern
*15. knowledge of related subjects (economics, etc.)
*20. 3 years or more teaching experience
*21. membership in professional organizations
*26. cooperative attitude toward other school personnel
*29. leadership
*34. 40-55 years old
*36. married
*38. male
*39. female
*43. attractive
*45. fashionable dress
*50. high scores on a predictive test
*55. analysis of college curriculum

Three Work Experience descriptors were interpreted to be situational to specific courses. "Three years or more" was specific to Dental Office Assisting and Total Office Procedures System. Work experience "in a large business or industrial concern" was specific to Display, Distribution and Marketing, Engineering Drafting, and Total Office Procedures System. But Work Experience "in a local business or industrial concern" was interpreted to be specific to Child Care and Dental Office Assisting, indicating perhaps the dependence of the effectiveness of these programs on community-vocational center relationships.

Three Teaching Ability descriptors were rated maximum effectiveness by 40 per cent + of the respondents for specific courses. "Three years or more of teaching experience" was interpreted to be significant for Child Care (40 per cent), Data Processing (60 per cent), Distribution and Marketing (43 per cent) and Total Office Procedures System (40 per cent). "Membership in professional organizations" was rated as maximum effectiveness by 40 percent + of the respondents on the Display, Distribution and Marketing, Engineering Drafting and Total Office Procedures System instruments. (It might be noted that 40 per cent + of the respondents for this same set of courses also rated work experience "in a large business or industrial concern" as maximum effectiveness).

Two Personal Characteristics descriptors were rated as maximum effectivenss by 40 per cent + of the in-state respondents on the specific course questionnaires. "Cooperative attitude toward other school personnel" was so rated by 40 per cent of both the Data Processing and of the Display respondents. "Leadership" was interpreted to be specifically significant to the maximum effective

teaching of Advertising, Distribution and Marketing, Engineering Drafting, and Total Office Procedures System.

Four Unmodifiable Physical Characteristics were rated maximum effectiveness for specific courses. The age group descriptor "40-55 years old" was unique to Display. Although 60 per cent of the respondents on the Display questionnaires indicated "30-40 years old" as maximum effectiveness, the "40-55 years old" level of significance might be related to the 80 per cent free-response situation under the Work Experience classification, which indicated a need for a longer work experience background than for some of the other nine courses. The descriptor "married" was interpreted to be significant from the findings of the instruments for Data Processing, Dental Office Assisting, Distribution and Marketing and Total Office Procedures System. "Male" was interpreted significant to selecting maximum effective teachers for Advertising, Data Processing, Display, Engineering Drafting, and Greenhouse and Nursery Occupations, but "female" was rated maximum effectiveness on 80 per cent of the Child Care, 57 per cent of the Dental Office Assisting, and 60 per cent of the Total Office Procedures System instruments. The ratings perhaps reflect the traditional patterns of student interests and might be supportive of the teachers' modeling discussed by Mager.[1]

Two Modifiable Physical Characteristics descriptors were rated as unique to one course. Forty per cent of the Total Office Procedures System respondents rated "attractive" and "neat dress and grooming" maximum effectiveness.

---

[1]Mager, p. 73.

Two Background Qualifications were rated by 40 per cent + of the respondents for specific courses. "High scores on a predictive test" was interpreted to be uniquely significant to Data Processing. "Analysis of college curriculum" was rated maximum effectiveness by 40 per cent + of the respondents on the instruments for Child Care (60 per cent), Display (40 per cent), Distribution and Marketing (43 per cent), Engineering Drafting (40 per cent) and Greenhouse and Nursery Occupations (40 per cent).

Rankings of the in-state responses on the classification areas of teacher characteristics and background qualifications were analyzed by mean score.

Those areas of descriptors which the in-state survey population ranked as the three most significant to selection procedures (by responding 1, 2 and 3) and least significant (by responding 7) appear in Table 12. Like the out-state tabulation of rankings for the most and least significant areas, the lowest mean score designates the most significant area, the second lowest mean score the second area of significance, etc., and the highest mean score designates the least significant area of descriptors.

TABLE 12

MEAN SCORES OF CLASSIFICATION AREAS RANKED BY IN-STATE RESPONDENTS AS AREAS MOST AND LEAST SIGNIFICANT TO MAXIMUM EFFECTIVE TEACHING IN THE NINE SELECTED COURSES

Classification Areas	Advertising	Child Care	Data Processing	Dental Office Assisting	Display	Distribution and Marketing	Engineering Drafting	Greenhouse and Nursery Occupations	Total Office Procedures System	ALL
*W.E.	1.67	2.60	1.80	1.83	2.20	2.14	2.20	2.20	2.40	2.13
*F.E.	3.00	2.00	3.00	3.00	2.50	2.33	3.00	7.00	1.00	2.87
*T.A.	1.67	1.80	2.20	1.80	1.60	1.57	2.00	2.00	2.00	1.84
*P.C.	2.00	1.50	1.75	1.67	2.00	2.25	1.00	1.60	1.75	1.71
*Umpc	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00
*Mpc	- -	7.00	- -	- -	7.00	7.00	7.00	- -	- -	7.00
*B.Q.	- -	- -	- -	4.33	- -	7.00	- -	3.00	7.00	5.00

*W.E. Work Experience
*F.E. Formal Education
*T.A. Teaching Ability
*P.C. Personal Characteristics
* Umpc. Unmodifiable Physical Characteristics
* Mpc. Modifiable Physical Characteristics
* B.Q. Background Qualifications

The comparison of the cumulative mean scores of the in-state survey population's rankings of classification areas revealed Personal Characteristics to be the most significant area for selecting maximum effective teachers for the nine selected courses. The least significant areas were Unmodifiable and Modifiable Physical Characteristics. Teaching Ability was cumulatively ranked, second; Work Experience, third; Formal Education, fourth; and Background Qualifications was ranked fifth.

There were two Work Experience descriptors interpreted from the in-state findings to be commonly significant to maximum effective

teaching for the nine selected courses -- "in subject area taught" and "in a leadership or supervisory role." Two Formal Education descriptors were found to be common -- "Baccalaureate Degree" and "Master's Degree". Five Teaching Ability descriptors were interpreted to be commonly significant -- "knowledge of subject area," "skill proficiency," "knowledge of psychological and sociological applications," "knowledge of training techniques," and "organizational ability". Six factored descriptors under Personal Characteristics were found common to the nine selected courses on the in-state instruments -- "favorable attitude toward subject area," "positive attitude toward teaching," "positive attitude toward students," "strong self-concept," "enthusiasm" and "valuing".

But one Unmodifiable Physical Characteristics descriptor was interpreted to be commonly significant to the nine courses -- "30-40 years old"; whereas two Modifiable Physical Characteristics were significant according to the interpretation of the in-state findings -- "neat dress and grooming" and "favorable image". Four Background Qualifications descriptors were considered rated in common to the nine courses at the 40 per cent + level of significance -- "job interview," "strong work experience recommendation," "certifiable," and "previous experience with youth groups."

TABLE 13

COMPARISONS OF IN-STATE RANKINGS OF CLASSIFICATIONS AREAS FOR THE NINE SELECTED COURSES

Rank Order	Advertising	Child Care	Data Processing	Dental Office Assisting	Display	Distribution and Marketing	Engineering Drafting	Greenhouse and Nursery Occupations	Total Office Procedures System	ALL
* 1	T.A.	P.C.	P.C.	P.C.	T.A.	T.A.	P.C.	P.C.	F.E.	P.C.
* 2	W.E.	T.A.	W.E.	T.A.	P.C.	W.E.	T.A.	T.A.	P.C.	T.A.
* 3	P.C.	F.E.	T.A.	W.E.	W.E.	P.C.	W.E.	W.E.	T.A.	W.E.
* 4	F.E.	W.E.	F.E.	F.E.	F.E.	F.E.	F.E.	B.Q.	W.E.	F.E.
* 5	- -	- -	- -	B.Q.	- -	B.Q.	- -	- -	- -	B.Q.
* 6	- -	Mpc	- -	- -	Mpc	Mpc	Mpc	F.E.	Mpc	Mpc
* 7	Umpc	Umpc	Umpc	Umpc	Umpc	Umpc	Umpc	Umpc	Umpc	Umpc

* W.E. Work Experience
* F.E. Formal Education
* T.A. Teaching Ability
* P.C. Personal Characteristics
* Umpc. Unmodifiable Physical Characteristics
* Mpc. Modifiable Physical Characteristics
* B.Q. Background Qualifications

As illustrated in Table 13, most of the individual course rankings for the significance of the classification areas reflect the three most important areas for selection to be Personal Characteristics, Teaching Ability and Work Experience. There are three notable differences which might be considered situational to three courses: (1) Formal Education was ranked higher than Work Experience on the Child Care instruments. (2) Formal Education received the highest ranking for Total Office Procedures System. (3) Background Qualifications was assigned a higher mean score than Formal Education for Greenhouse and Nursery Occupations.

Comparison of the Out-State and In-State Findings

Descriptors interpreted to be common to the nine selected courses from the out-state survey were compared to common descriptors from the in-state survey.

Those 13 descriptors of the survey instrument which yielded 40 + average percentage of the nine courses from the out-state survey were compared to the 22 descriptors yielding a 40 + average percentage of the nine courses from the in-state instruments. Table 14 shows the comparison.

TABLE 14

COMPARISON OF DESCRIPTORS COMMON TO NINE SELECTED COURSES AND AVERAGE PERCENTAGES OF THE OUT-STATE SURVEY TO THOSE OF THE IN-STATE SURVEY

Descriptor	Out-State Survey N=284 Percentage (if 40 per cent +)	In-State Survey N=47 Percentage (if 40 per cent +)
Work Experience		
2. of 3 years or more	47	
3. in subject area taught	48	70
4. in a leadership or supervisory role		43
Formal Education		
10. Baccalaureate degree		40
11. Master's degree	56	74
Teaching Ability		
13. knowledge of subject area	60	60
14. skill proficiency	55	60
16. knowledge of psychological and sociological application		64
18. knowledge of training techniques		64
19. organizational ability	43	55
Personal Characteristics		
23. favorable attitude toward subject area	60	94
24. positive attitude toward teaching	70	87

Table 14--Continued

Descriptor	Out-State Survey N=284 Percentage (if 40 per cent +)	In-State Survey N=47 Percentage (if 40 per cent +)
25. positive attitude toward students	76	91
26. cooperative attitude toward other school personnel	45	
27. strong self-concept (poise, ambition, etc.)	40	43
28. enthusiasm	68	83
30. valuing (ethical principles, democratic ideals)		47
Unmodifiable Physical Characteristics		
33. 30-40 years old		51
Modifiable Physical Characteristics		
44. neat dress and grooming		51
46. favorable image		53
Background Qualifications		
49. job interview		47
51. strong work experience recommendation	52	47
53. certifiable		89
56. previous experience with youth groups		64

Two descriptors yielded cumulative averages of 40 per cent + on the out-state instruments and did not so yield on the in-state instruments -- Work Experience "of 3 years or more" and "positive attitude toward other school personnel." As stated previously, the in-state responses utilized the free-response question to indicate maximum effectiveness for more specific amounts (usually 5 years or

more) of work experience, indicating the situational value of the descriptor. The lower percentage yield of "positive attitude toward other school personnel" might be explained by two situations: (1) the vocational centers are not yet operational; (2) the educational policies of the Oakland County respondents may be reflective of the valuing of a teacher's individuation. The latter rationale was suggested by Ryans as a basis for stating the logical definition of situational factors in selection procedures.[1]

Eleven of the descriptors yielded 40 + average percentage on the in-state instruments and did not do so on the out-state instruments. The descriptors, though common to all nine courses, are considered to be situational to the selecting values of the Oakland County respondents. The descriptors and the area into which they were classified are:

Common Descriptors Situational To Oakland County

Work Experience

4. in a leadership or supervisory role

Formal Education

10. Baccalaureate degree

Teaching Ability

16. knowledge of psychological and sociological applications
18. knowledge of training techniques

---

[1]David G. Ryans, "Problems in Validating Teacher Selection Policies and Procedures," in Teacher Selection Methods ed. by Harry B. Gilbert and Gerhard Lang (Brooklyn, New York: New York City Board of Education, 1967), p. 83.

Personal Characteristics

30. valuing (ethical principles, democratic ideals)

Unmodifiable Physical Characteristics

33. 30-40 years old

Modifiable Physical Characteristics

44. neat dress and grooming
46. favorable image

Background Qualifications

49. job interview
53. certifiable
56. previous experience with youth groups

Rationales for the higher percentage yield of the above descriptors might be suggested by the following situations: (1) the centers are not yet operational; (2) Mighigan State Department's plan for vocational reimbursement; (3) educational "valuing"; [1] (4) the affluency of Oakland County (see Appendix 3, p.171); (5) the comparatively greater size of budgetary expenditures on education in Oakland County (see Appendix 3, p.172); and (6) the general stress on cultural enterprises in Oakland County (see Appendix 3, p.173).

Maximum effectiveness descriptors specific to some of the nine selected courses were compared.

Although 11 descriptors were interpreted to be situational to Oakland County, many of the 11 were interpreted to be generalizable for maximum effective teachers to some of the nine selected courses in shared-time vocational centers such as those in Oakland County.

---

[1] Ryans, p. 83.

Table 15 illustrates the 40 per cent + maximum effectiveness ratings for Advertising on the out-state instruments compared to the 40 per cent + maximum effectiveness ratings for Advertising on the in-state instruments. The 11 descriptors interpreted to be common to all nine courses and generalizable to shared-time schools such as those represented by the out-state respondents (reported in Table 14) were not tabulated in the tables showing course comparisons.

TABLE 15

COMPARISON OF OUT-STATE AND IN-STATE MAXIMUM EFFECTIVENESS DESCRIPTORS SITUATIONAL TO ADVERTISING

Descriptors	Out-State Percentages		In-State Percentages	
	Average % of nine courses	% of Advertising	Average % of nine courses	% of Advertising
Teaching Ability				
16. knowledge of psychological and sociological applications	- -	- -	64%	100%
18. knowledge of training techniques	- -	- -	64%	100%
Personal Characteristics				
26. cooperative attitude toward other school personnel	45%	52%	- -	- -
29. leadership	- -	- -	- -	100%
30. valuing (ethical principles, democratic ideals)	- -	- -	47%	100%
Unmodifiable Physical Characteristics				
33. 30-40 years old	- -	- -	51%	67%
38. male	- -	- -	- -	67%
Modifiable Physical Characteristics				
46. favoragle image	- -	- -	53%	67%
Background Qualifications				
53. certifiable	- -	- -	89%	100%
56. previous experience with youth groups	- -	- -	64%	100%

Of the descriptors rated maximum effectiveness for Advertising by 40 per cent + of the two survey populations, two are interpreted to be situational to both Oakland County and to the course -- "male" and "leadership." The other descriptors were interpreted to be common to the other nine courses for either the out-state responses or the in-state responses.

TABLE 16

COMPARISON OF OUT-STATE AND IN-STATE MAXIMUM EFFECTIVENESS DESCRIPTORS SITUATIONAL TO CHILD CARE

Descriptors	Out-State		In-State	
	Average % of nine courses	% of Child Care	Average % of nine courses	% of Child Care
Work Experience				
6. in a local business or industrial concern	- -	- -	- -	60%
Teaching Ability				
18. knowledge of training techniques	- -	- -	64%	60%
20. 3 years or more teaching experience	- -	40%	- -	40%
Personal Characteristics				
30. valuing (ethical principles, democratic ideals)	- -	- -	47%	60%
Unmodifiable Physical Characteristics				
36. married	- -	- -	51%	60%
39. female	- -	- -	- -	80%
Modifiable Physical Characteristics				
44. neat dress and grooming	- -	40%	51%	67%
46. favorable image	- -	43%	53%	80%
Background Qualifications				
53. certifiable	- -	- -	89%	80%
55. analysis of college curriculum	- -	- -	- -	60%
56. previous experience with youth groups	- -	50%	64%	80%

Of the descriptors specific to Child Care three were interpreted to be situational to Oakland County but generalizable to maximum effective Child Care teaching in vocational centers represented by the out-state survey respondents -- "neat dress and grooming," "favorable image," and "previous experience with youth groups." Three descriptors were common to all nine courses for the situation of Oakland County -- "knowledge of training techniques," "30-40 years old," and "certifiable." One descriptor is situational to Child Care but generalizable to Child Care programs for vocational centers like those of the out-state survey population -- "3 years or more teaching experience." Two descriptors are significant to maximum effectiveness for Child Care in Oakland County -- "female" and "analysis of college curriculum."

TABLE 17

COMPARISON OF OUT-STATE AND IN-STATE MAXIMUM EFFECTIVENESS DESCRIPTORS SITUATIONAL TO DATA PROCESSING

Descriptors	Out-State		In-State	
	Average % of nine courses	% of Data Processing	Average % of nine courses	% of Data Processing
Work Experience				
4. in a leadership or supervisory role	--	--	43%	60%
Formal Education				
10. Baccalaureate Degree	--	--	40%	60%
Teaching Ability				
16. knowledge of psychological and sociological applications	--	--	64%	40%
18. knowledge of training techniques	--	--	64%	60%
20. 3 years or more teaching experience	--	--	--	60%

Table 17--Continued

Descriptors	Out-State		In-State	
	Average % of nine courses	% of Data Processing	Average % of nine courses	% of Data Processing
Personal Characteristics				
26. cooperative attitude toward other school personnel	45%	41%	--	40%
30. valuing (ethical principles, democratic ideals)	--	44%	47%	--
Unmodifiable Physical Characteristics				
33. 30-40 years old	--	--	51%	60%
36. married	--	--	--	40%
38. male	--	--	--	40%
Modifiable Physical Characteristics				
44. neat dress and grooming	--	--	51%	60%
46. favorable image	--	--	53%	40%
Background Qualifications				
49. job interview	--	--	47%	60%
50. high scores on a predictive test	--	--	--	40%
56. previous experience with youth groups	--	--	64%	60%

Table 17 illustrates that two descriptors specific to Data Processing are generalizable to Data Processing programs in schools represented by the survey population -- "cooperative attitude toward other school personnel" and "valuing." Nine descriptors were situational to Oakland County but interpreted to be common to the other selected courses and to Data Processing -- "Baccalaureate Degree," "knowledge of psychological and sociological applications," "knowledge

of training techniques," "30-40 years old," "neat dress and grooming," "favorable image," "job interview," and "previous experience with youth groups." Four descriptors were interpreted to be situational to Data Processing in Oakland County's vocational centers -- "3 years or more teaching experience," "married," "male," and "high scores on a predictive test."

TABLE 18

COMPARISON OF OUT-STATE AND IN-STATE MAXIMUM EFFECTIVENESS DESCRIPTORS SITUATIONAL TO DENTAL OFFICE ASSISTING

Descriptors	Out-State		In-State	
	Average % for nine courses	% of Dental Office Asst.	Average % for nine courses	% of Dental Office Asst.
Work Experience				
2. of 3 years or more	47%	46%	- -	43%
6. in a local business or industrial concern	- -	- -	- -	60%
Formal Education				
10. Baccalaureate Degree	- -	- -	40%	71%
Teaching Ability				
16. knowledge of psychological and sociological applications	- -	- -	64%	71%
18. knowledge of training techniques	- -	43%	64%	80%
19. organizational ability	- -	- -	55%	57%
20. 3 years or more teaching experience	- -	43%	- -	- -
Personal Characteristics				
26. cooperative attitude toward other school personnel	45%	46%	- -	- -
Unmodifiable Physical Characteristics				
33. 30-40 years old	- -	- -	51%	57%
36. married	- -	- -	- -	43%
39. female	- -	- -	- -	57%

Table 18--Continued

Descriptors	Out-State		In-State	
	Average % for nine courses	% of Dental Office Asst.	Average % for nine courses	% of Dental Office Asst.
Modifiable Physical Characteristics				
44. neat dress and grooming	- -	- -	51%	43%
46. favorable image	- -	- -	53%	57%
Background Qualifications				
49. job interview	- -	- -	47%	43%
53. certifiable	- -	- -	89%	86%
56. previous experience with youth groups	- -	- -	64%	43%

The descriptors rated maximum effectiveness by the survey population for Dental Office Assisting (excluding those 11 descriptors interpreted to be generalizably common to all nine selected courses) are compiled in Table 18. Two descriptors were situational to Oakland County and generalizable to maximum effective teaching in Dental Office Assisting programs occurring in schools like those represented by the survey population -- work experience "of 3 years or more" and "knowledge of training techniques." Two descriptors -- "3 years or more of teaching experience " and "cooperative attitude toward other school personnel" -- were interpreted to be generalizable to the out-state survey population, but not significant to maximum effective Dental Office Assisting teaching in the situation of Oakland County. Nine descriptors were interpreted to be situational to Oakland County, but common to the nine courses' programs -- "Baccalaureate Degree,"

"knowledge of psychological and sociological applications," "organizational ability," "30-40 years old," "neat dress and grooming," "favorable image," "job interview," "certifiable," and "previous experience with youth groups." The descriptors situational to Dental Office Assisting maximum effective teaching in Oakland County are work experience "in a local business or industrial concern," "married," and "female."

TABLE 19

COMPARISON OF OUT-STATE AND IN-STATE MAXIMUM EFFECTIVENESS DESCRIPTORS SITUATIONAL TO DISPLAY

Descriptors	Out-State		In-State	
	Average % of nine courses	% of Display	Average % of nine courses	% of Display
Work Experience				
2. of 3 years or more	47%	48%	- -	- -
4. in a leadership or supervisory role	- -	- -	43%	60%
5. in a large business or industrial concern	- -	- -	- -	40%
Formal Education				
10. Baccalaureate degree	- -	- -	40%	40%
Teaching Ability				
15. knowledge of related subjects (economics, etc.)	- -	- -	- -	40%
16. knowledge of psychological and sociological application	- -	- -	64%	40%
18. knowledge of training techniques	- -	- -	64%	80%
20. 3 years or more teaching experience	- -	41%	- -	- -
21. membership in professional organizations	- -	- -	- -	40%
Personal Characteristics				
26. cooperative attitude toward other school personnel	45%	44%	- -	40%
30. valuing (ethical principles, democratic ideals)	- -	- -	47%	60%

Table 19--Continued

Descriptors	Out-State		In-State	
	Average % of nine courses	% of Display	Average % of nine courses	% of Display
Unmodifiable Physical Characteristics				
33. 30-40 years old	- -	- -	51%	60%
34. 40-55 years old	- -	- -	- -	40%
38. male	- -	- -	- -	60%
Modifiable Physical Characteristics				
44. neat dress and grooming	- -	- -	51%	60%
46. favorable image	- -	- -	53%	60%
Background Qualifications				
49. job interview	- -	- -	47%	80%
53. certifiable	- -	- -	89%	80%
55. analysis of college curriculum	- -	- -	- -	40%
56. previous experience with youth groups	- -	- -	64%	60%

Table 19 presents the descriptors interpreted to be specific to Display. Two descriptors were analyzed to be generalizable to maximum effective Display teaching in schools like those of the out-state survey population but were not considered significant to maximum effectiveness by the Oakland County survey population -- work experience "of 3 years or more," and "3 years or more teaching experience." One descriptor -- "cooperative attitude toward other school personnel" -- was interpreted to be both situational to Display in Oakland County and generalizable to the Display programs in schools represented by the out-state survey population. Eleven

descriptors were interpreted to be situational to Oakland County but common to the other eight courses studied -- work experience "in a leadership or supervisory role," "Baccalaureate Degree," "knowledge of psychological and sociological applications," "knowledge of training techniques," "valuing," "30-40 years old," "40-55 years old," "neat dress and grooming," "favorable image," "job interview," "certifiable," and "previous experience with youth groups." The descriptors interpreted to be situational to maximum effective teaching in Display programs offered in Oakland County are work experience "in a large business or industrial concern," "knowledge of related subjects," "membership in professional organizations," "40-55 years old," "male," and "analysis of college curriculum."

TABLE 20

COMPARISON OF OUT-STATE AND IN-STATE MAXIMUM EFFECTIVENESS DESCRIPTORS SITUATIONAL TO DISTRIBUTION AND MARKETING

Descriptors	Out-State		In-State	
	Average % of nine courses	% of Dist. & Mkt.	Average % of nine courses	% of Dist. & Mkt.
Work Experience				
2. of 3 years or more	47%	44%	- -	- -
5. in a large business or industrial concern	- -	- -	- -	57%
Teaching Ability				
15. knowledge of related subjects (economics, etc.)	- -	- -	- -	57%
16. knowledge of psychological and sociological applications	- -	- -	64%	71%
18. knowledge of training techniques	- -	41%	64%	71%
20. 3 years or more teaching experience	- -	41%	- -	43%

Table 20--Continued

Descriptors	Out-State		In-State	
	Average % of nine courses	% of Dist. & Mkt.	Average % of nine courses	% of Dist. & Mkt.
21. membership in professional organizations	- -	- -	- -	43%
Personal Characteristics				
26. cooperative attitude toward other school personnel	45%	53%	- -	- -
29. leadership	- -	44%	- -	43%
30. valuing (ethical principles, democratic ideals)	- -	- -	47%	57%
Unmodifiable Physical Characteristics				
33. 30-40 years old	- -	- -	51%	43%
36. married	- -	- -	- -	43%
Modifiable Physical Characteristics				
44. neat dress and grooming	- -	41%	51%	71%
46. favorable image	- -	44%	53%	- -
Background Qualifications				
49. job interview	- -	- -	47%	43%
53. certifiable	- -	- -	89%	86%
55. analysis of college curriculum	- -	- -	- -	43%
56. previous experience with youth groups	- -	- -	64%	57%

Table 20 is a compilation of the descriptors rated maximum effectiveness by the two sets of survey population on the Distribution and Marketing instruments. As in the tables comparing the other course findings, the descriptors are exclusive of those interpreted previously to be common to both survey population groups. Two

descriptors -- work experience "of 3 years or more" and "cooperative attitude toward other school personnel" -- can be generalized to the out-state survey population but are not interpreted to be situational either to Oakland County or to Distribution and Marketing. Two descriptors are common to the other eight courses of Oakland County and generalizable to Distribution and Marketing maximum effective teaching in the schools represented by the out-state survey population -- "knowledge of training techniques" and "neat dress and grooming." The descriptor "favorable image" was rated maximum effectiveness by the out-state Distribution and Marketing respondents although it was not so rated by the in-state respondents for that course alone. Further analysis of the ratings of the in-state respondents suggested that those respondents considered the descriptor to be significant to average effective teaching (57 per cent) and therefore more basic to the teaching needs of a Distribution and Marketing candidate.

Two descriptors were interpreted to be situational to Distribution and Marketing by both survey groups, being thereby generalizable to Distribution and Marketing programs in schools represented by both survey groups -- "3 years or more of teaching experience" and "leadership." Six descriptors were interpreted to be situational to Distribution and Marketing and common to the other eight courses in the situation of Oakland County -- "knowledge of psychological and sociological applications," "valuing," "30-40 years old," "job interview," "certifiable," and "previous experience with youth groups." Six descriptors were factored to be situational to Distribution and Marketing in Oakland County -- work experience "in a large business or

industrial concern," "knowledge of related subjects," "membership in professional organizations," "married," and "analysis of college curriculum."

TABLE 21

COMPARISON OF OUT-STATE AND IN-STATE MAXIMUM EFFECTIVENESS DESCRIPTORS SITUATIONAL TO ENGINEERING DRAFTING

Descriptors	Out-State		In-State	
	Average % of nine courses	% of Eng. Dft.	Average % of nine courses	% of Eng. Dft.
Work Experience				
2. of 3 years or more	47%	58%	- -	- -
4. in a leadership or supervisory role	- -	- -	43%	40%
5. in a large business or industrial concern	- -	- -	- -	40%
Teaching Ability				
15. knowledge of related subjects (economics, etc.)	- -	- -	- -	40%
16. knowledge of psychological and sociological applications	- -	- -	64%	60%
18. knowledge of training techniques	- -	- -	64%	80%
21. membership in professional organizations	- -	- -	- -	40%
Personal Characteristics				
26. cooperative attitude toward other school personnel	43%	47%	- -	- -
29. leadership	- -	40%	- -	- -
30. valuing (ethical principles, democratic ideals)	- -	- -	47%	40%
Unmodifiable Physical Characteristics				
33. 30-40 years old	- -	- -	51%	40%
38. male	- -	- -	- -	40%
Modifiable Physical Characteristics				
44. neat dress and grooming	- -	- -	51%	40%
46. favorable image	- -	- -	53%	60%

Table 21--Continued

Descriptors	Out-State		In-State	
	Average % of nine courses	% of Eng. Dft.	Average % of nine courses	% of Eng. Dft.
Background Qualifications				
49. job interview	- -	- -	47%	60%
53. certifiable	- -	- -	89%	100%
55. analysis of college curriculum	- -	- -	- -	40%
56. previous experience with youth groups	- -	- -	64%	100%

The descriptors rated maximum effectiveness for Engineering Drafting are presented in Table 21. The table does not include those factors interpreted to be common to both the out-state and in-state survey populations. Two descriptors were analyzed to be generalizable to maximum effective Engineering Drafting teaching in programs offered in schools like those in the out-state survey population but were not situational to Oakland County's centers -- work experience "of 3 years or more" and "cooperative attitude toward other school personnel." One descriptor "leadership" was interpreted to be generalizable to Engineering Drafting programs like those offered in schools represented by the out-state survey population, but the descriptor was not rated maximum effectiveness in the Oakland County -- Engineering Drafting situation.

Ten descriptors were both situational to Engineering Drafting and interpreted to be common to the other eight selected courses in

Oakland County -- work experience "in a leadership or supervisory role," "knowledge of psychological and sociological applications," "knowledge of training techniques," "valuing," "30-40 years old," "neat dress and grooming," "favorable image," "job interview," "certifiable," and "previous experience with youth groups." Five descriptors were interpreted to be situational to Engineerind Drafting programs in Oakland County -- work experience "in a large business or industrial concern," "knowledge of related subjects," "membership in professional organizations," "male," and "analysis of college curriculum."

TABLE 22

COMPARISON OF OUT-STATE AND IN-STATE MAXIMUM EFFECTIVENESS DESCRIPTORS SITUATIONAL TO GREENHOUSE AND NURSERY OCCUPATIONS

Descriptors	Out-State		In-State	
	Average % of nine courses	% of Greenhouse & Nursery Occupations	Average % of nine courses	% of Greenhouse & Nursery Occupations
Work Experience				
2. of 3 years or more	47%	58%	- -	- -
Formal Education				
10. Baccalaureate degree	- -	- -	40%	40%
Teaching Ability				
16. knowledge of psyco-logical and socio-logical applications	- -	- -	64%	40%
18. knowledge of train-ing techniques	- -	- -	64%	40%
20. 3 years or more teaching experience	- -	40%	- -	- -
Personal Characteristics				
26. cooperative attitude toward other school personnel	45%	43%	- -	- -
30. valuing (ethical prin-ciples, democratic ideals)	- -	- -	47%	60%

Table 22--Continued

Descriptors	Out-State		In-State	
	Average % of nine courses	% of Greenhouse & Nursery Occupations	Average % of nine courses	% of Greenhouse & Nursery Occupations
Unmodifiable Physical Characteristics				
38. male	- -	- -	- -	40%
Modifiable Physical Characteristics				
46. favorable image	- -	- -	53%	40%
Background Qualifications				
49. job interview	- -	- -	47%	40%
53. certifiable	- -	- -	89%	80%
55. analysis of college curriculum	- -	- -	- -	40%
56. previous experience with youth groups	- -	- -	64%	80%

Table 22 presents the maximum effectiveness descriptors (excluding those interpreted to be commonly generalizable to vocational centers like those of Oakland County offering the nine selected courses) analyzed to be specific to Greenhouse and Nursery Occupations. Two descriptors were interpreted to be common instructional factors and generalizable to maximum effectiveness from the out-state survey population--work experience "of 3 years or more" and "cooperative attitude toward other school personnel." One descriptor was interpreted as situational to Greenhouse and Nursery Occupations but generalizable to the programs of schools represented by the out-state survey population; however, it was not interpreted to be significant to maximum effectiveness in

the situation of Oakland County -- "3 years or more of teaching experience." Eight descriptors were interpreted both situational to Oakland County and common to the other eight courses studied -- "Baccalaureate Degree," "knowledge of psychological and sociological applications," "knowledge of training techniques," "valuing," "favorable image," "job interview," "certifiable," and "previous experience with youth groups." Two descriptors were situational to Greenhouse and Nursery Occupations in Oakland County -- "male" and "analysis of college curriculum."

TABLE 23

COMPARISON OF OUT-STATE AND IN-STATE MAXIMUM EFFECTIVENESS DESCRIPTORS SITUATIONAL TO TOTAL OFFICE PROCEDURES SYSTEM

Descriptors	Out-State		In-State	
	Average % of nine courses	% of Total Off. Procedures System	Average % of nine courses	% of Total Off. Procedures System
Work Experience				
2. of 3 years or more	47%	53%	- -	60%
4. in a leadership or supervisory role	- -	- -	43%	80%
5. in a large business or industrial concern	- -	- -	- -	100%
Formal Education				
10. Baccalaureate degree	- -	- -	40%	40%
Teaching Ability				
15. knowledge of related subjects (economics, etc.)	- -	- -	- -	80%
16. knowledge of psychological and sociological applications	- -	- -	64%	100%

Table 23--Continued

Descriptors	Out-State		In-State	
	Average % of nine courses	% of Total Off. Procedures System	Average % of nine courses	% of Total Off. Procedures System
18. knowledge of training techniques	- -	44%	64%	80%
20. 3 years or more teaching experience	- -	41%	- -	40%
21. membership in professional organizations	- -	- -	- -	40%
Personal Characteristics				
26. cooperative attitude toward other school personnel	45%	41%	- -	- -
29. leadership	- -	- -	- -	40%
30. valuing (ethical principles, democratic ideals)	- -	41%	47%	- -
Unmodifiable Physical Characteristics				
33. 30-40 years old	- -	- -	51%	60%
36. married	- -	- -	- -	40%
39. female	- -	- -	- -	60%
Modifiable Physical Characteristics				
43. attractive	- -	- -	- -	40%
44. neat dress and grooming	- -	41%	51%	100%
45. fashionable dress	- -	- -	- -	40%
46. favorable image	- -	41%	53%	60%
Background Qualifications				
49. job interview	- -	- -	47%	40%
53. certifiable	- -	- -	89%	100%

Table 23 shows the maximum effectiveness descriptors (excluding those common to all nine courses and to out-state and in-state survey populations) specific to Total Office Procedures System. One descriptor was interpreted to be generalizable to the Total Office Procedures System programs in schools represented by the survey population and common to the other eight courses but was not so rated by the in-state survey population -- "cooperative attitude toward other school personnel." One descriptor, "valuing," was analyzed as situational to Total Office Procedures System from the out-state instruments, but was not considered significant to maximum effective Total Office Procedures System in Oakland County (although the respondents signified the descriptor as cumulatively significant).

Three descriptors were interpreted to be both generalizable to Total Office Procedures System programs in schools like those of Oakland County's vocational centers and common to the other eight courses studied in Oakland County -- "knowledge of training techniques," "neat dress and grooming," and "favorable image." One descriptor was common to the other eight courses in the out-state survey population but was situational to Total Office Procedures System in Oakland County -- work experience "of 3 years or more," and one descriptor was interpreted to be generalizable to Total Office Procedures System programs in schools like those of Oakland County vocational centers -- "3 years or more of teaching experience."

Seven descriptors were analyzed to be common to the teacher characteristics of the other eight courses leading to maximum teaching effectiveness in Oakland County -- work experience "in a leadership or supervisory role," "Baccalaureate Degree," "knowledge of psycho-

logical and sociological applications," "30-40 years old," "job interview," and "certifiable." Eight descriptors were interpreted to be situational to Total Office Procedures System maximum effective teaching in Oakland County -- work experience "in a large business or industrial concern," "knowledge of related subjects," "membership in professional organizations," "leadership," "married," "female," "attractive," and "fashionable dress."

Total Office Procedures System was designated the highest number of maximum effectiveness descriptors on both the out-state and the in-state instruments. The amount of descriptors is perhaps related to the broader parameters of the subject matter and to the teacher modeling theory of Mager,[1] that the teacher must emulate desired student behavior in order to effect it in his students.

Rankings of the classification area from the two survey populations were compared by mean scores.

The mean scores of the rank orders for the two survey populations were compared and tabulated in Table 24. The area yielding the lowest mean score was the area considered by the designated survey population to be the most significant area for selecting maximum effectiveness teachers. The area yielding the highest mean score was the least significant area for selecting maximum effective vocational teachers.

---

[1]Mager, p. 73.

TABLE 24

COMPARISON OF AVERAGE RANKINGS OF CLASSIFICATIONS AREAS FROM THE OUT-STATE AND IN-STATE SURVEY POPULATIONS BY MEAN SCORES

Rank	Out-State		Rank	In-State		Rank	ALL	
*1	T.A.	1.75	1	P.C.	1.71	1	T.A.	1.77
*2	P.C.	2.04	2	T.A.	1.84	2	P.C.	1.99
*3	W.E.	206	3	W.E.	2.13	3	W.E.	2.07
*4	F.E.	2.84	4	F.E.	2.87	4	F.E.	2.84
*5	B.Q.	3.03	5	B.Q.	5.00	5	B.Q.	3.21
*6	Mpc	6.61	6	Mpc	7.00	6	Mpc	6.64
*7	Umpc	6.97	7	Umpc	7.00	7	Umpc	6.98

* W.E. Work Experience
* F.E. Formal Education
* T.A. Teaching Ability
* P.C. Personal Characteristics
*Umpc. Unmodifiable Physical Characteristics
*Mpc. Modifiable Physical Characteristics
*B.Q. Background Qualifications

The three most significant classification areas were Teaching Ability, Personal Characteristics and Work Experience. The least significant area was Unmodifiable Physical Characteristics. Formal Education and Background Qualifications were ranked fourth and fifth respectively.

The difference in the mean scores for the Personal Characteristics ranking on the in-state instruments and the cumulative Personal Characteristics ranking (.28) suggests slightly more importance attached to that area by Oakland County's respondents than by the out-state respondents. Possible reasons for that difference were discussed on page 125.

Summary

The instruments returned from the two survey groups were computed and analyzed for common, situational and generalizable aspects. The data were tabulated and classified according to out-state and to in-state. Responses from each survey group were reported separately and then reported comparatively.

Thirty-eight of the 57 descriptors were rated as maximum effectiveness by 40 per cent + of the respondents on at least one course questionnaire. Thirteen descriptors were interpreted common to all nine selected courses from the out-state survey population, but two of the descriptors were not considered as rated in common to all nine courses on the in-state questionnaires; therefore 11 descriptors were deduced common and generalizable to both survey populations. Twenty-two descriptors were interpreted as common to all nine courses in the situation of selecting candidates for Oakland County's area centers. Of that twenty-two, 11 were generalizable to the out-state survey population, and 11 were analyzed to be situational to Oakland County. The remaining 16 descriptors were interpreted

to be situational to the maximum teaching effectiveness for particular courses. The following list summarizes the number of descriptors interpreted to be situational to each of the nine selected courses:

Advertising	2
Child Care	4 (1 generalizable to out-state survey populations)
Data Processing	4
Dental Office Assisting	4 (1 generalizable to out-state survey populations, but not situational to Oakland County)
Display	7 (1 generalizable to out-state survey populations, but not situational to Oakland County)
Distribution and Marketing	7 (2 generalizable to out-state survey populations)
Engineering Drafting	6 (1 generalizable to out-state populations, but not situational to Oakland County)
Greenhouse and Nursery Occupations	6 (1 generalizable to out-state survey populations, but not situational to Oakland County)
Total Office Procedures System	9 (1 generalizable to out-state survey populations)

CHAPTER V

SUMMARY AND CONCLUSIONS

The three postulates of theory upon which the developmental process of achieving a design for appropriate instructional staffing for vocational centers like those in Oakland County was based were:

1. Selection must take place according to criteria, which will permit ultimate evaluation of the selection procedures.

2. Selection must take place according to sound, empirically based principles derived from the practical experiences of those immediately involved in selecting teachers.

3. Selection must take place according to defined situational factors.

The study attempted to establish factors of teacher characteristics or background qualifications which were both common to nine courses selected from the six vocational disciplines and which could be generalizable to vocational schools like those in Oakland County. These factors could be considered components of principles of selection using Oakland County's vocational centers as a demographic situational example. The next phase of the study attempted to designate teacher characteristics and background qualifications to the situation of specific courses, and to the situation of specific courses in Oakland County.

Implications of the Major Findings of the Study for Principles of Selection

The factors of teacher characteristics or background qualifications, upon which maximum effective vocational teaching for nine selected courses in schools like Oakland County vocational education centers is contingent, are work experience of at least three years and in the subject area taught; the formal education of a Master's Degree; a teaching ability based on knowledge of the subject area taught, skill proficiency, and organizational ability; personal characteristics that reflect positive attitude toward the subject area taught, toward teaching and toward students, enthusiasm, cooperative attitudes toward other school personnel, and a strong self-concept. One of the more salient means by which to assess a teacher-candidate's potential for maximum effectiveness is his background qualifications reported in a strong work experience recommendation.

Another principle upon which to base selection is that the three areas of most significance to maximum effective teaching for nine selected courses are teaching ability, personal characteristics, and work experience. It might be suggested from a logical correlation of the two aspects of empirically based principles -- factors and areas -- that the acquisition of a Master's Degree and a strong work experience recommendation are more situational to the course a candidate is to teach than are the other teacher characteristics components of principles of selection. The area of least significance to selecting outstanding teachers for the nine selected courses is unmodifiable physical characteristics.

Implications of the Major Findings of the Study for Situational Aspects of Selection

Of the factors comprising principles of selection two of them were not valued by the hiring personnel of Oakland County's vocational education centers -- 3 years or more of work experience (more specified and generally more years were mandated) and cooperative attitude toward other school personnel. Additional factors to the selection principles for maximum effective teaching in the nine selected courses were valued, however, by the hiring personnel for Oakland County. Those factors are situational to the county but still common to the nine courses. In addition to the eleven (after having detracted two factors) factors discussed as principles of selection, Oakland County's selection of maximum effectiveness teachers for nine selected courses is predicated upon the following teacher characteristics and background qualifications:

1. work experience in a leadership or supervisory role
2. a Baccalaureate Degree
3. a teaching ability based on knowledge of psychological and sociological applications and on knowledge of training techniques
4. personal characteristics which reflect valuing
5. physical characteristics of 30-40 years old, neat dress and grooming and a generally favorable image
6. three of the more significant means by which to assess a teacher-candidate's potential for maximum effectiveness in Oakland County are his background qualifications leading to his certifiability, the job interview and his previous experience with youth groups

Some factors are situational to course areas for which a teacher is selected, and some factors are situational to course areas offered in Oakland County vocational education centers. The existence of situational factors reflects the valued teacher behaviors anticipated by the hiring personnel of the particular community, as do the factors designated situational in this study. If the theoretic framework of this study (as discussed in Chapter 1) is observed, the situational factors, to be valid for the community, and to be sufficiently adaptive, should be rationally related to operationally described teacher behavior. A selection procedure or design should account for situational factors by relating anticipated teacher behavior to the factor specified as situational for three reasons:

(1) subsequent evaluation of the factor

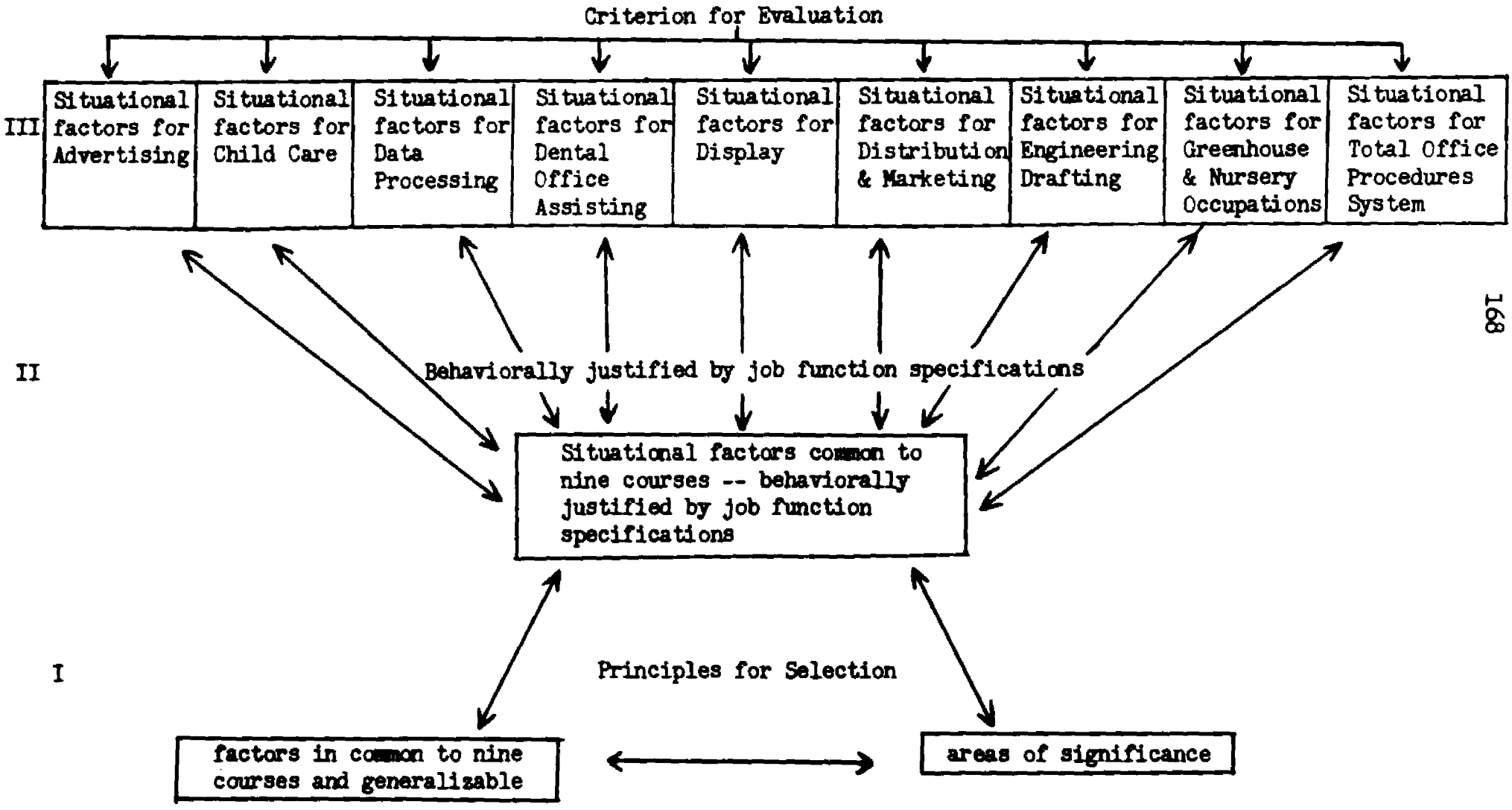
(2) flexibility

(3) broader applicability of the whole design (for factors could be eliminated or added to the design if the behavior for which the factor was designated is not valued by hiring personnel in other communities)

Paradigm for a Design for Appropriate Instructional Staffing for Schools like Those in Oakland County

From generalizable, common and situational aspects and from the rationale used as a framework of the study, a viable model of a design by which to select maximum effective vocational teachers for nine selected courses was developed.

Figure 1. Paradigm for a Design for Appropriate Instructional Staffing for Vocational Education Centers like Those in Oakland County



Application of the Design for Appropriate Vocational Staffing of Oakland County

From the findings, classification, and analysis of the data yielded by the instruments returned from the two survey the boxes of the paradigm for the design for appropriate staffing of vocational education centers like those in Oakland County can be designated for nine courses in Oakland County. The designation of areas, factors (both situational and common) and job function specifications is exemplary of the intended use of the design. The job function specification, derived from taped interviews of the hiring personnel of Oakland County's vocational centers or from the consultants of Oakland County Regional Service Agency, or from related literature, is illustrative. It is not meant to suggest that the related behavior is the only one dependent upon the factor or that the factor is the only one upon which the behavior depends.

I. Principles for Selection

Criterion: Placement of the student in the occupation for which he has been trained

Common Factors

* 3 years or more of work experience

work experience in subject area taught

Master's Degree

knowledge of subject area

skill proficiency

organizational ability

favorable attitude toward subject area

positive attitude toward teaching

**cooperative attitude toward other school personnel

enthusiasm

strong self-concept

strong work experience recommendations

Areas of Most Significance

Teaching Ability

***Personal Characteristics

Work Experience

Areas of Least Significance

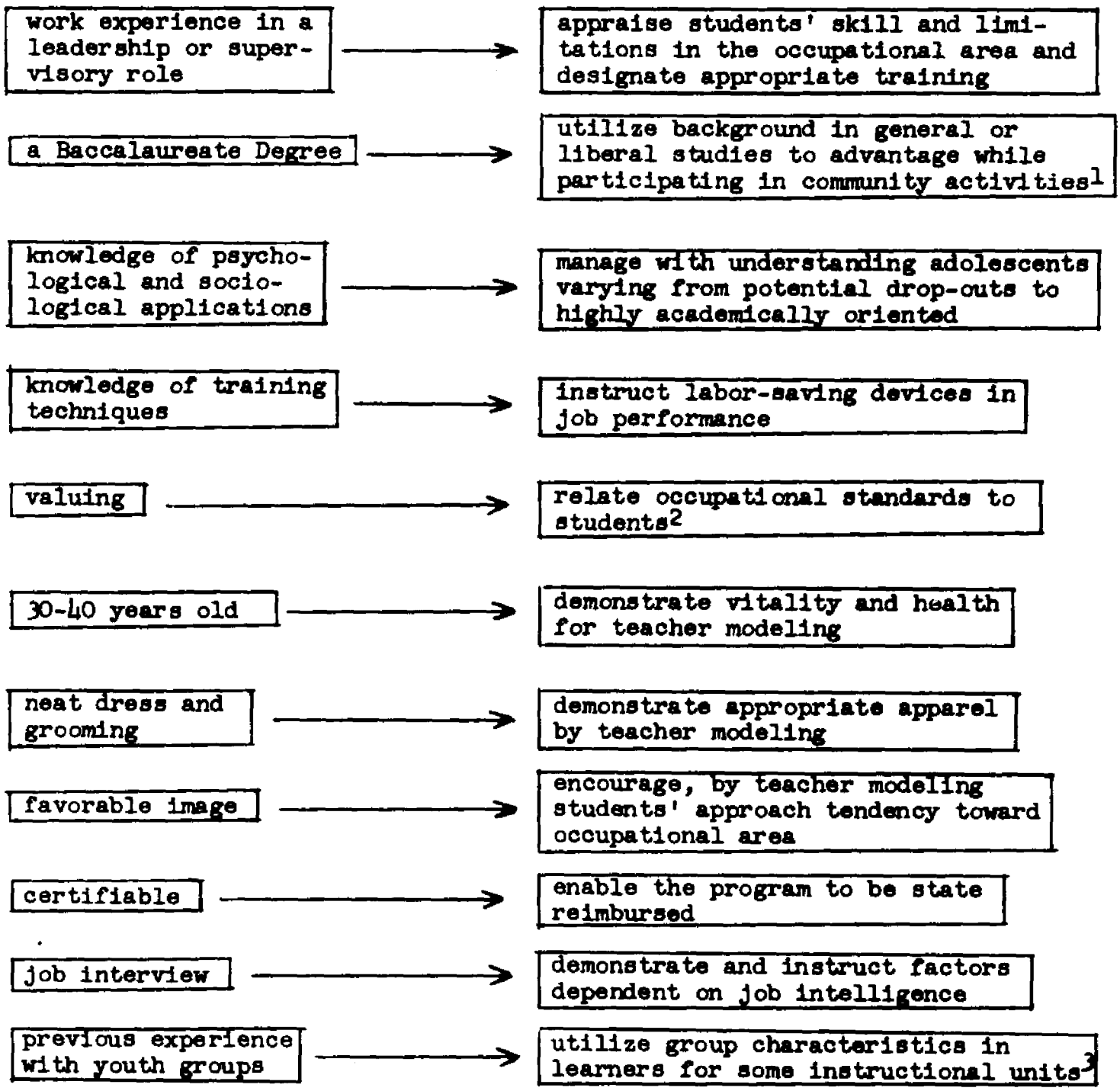
Unmodifiable Physical Characteristics

Modifiable Physical Characteristics

*higher amounts specified for Oakland County
**not applicable to Oakland County
***valued slightly more than teaching ability in Oakland County

II. Paradigms Illustrating the Relationship of Situational Factors, Common to Nine Courses Offered in Oakland County Vocational Education Centers to Job Function Specifications

Criterion: Placement of the student in occupations for which he has been trained



---

[1]Courtney and Halfin, p. 12.

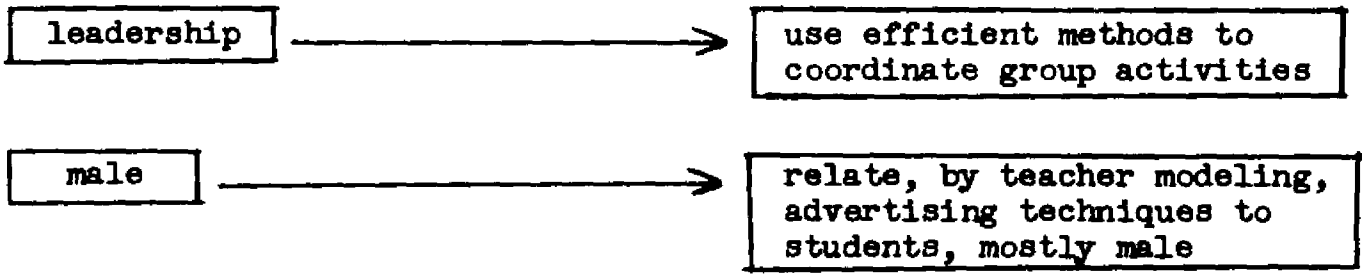
[2]Prosser and Quigley, p. 360.

[3]Ibid., p. 361.

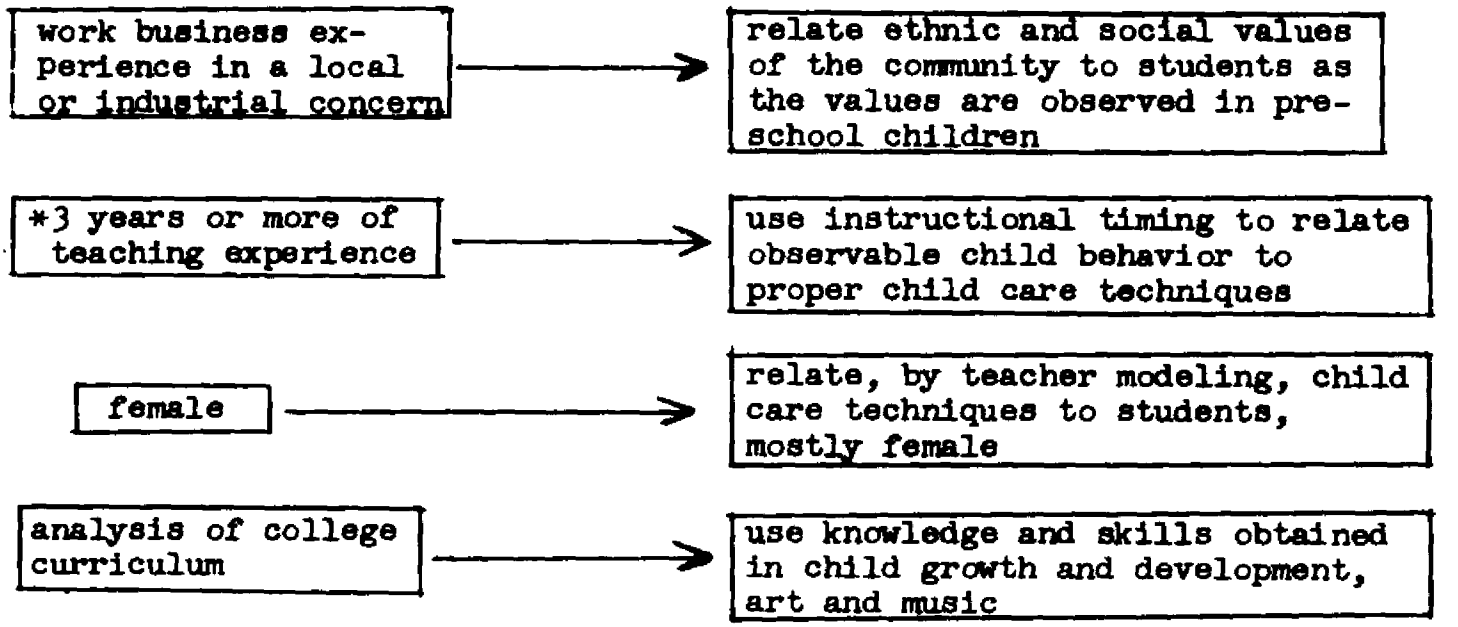
III. Paradigms Illustrating the Relationship of Situational Factors for Each of the Nine Selected Courses Offered in Oakland County's Vocational Education Centers to Job Function Specifications

Criterion: Placement of the student in occupations for which he has been trained

Advertising



Child Care



---

*designates those factors which are generalizable to the specified course offered in schools like Oakland County's vocational education centers.

Criterion: Placement of the student in occupations for which he has been trained

Data Processing

*3 years or more of teaching experience	→	use proper instructional order in instructing sequential data processing techniques
married	→	maintain his teaching position in an occupational area of low teacher supply
male	→	relate, by teacher modeling, data processing techniques to students, mostly male
high score on a predictive test	→	demonstrate to students measurable skill proficiency with computers

Dental Office Assisting

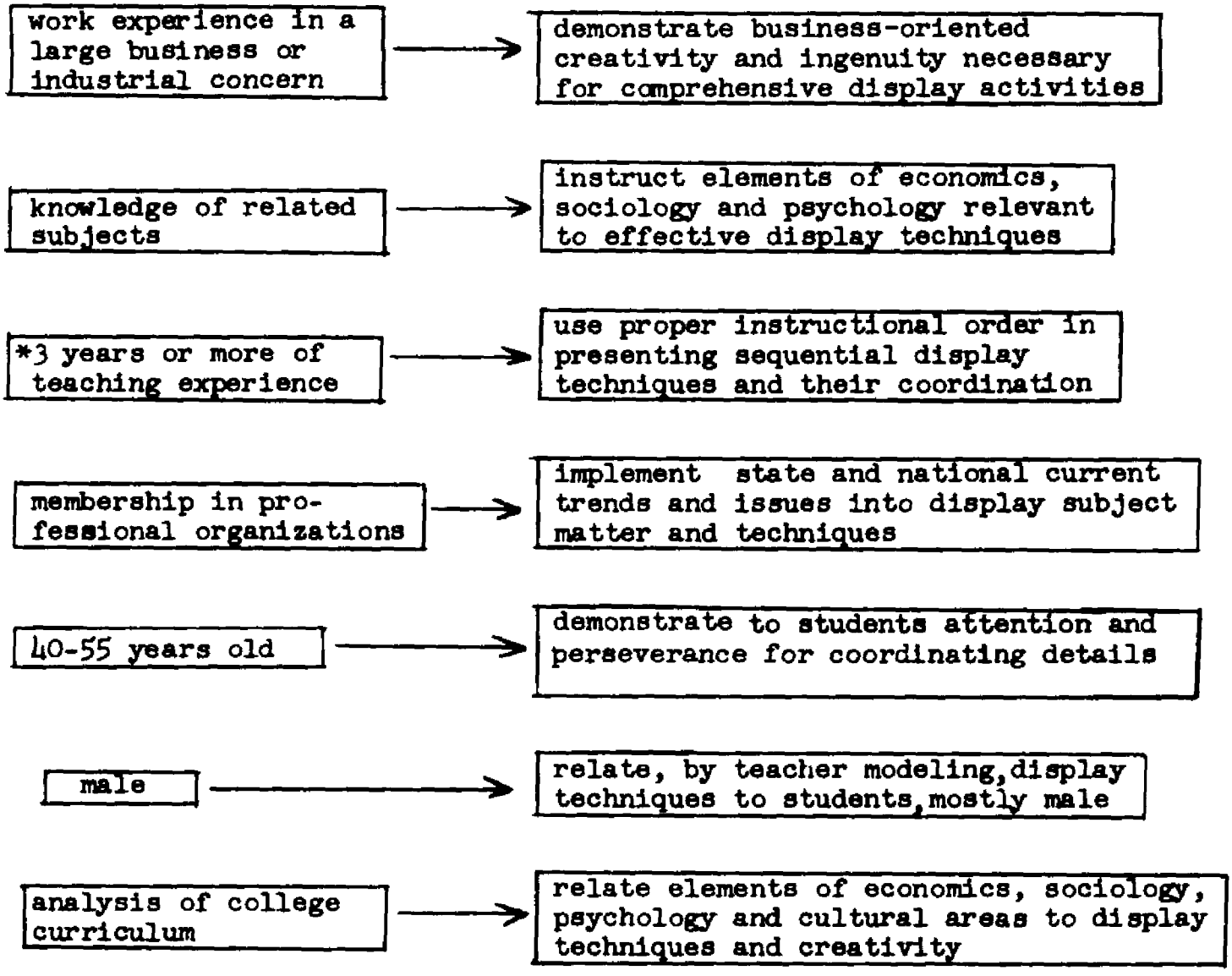
work experience in a local business or industrial concern	→	demonstrate to students how community characteristics are relevant to desirable dental office assistant behavior
*3 years or more of teaching experience	→	use proper instructional timing to relate observable patient behavior to dental office assisting techniques
married	→	maintain her teaching position in an occupational area of low teacher supply
female	→	relate, by teacher modeling, dental office assisting techniques to students, mostly female

---

*designates those factors which are generalizable to the specified course offered in schools like Oakland County's vocational education centers

Criterion: Placement of the student in occupations for which he has been trained

Display

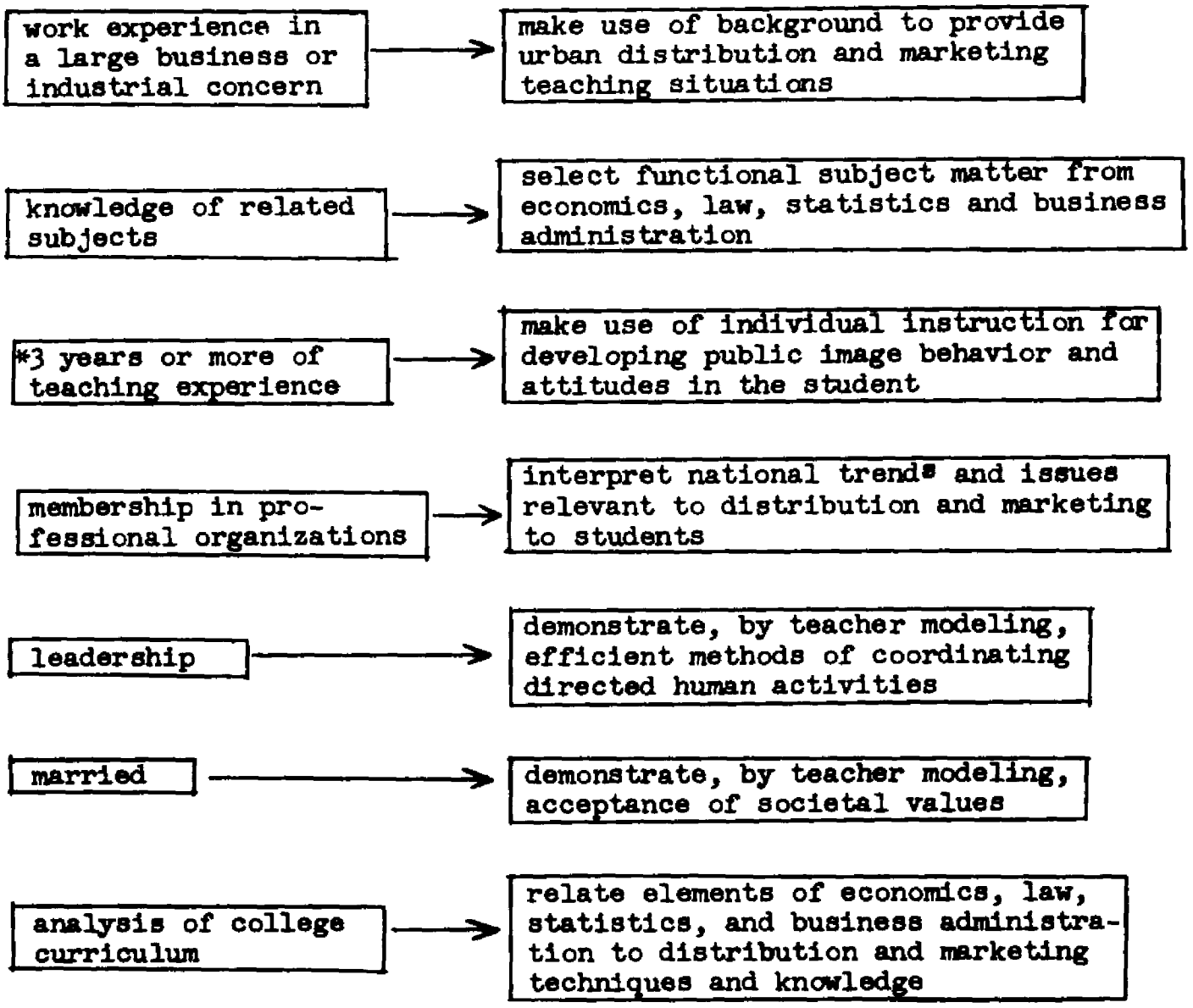


---

*designates those factors which are generalizable to the specified course offered in schools like Oakland County's vocational education centers.

Criterion: Placement of the student in occupations for which he has been trained

Distribution and Marketing



*designates those factors which are generalizable to the specified course offered in schools like Oakland County's vocational education centers.

Criterion: Placement of the student in occupations for which he has been trained

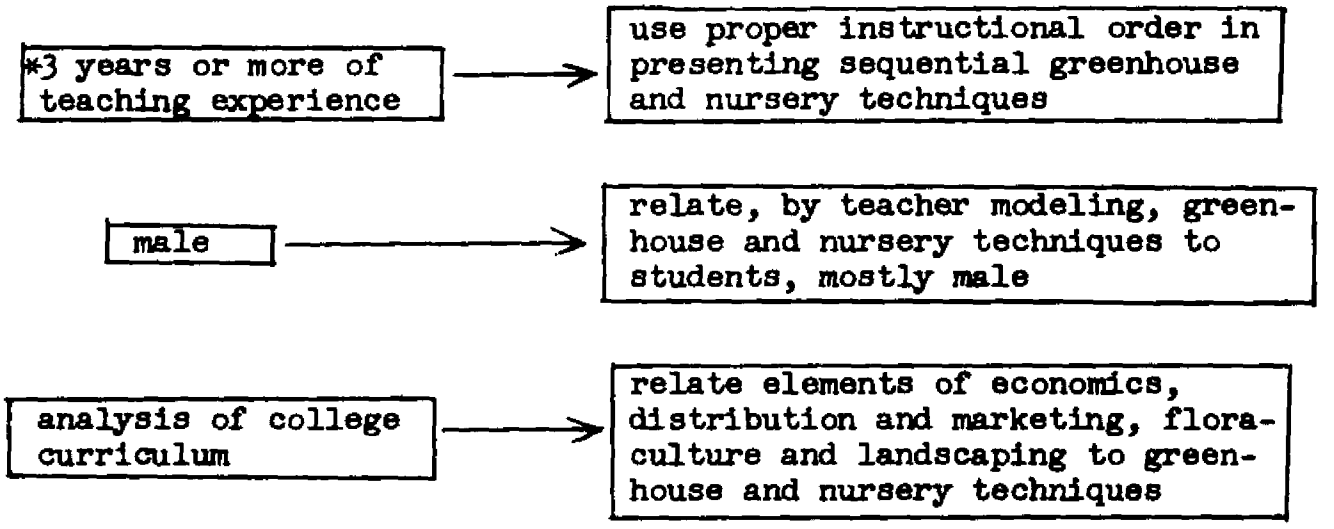
Engineering Deafting

work experience: in a large business or industrial concern	→	make use of background to provide urban engineering drafting situations, particularly automotive
knowledge of related subjects	→	select functional subject matter from geometry, trigonometry, physical science and metal working
membership in professional organizations	→	interpret national trends and issues relevant to engineering drafting to students
*leadership	→	demonstrate, by teacher modeling, efficient methods of coordinating directed human activities
male	→	relate, by teacher modeling, engineering drafting techniques to students, mostly male
analysis of college curriculum	→	relate elements of geometry, trigonometry, physical science and metal working to engineering drafting techniques

*designates those factors which are generalizable to the specified course offered in schools like Oakland County's vocational education centers.

Criterion: Placement of the student in occupations for which he has been trained

Greenhouse and Nursery Occupations

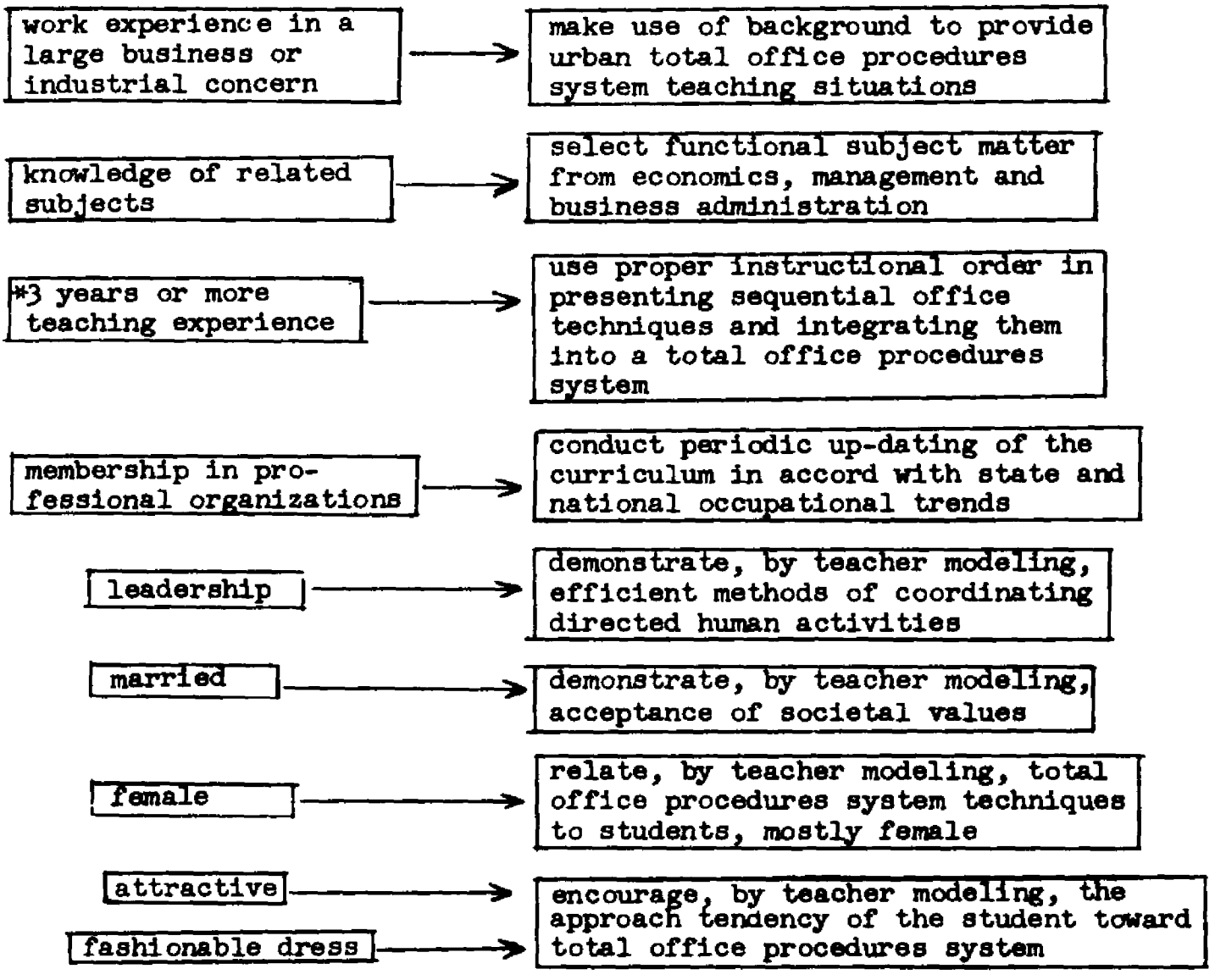


---

*designates those factors which are generalizable to the specified course offered in schools like Oakland County's vocational education centers.

Criterion: Placement of the student in occupations for which he has been trained

Total Office Procedures System



*designates those factors which are generalizable to the specified course offered in schools like Oakland County's vocational education centers.

Implementation and Evaluation of the Design for Appropriate Instructional Staffing in Vocational Centers like Those in Oakland County

To implement the design for staffing vocational centers in Oakland County the instrument, by which data were gathered for this study, could be used and rated for each teacher-candidate for the nine selected courses. Selection should take place as the design suggested. Careful records of the appraised characteristics of the teachers selected for the courses should be kept. Subsequent observations of the teacher's behavior should be conducted, preferably by a trained observer not involved in the selection process. The observations should be made in terms of the stated job function specifications and recorded. Eventually longitudinal and meaningful research on teacher characteristics could evolve from correlations derived between the rated factor and the operationally described behavior for which it was anticipated by the hiring personnel.

Implementing the design probably will illustrate that no "ideal" vocational teacher will be appraised to possess all of those factors interpreted to be significant to maximum effectiveness. However the design developed in this study would insure an objective and adaptive process by which to make sound selection decisions which are unique to an individual, situational to a community or course or situational to periods of teacher shortage and supply.

In addition, evaluation of the design could be made eventually in terms of its stated criterion: student placement in the occupation for which he has been trained. Additional criteria could be supplied by consensus of those in the educational community or by validated research. But until such research appears or until evaluation can be

made, the design, empirically based and situationally applied, is a rational beginning.

One more area of teacher up-grading could be augmented by implementing the design developed in this study -- in-service training. By a rapid analysis of a candidate's rated characteristics or background qualifications as recorded on the instruments, his areas of weaknesses and strengths could be designated. His in-service training could be individually and efficiently effected.

Recommendations for Solutions to Problems Posed in Chapter I

From the findings of this study recommendations for solutions to the staffing problems posed in Chapter I, p. 11, might be made. It should not be inferred that the following discussion should be generalized to any groups or behaviors other than that represented by the survey population in this study.

A. How much value should be placed on work experience, on formal education, on teaching ability?

Teaching ability was designated the most significant of the three areas, and it was interpreted that principals of area vocational centers valued the occupational teacher's knowledge of subject area, his skill proficiency and his organizational ability as three phrases most descriptive to teaching ability. Three years or more of teaching experience was interpreted as significant to Child Care, Data Processing, Dental Office Assisting, Display, Distribution and Marketing, Greenhouse and Nursery Occupations, and Total Office Procedures System but not to Engineering Drafting and Advertising. It might be suggested from these findings that teaching ability is more related to teaching experience in some courses than in others.

Work experience was also ranked as among the top three areas of significance for maximum effectiveness. A teacher's work experience should be in the subject area in which he is teaching, and he should have had at least three years or more of work experience. It was found that formal education was less valued than were work experience and teaching ability.

Is the quality of work experience important?

The kind of work experience expected of an occupational teacher was not valued as highly as the quantity of work experience. The findings of this study suggested that the type of work experience is more situational to the demographic area. Oakland County administrators, for instance, indicated that a teacher's maximum effectiveness would be related to his having had work experience in a leadership or supervisory role. Other kinds of work experience were interpreted as even more situational to some of the nine courses studied in Oakland County. Work experience in a local business or industrial concern was considered significant to Child Care and Dental Office Assisting. Work experience in a large business or industrial concern was interpreted as significant to Display, Distribution and Marketing, Engineering Drafting, and Total Office Procedures System.

Could a candidate have too many years of work experience?

It appears from the findings of this study that a candidate's effectiveness as an occupational teacher is increased rather than diminished by large amounts of work experience. Some respondents indi-

cated as much as 15 years of work experience as desirable for maximum effectiveness in some courses.

How much formal education should a candidate possess and do area vocational administrators prefer degree candidates?

Although the classification of formal education was ranked as fourth on the totals of questionnaires, the possession of a Master's Degree was indicated as desirable for maximum effectiveness in all nine of the courses. Such a designation might reflect the traditional view of "the more education, the better" and might align the educator's view of occupational teaching more closely to academic teaching than had been suspected before this study was undertaken. Oakland County respondents, on the other hand, rated both Baccalaureate Degrees and Masters Degrees as maximum effectiveness. Such ratings might be explained by one of two means: (1) the administrators reflected the unavailability of occupational teachers with Masters Degrees; or (2) the respondents felt that a Baccalaureate Degree teacher could be just as effective as a Masters Degree teacher. The findings of this study clearly indicate that the survey population valued a degree-holding candidate more highly than a candidate without a degree.

What kind of formal education is significant to effective vocational teaching?

The findings of this study were interpreted to indicate that a particular type of formal education was not prescribed for vocational teaching generally, but some course teachers needed special backgrounds

that would most easily be obtained by formal education. Oakland County administrators indicated that a knowledge of sociological and psychological applications and a knowledge of training techniques as significant to maximum effectiveness. Situational to Display, Distribution and Marketing, Engineering Drafting and Total Office Procedures System in Oakland County was the descriptive phrase "knowledge of related subjects." However, that the descriptive phrase "analysis of college curriculum" was rated as maximum effectiveness for some other courses might suggest that the kind of formal education that a candidate has obtained is more important than was indicated by the analysis of some of the other ratings pertinent to Formal Education.

B. What are the individual characteristics that would lead to maximumally effective vocational teaching?

Individual characteristics were sub-divided into personal characteristics, modifiable and unmodifiable physical characteristics. The rankings of these areas indicated that personal characteristics were the most significant to maximum effectiveness. Those personal characteristics of an occupational teacher which were most valued by the survey population were his positive attitude toward his teaching subject area, toward teaching itself, toward his students, a cooperative attitude toward other school personnel, enthusiasm, and a strong self-concept.

Should physical characteristics be important to a staffing design?

Are administrators influenced by unchangeable physical characteristics?

Both areas of physical characteristics were ranked as least significant to maximum effectiveness, and no descriptive phrases were

significantly rated maximum effectiveness. However one descriptor was situational to Oakland County -- "30-40 years old," and another descriptor "married" was situational to Data Processing, Dental Office Assisting, Distribution and Marketing, and Total Office Procedures System. Such ratings of those two descriptors might reflect the valuing of the Oakland County respondents.

Would sex differentiation be required for some courses?

Although the cumulative responses indicated no sex differentiation for any courses, the Oakland County respondents did, and generally the differentiation reflected the traditional attitudes of that which is anticipated by the male or female role. A male teacher was rated for maximum effectiveness in Advertising, Data Processing, Display, Engineering Drafting and Greenhouse and Nursery Occupations, but a female teacher was rated for maximum effectiveness in Child Care, Dental Office Assisting, and Total Office Procedures System. It is probable that sex differentiation might not depend on the course as much as on the sex represented by the majority of the students taking the course, and therefore the ratings of Oakland County respondents might indicate a valuing of teacher modeling.

Are changeable appearance factors significant in vocational staffing?

The appearance of an occupational teacher, such as dress, which could be modified, was not indicated as generally significant to staffing vocational teachers, but some factors of appearance were considered situationally significant for Oakland County's occupational teachers.

Neat dress and grooming and a generally favorable image were valued by the Oakland County respondents. Those ratings would illustrate once more that the situational aspects of a community might be manifested in that community's educators' selecting teachers who will fulfill previously anticipated roles.

C. How can an administrator appraise backgound data objectively?

How reliable are pre-service recommendations?

The findings of this study can be interpreted to indicate that the most reliable pre-service recommendation is from the candidate's work experience, and if the recommendation is a strong one, the candidate is more likely to be a maximumally effective teacher. That "successful student teaching," "high grade point count," and "strong recommendations from a school administrator" were not rated as maximum effectiveness by either of the survey populations suggests that a credibility gap might exist not only between teacher educators and vocational area principals but among administrators themselves.

Can predictive instruments be used to assess factors leading to effective teaching?

The findings of this study were supportive of other researchers' conclusions on predictive tests (discussed in Chapter II pp. 42-45) -- that predictive tests can at best be used to determine but one or two factors which might lead to maximumally effective teaching. Such a measurable quality as skill proficiency in Data Processing could be determined by a test, but the components of a teacher's characteristics, behavior and background qualifications which combine to render him capable of maximumally effective vocational teaching have not yet been successfully delimited.

Responses to the questionnaires were interpreted to mean that area vocational administrators did not view predictive tests sufficiently valid to predict maximum effectiveness.

What is an efficient means of analyzing background qualifications?

Oakland County respondents indicated that in addition to a strong work experience recommendation, the candidate's certifiability (reflecting Michigan's vocational reimbursement procedures), the job interview, previous experience with youth groups, and an analysis of the candidate's college curriculum were valuable in aiding them to pre-determine maximum effectiveness. It should be repeated, however, that the vocational centers in Oakland County were not operational at the time of the survey, and the hiring personnel who responded to the questionnaire had not had an opportunity to appraise the results of their staffing views.

The purposes or major recommendation of this study is that staffing be approached systematically by establishing generalizable principles for selecting the best available occupational teachers and by assessing the factors situational to the community and to the specific course to be taught. The components of the candidate's characteristics and behavior which are valued as leading to maximum effective teaching might then be appraised more objectively by analyzing all of the information sources available to him. It is additionally recommended that the design derived from this study and outlined on p. 168 be applied to vocational area center's selection of teachers and that records be kept for subsequent evaluation of the design and of its parts.

BIBLIOGRAPHY

BIBLIOGRAPHY

Bloom, Benjamin S., Krathwohl, David R., and Masia, Bertram B. Taxonomy of Educational Objectives: The Classification of Educational Objectives: Affective Domain. New York: David McKay Company, Inc., 1956.

Corey, Steven M. Action Research to Improve School Practice. Bureau of Publications, Teachers College. New York: Columbia University, 1953.

Courtney, E. Wayne, and Halfin, Harold H. Competencies of Vocational Teachers: A Factor Analysis of the Training Needs of Teachers of Occupational Education. Oregon: Oregon State University, 1969.

Cremin, Lawrence A. The Transformation of the School: Progressivism in American Education, 1876-1957. New York: Alfred Knopf, 1964.

Erickson, Lawrence W., and Oliverio, Mary Ellen. Evaluative Criteria for Survey Instruments in Business Education. Monograph III. Chicago: South-Western Publishing Company, 1964.

Gage, N. L., ed. Handbook for Research on Teaching. Chicago: Rand, McNally and Company, 1965.

Goode, William J., and Hatt, Paul K. Methods in Social Research. New York: McGraw-Hill, 1952.

Griffiths, Daniel E., ed. Behavioral Science and Educational Administration. The Sixty-Third Yearbook of the National Society for the Study of Education, Part II. Chicago: University of Chicago Press, 1964.

Harris, E. Edward. Requirements for Office and Distributive Education Teacher-Coordinators. Monograph 115. Cincinnati: South-Western Publishing Company, 1967.

BIBLIOGRAPHY con't.

Hopke, William E., ed. Dictionary of Personnel and Guidance Terms. Chicago: J. G. Ferguson Publishing Company, 1968.

Kerlinger, Fred N. Foundations of Behavioral Research. New York: Holt, Rinehart and Winston, Inc., 1964.

Lanham, Frank W., and Trytten, J.M. Review and Synthesis of Research in Business and Office Education. Columbus: The Ohio State University, 1966. The Center for Research and Leadership Development in Vocational and Technical Education.

Mager, Robert F. Developing Attitude Toward Learning. California: Fearon Publishers, 1968.

Meyer, Warren S., and Logan, William B. Review and Synthesis of Research in Distributive Education. Columbus: The Ohio State University, 1966. The Center for Research and Leadership Development in Vocational and Technical Education.

Payne, Stanley L. The Art of Asking Questions. New Jersey: Princeton University Press, 1951.

Prosser, Charles A., and Quigley, Thomas H. Vocational Education in a Democracy. Revised edition. Chicago: American Technical Society, 1963.

Ryans, David G. Characteristics of Teachers: Their Description, Comparison and Appraisal. Menasha, Wisconsin: George Banta Company, Inc. for the American Society of Education, 1960.

Sax, Gilbert. Empirical Foundations of Educational Research. Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1968.

Schill, William John. Career Patterns of Technical and Vocational Educators. Danville, Illinois: The Interstate Princters and Publishers, Inc., 1963.

Siegel, Sidney. Nonparametric Statistics for the Behavioral Sciences. New York: McGraw-Hill Book Company, 1956.

Smith, Karl U., and Smith, Margaret Foltz. Cybernetic Principles of Learning and Educational Design. Chicago: Holt, Rinehart and Winston, Inc., 1966.

REPORTS

Barlow, Melvin L., and Reinhart, Bruce. Profiles of Trade and Technical Teachers: Comprehensive Report. Los Angeles: Division of Vocational Education, University of California, 1968.

Courtney, Wayne E. A Conceptual Basis for Developing Common Curricula in Teacher Education Programs for Occupational Education. Menomonie, Wisconsin: School of Graduate Studies, Stout State University, 1968.

_____ The Identification and Comparison of the Common Professional Training Needs and Requirements for Teachers of Vocational Education. (Phrase I - The Instrument). Final Report of Project No. 3-8319 to U. S. Department of Health, Education and Welfare, Office of Education, Bureau of Research. Menomonie, Wisconsin: School of Graduate Studies, Stout State University, 1967.

Economic Report of the President. Washington D.C.: United States Government Printing Office, 1969.

Educational Specifications for Oakland County Area Vocational Education Centers. Pontiac, Michigan: Oakland Schools, 1968.

Emerson, William J. "The Regional Education Service Agency's Role in Educational Planning." Unpublished paper (in the files of the Superintendent of Oakland County Regional Educational Service Agency).

Gilbert, Harry B. "Needed Research in the Area of Teacher Selection." Teacher Selection Procedures. Edited by Harry B. Gilbert and Gerhard Lang. Brooklyn, New York: New York City Board of Education, 1967.

Innovation and Experiment in Education. A Progress Report of the Panel on Educational Research and Development. Washington, D.C.: United States Government Printing Office, 1964.

Law, Gordon F., ed. Research Visibility. Vocational Education is Service-Toward Teaching Excellence. Washington, D.C.: American Vocational Association, 1968.

REPORTS con't.

Meaders, Donald O. Shared-Time Concept for Area Vocational Education Programs, "Community Factors," Part I. A Report on a Research and Development Program in Vocational-Technical Education. East Lansing: Michigan State University, 1968.

Medley, Donald M. "Some Notes on Validating Teacher Selection Procedures," Teacher Selection Procedures. Edited by Harry B. Gilbert and Gerhard Lang. New York: New York City Board of Education, 1967.

National Science Foundation. Scientific and Technical Manpower Resources. Washington, D.C.: United States Government Printing Office, 1965.

Preparing for Change: Oakland County 1970-1990. Report for the Oakland County Planning Commission. Prepared by Development and Resources Corporation. New York: 1970.

The Process and Product of T & I High School Level Vocational Education in the United States. Prepared by Max U. Eninger. Pittsburgh, Pennsylvania: American Institutes for Research, 1965.

Ryans, David G. "Problems in Validating Teacher Selection Policies and Procedures." Teacher Selection Methods. Edited by Harry B. Gilbert and Gerhard Lang. Brooklyn, New York: New York City Board of Education, 1967.

A Systematic Study of Vocational Education Needs in Oakland County, Michigan. Pontiac, Michigan: Oakland Schools, 1968.

United States Department of Health, Education and Welfare, Office of Education. Education for the Changing World of Work. Report of the Panel of Consultants on Vocational Education. Washington, D.C.: United States Government Printing Office, 1964.

_____ Vocational Education: The Bridge Between Man and His Work. General Report of the Advisory Council on Vocational Education, 1968. Washington, D.C.: United States Government Printing Office, 1968.

ERIC PUBLICATIONS

Bowman, Gardaw, and Kloff, Gordon J. New Careers and Roles in the American School. Report of Phase I, A Study of Auxiliary Personnel in Education. Ed 013 241

Cook, Fred S. Guidelines for the Preparation of Office Occupations Teachers, Ed 012 827

Cohen, Arthur M. Teacher Preparation--Rationale and Practice. ED 013 088

Goldman, Harvey. A Study of the Teacher-Administrator Relationship of Government Influence of Need Patterns. Final Report. ED 012 955

Hensel, James W. Enlisted Men Separating From the Military Service as a Potential Source of Teachers for Vocational and Technical E Schools. ED 016 131

McPhail, James H. Teacher Evaluation--A State-by-State Analysis. ED 014 449

Ramey, George L. The Programs and Services of an Outstanding Area Vocational School. ED 014 355

Roney, Maurice W. Occupational Criteria and Preparatory Curriculum Patterns in Technical Education Programs. Area Vocational Education Program Series, Number 4. ED 016 060.

VanTrump, W. F. A Follow Up Study of the First Fifty Graduates of Trade Technical Education. Big Rapids, Michigan: Ferris State College, 1966.

Wenrich, Ralph C. Experimental Program for the Identification, Selection, and Development of Persons for Leadership Roles in the Administration and Supervision of Vocational and Technical Education. ED 013 883.

THESES AND DISSERTATIONS

Baranyai, William A. "Adjustment Experiences of Industrial Education Teachers of the Detroit Public Schools". Ed.D. thesis. Wayne State University, 1964.

Callan, Louis John. "Industrial Arts Teacher Education Programs: A Comparative Analysis and Evaluation of Selected Teachers and Colleges". Ph.D. thesis. The Ohio State University, 1952. Dissertation Abstracts 17:2515; No. 11.

Cappiello, David A. "An Appraisal of Selected Industrial Arts Student Teaching Elements by Supervising Teachers and Recent Industrial Arts Graduates with Implications for Redirection of a Teacher Education Program". Ed.D. thesis. State University of New York at Buffalo, 1964. Dissertation Abstracts 26:3767; No. 7.

Crabtree, Beverly. "Predicting and Determining Effectiveness of Home-making Teachers". Ph.D. thesis. Iowa State University, 1966. Dissertation Abstracts 26:6013; No. 10.

Ellis, William B. "The Relationship of Related Work Experience to the Teaching-Success of Beginning Business Teachers". Ed.D. thesis. Pennsylvania State University, 1968. Reported in National Business Education Quarterly, Volume 38, No. 1 (Fall, 1969), 12.

Frinsko, William. "An Analysis of the Selective and Predictive Factors in Student Teaching". Ed.D. thesis. Wayne State University, 1962. Dissertation Abstracts 24:1901; No. 5.

Fuller, Gerald. "The Relationship of Characteristics of Prospective Student Teachers and Student Teaching Effectiveness in Agriculture Education". Ed.D. thesis. Cornell University, 1964. Dissertation Abstracts 24:2799; No. 7.

Foss, Maurice F. "Implications for Industrial Arts Teacher Education from Case Studies of Selected Teachers". Ed.D. thesis. University of Cincinnati Teachers College, 1958. Dissertation Abstracts 19:2288; No. 9.

Grinstead, Edna Pierce. "The Study of Relationship of Stated Motives of Students and Graduates of Iowa's State Teachers College for Selecting Business Education as the Major to Superior Intellectual Ability and Reported Success on the Job". Ed.D. thesis. New York University, 1961. Dissertation Abstracts 23:544; No. 2.

DISSERTATIONS con't.

Jones, Raymond Lawrence. "Relationships Between Certain Background Factors of Selected Business Teachers and Attitudes Toward Teaching Basic Business Subjects". Ed.D. thesis. The University of Florida, 1960. Dissertation Abstracts 21:2613; No. 9.

Juergenson, Elwood M. "The Relationship Between Success in Teaching Vocational Agriculture and Ability to Make Sound Judgments as Measured by Selected Instruments". Ph.D. thesis. The Pennsylvania State University, 1958. Dissertation Abstracts Volume 1901, p. 96.

McComas, James Douglas. "The Role of the Teacher of Vocational Agriculture as Perceived by Selected Ohio Teachers and their Administractors". Ph.D. thesis. The Ohio State University, 1962. Dissertation Abstracts 24:145; No. 1.

Mellman, Robert A. "An Analysis of Successful Procedures for the Recruitment of Skilled Tradesmen for the Teaching of Vocational Industrial Education in Pennsylvania. Ed.D. thesis. The Pennsylvania State University, 1957. Dissertation Abstracts 17:2930; No. 12.

Minton, Gene Dwaine. "A Study of Selected Characteristics of Trade and Industrial Teachers in the State of Maryland". Ed.D. thesis. University of Maryland, 1968.

Nelson, Rex Albert. "Personality Variables of College Students Who Signify Industrial Arts as a Major Field of Educational Preparation". Ed.D. thesis. Colorado State College, 1964. Dissertation Abstracts 25:300-301; No. 1.

Nichols, Charles Wesley. "An Analysis of the Tasks of Selected Ohio Vocational Trade and Industrial Education Instructors". Ed.D. Thesis. University of Cincinnati, 1964. Dissertation Abstracts 26:895; No. 2.

Nuccio, Carmella Elizabeth. "Opinions of Business Teachers on Major Issues in Their Field and Significance of Selected Background Factors in Shaping Beliefs". Ph.D. thesis. The Ohio State University, 1965. Dissertation Abstracts 26:1431; No. 3.

DISSERTATIONS con't.

Reams, Jake W. "The Relationship of Selected Factors to the Scholarship of Industrial Arts Teacher Education at Ball State Teachers College". Ed.D. thesis. Indiana University, 1963. Dissertation Abstracts 24:3222; No. 8.

Ryan, Chester Maupin. "An Analysis of the Preparation, Selection and Training of Teachers in the Trade and Industrial Education Program of North Carolina with Implications for the Future". Ed.D. thesis. The University of North Carolina at Chapel Hill, 1963. Dissertation Abstracts 25:4566; No. 8.

Rutherford, William Edgar. "Personnel Relations: A Study of the Selection, Placement, and Guidance of Beginning Industrial Arts Teachers in California Secondary Schools". Ed.D. thesis. Bradley University, 1962. Dissertation Abstracts 23:3791; No. 11.

Sayovitz, Joseph Jan. "Certification Status and Procedures for Industrial Arts Teachers in the United States: Agencies, Types of Certificates, Rulings and Practices, State and Regional Comparisons, Reciprocity with Suggestions for Improved Patterns". Ph.D. thesis. University of Minnesota. Dissertation Abstracts 15:2118; No. 11.

Scherer, Harlan Leonard. "Procedures and Factors Involved in the Selection of Industrial Arts Teachers and Their Relationship to Rated Teaching Success". Ed.D. thesis. University of Missouri, 1960. Dissertation Abstracts 21:2565; No. 9.

Sears, Mildred Louise. "Criteria for the Selection of Business Teachers in Secondary Schools". Ed.D. thesis. University of California, 1959.

ARTICLES

Biggam, William R. "The Accreditation of Undergrade Programs in Industrial Arts," Industrial Arts and Vocational Education, June, 1967, 39.

Brogden, Hurbert E., and Taylor, Erwin K. "The Theory and Classification of Criterion Bias," Educational and Psychological Measurements, X, (1950), 159-186.

Draper, Dorothy. "A Program for Teacher Excellence," American Vocational Journal, February, 1967, 24-26.

Harp, John and Richer, Stephen. "Psychology of Education," Review of Educational Research, Volume 39, No. 5 (1969), 671-693.

Lauda, Donald P. "College Credit for T & I Work Experience," American Vocational Journal, May, 1967, 32.

McLeroy, Thomas Standifer. "An Analysis of Teaching Beliefs and an Evaluation of Teacher Effectiveness of Typewriting and Shorthand Teachers as Viewed by Department Chairmen in Selected Schools in the Chicago Suburban Area," National Business Education Quarterly, Volume 38, No. 1 (1969), 30.

Panitz, Adolf. "Breakthrough in Occupational Competency Testing," American Vocational Journal, October, 1969, 49-51.

Reinhart, Bruce. "Trade and Technical Teachers: A Unique Teaching Force," Journal of Secondary Education, November, 1968, 300-306.

Resh, Mary S. "Teaching in Vocational Education Areas," Education Digest, October, 1965, 28-31.

Ryans, David G. "Notes on the Criterion Problem in Research with Special References to the Study of Teacher Characteristics," The Journal of Genetic Psychology, 91 (1957), 33-61.

Samson, Harland E. "Staffing," Review of Educational Research, Volume XXXVIII, No. 4 (1968), 405-416.

ARTICLES con't.

Spence, William P. "Recruiting Methods Industrial Arts Uses," Industrial Arts and Vocational Education, June, 1967, 49.

Staff of Industrial Arts Curriculum Project. "The Industrial Arts Curriculum Project," Journal of Industrial Arts, November-December, 1969, 11-15.

Stern, Benjamin J. "Trade Teachers: Recruitment and Training," Industrial Arts and Vocational Education, June, 1967, 44.

VanTrump, W. F. "How Can We Staff Our Trade Technical Programs?," American Vocational Journal, April, 1967, 23-24.

Waks, Leonard Joseph. "Philosophy, Education and the Doomsday Threat," Review of Educational Research: Methodology of Educational Research, Volume 39, No. 5 (1969), 607-620.

OTHER SOURCES - PERSONAL INTERVIEWS

Dr. William Baranyai, Consultant
Vocational Guidance, Trade and
Industrial Education
Oakland Schools

Mr. Richard Craig, Director of
Instructional and Non-Instructional
Personnel Services
Pontiac Board of Education
Pontiac, Michigan

Mrs. Marilyn Doerter, Curriculum Writer
Business Education
Oakland Schools

Dr. James Hannemann, Consultant
Agriculture, Trade and Industrial
Education
Oakland Schools

Mr. Edward Hoot
Assistant Superintendent
Royal Oak Board of Education
Royal Oak, Michigan

Mr. Kenneth Huffman, Principal
Northeast Oakland Vocational Education Center
Pontiac, Michigan

Mr. Allan Mathison, Principal
Southeast Oakland Vocational Education Center
Royal Oak, Michigan

Dr. Ruth Midjaas, Consultant
Home Economics and Related Health
Occupations Education
Oakland Schools

Mr. Herbert Olson, Principal
Northwest Oakland Vocational Education Center
Clarkston, Michigan

Dr. David Soule, Director
Vocational Education
Oakland Schools

Mr. Floyd Vincent
Assistant Superintendent
Clarkston Board of Education
Clarkston, Michigan

Mr. Joe D. Winger
Director of Personnel
Walled Lake Board of Education
Walled Lake, Michigan

Mr. John Xenos, Principal
Southwest Oakland Vocational Education Center
Walled Lake, Michigan

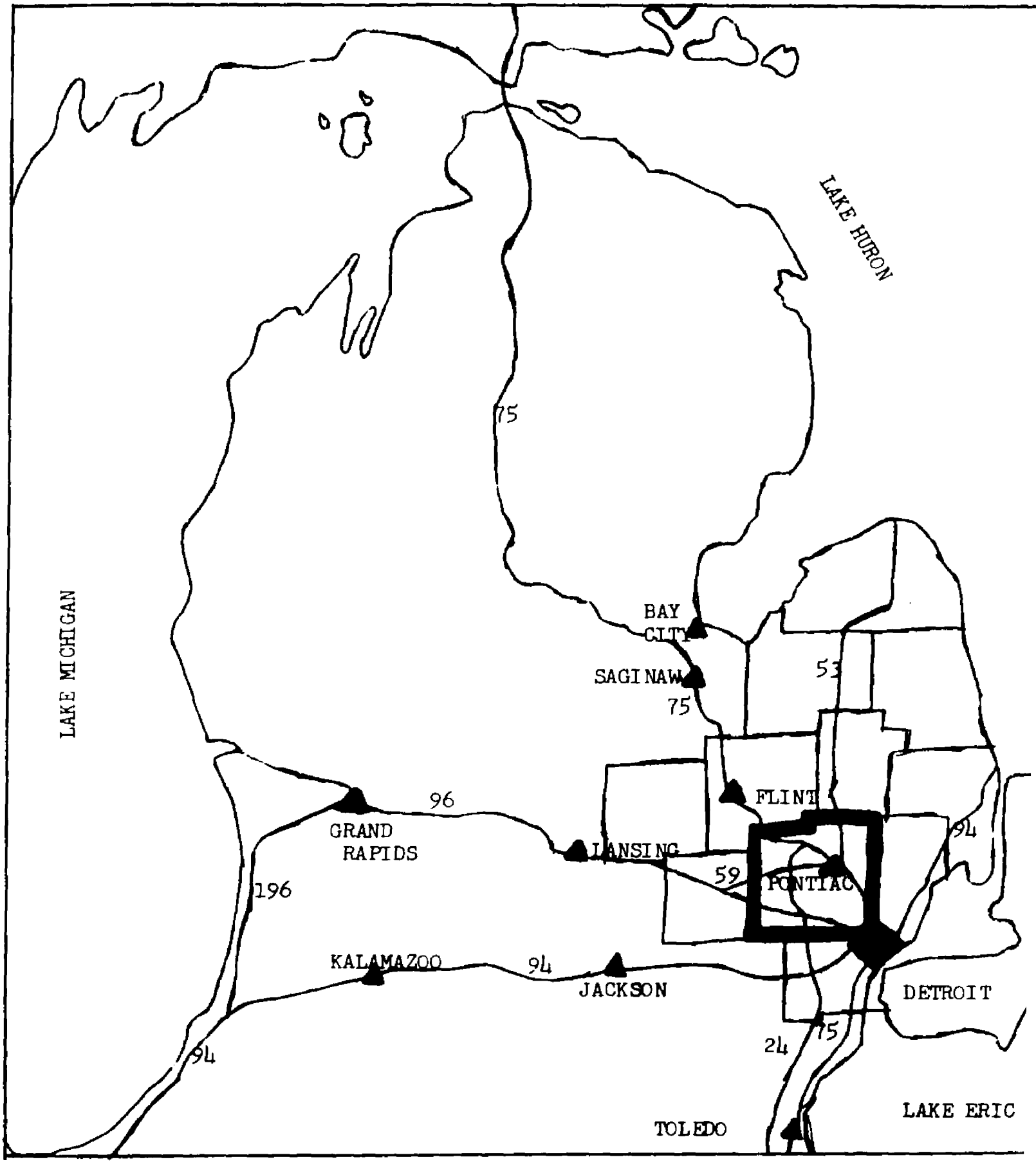
APPENDICES

APPENDIX 1

OAKLAND COUNTY AND MAJOR ACCESS ROUTES

APPENDIX I

OAKLAND COUNTY AND MAJOR ACCESS ROUTES

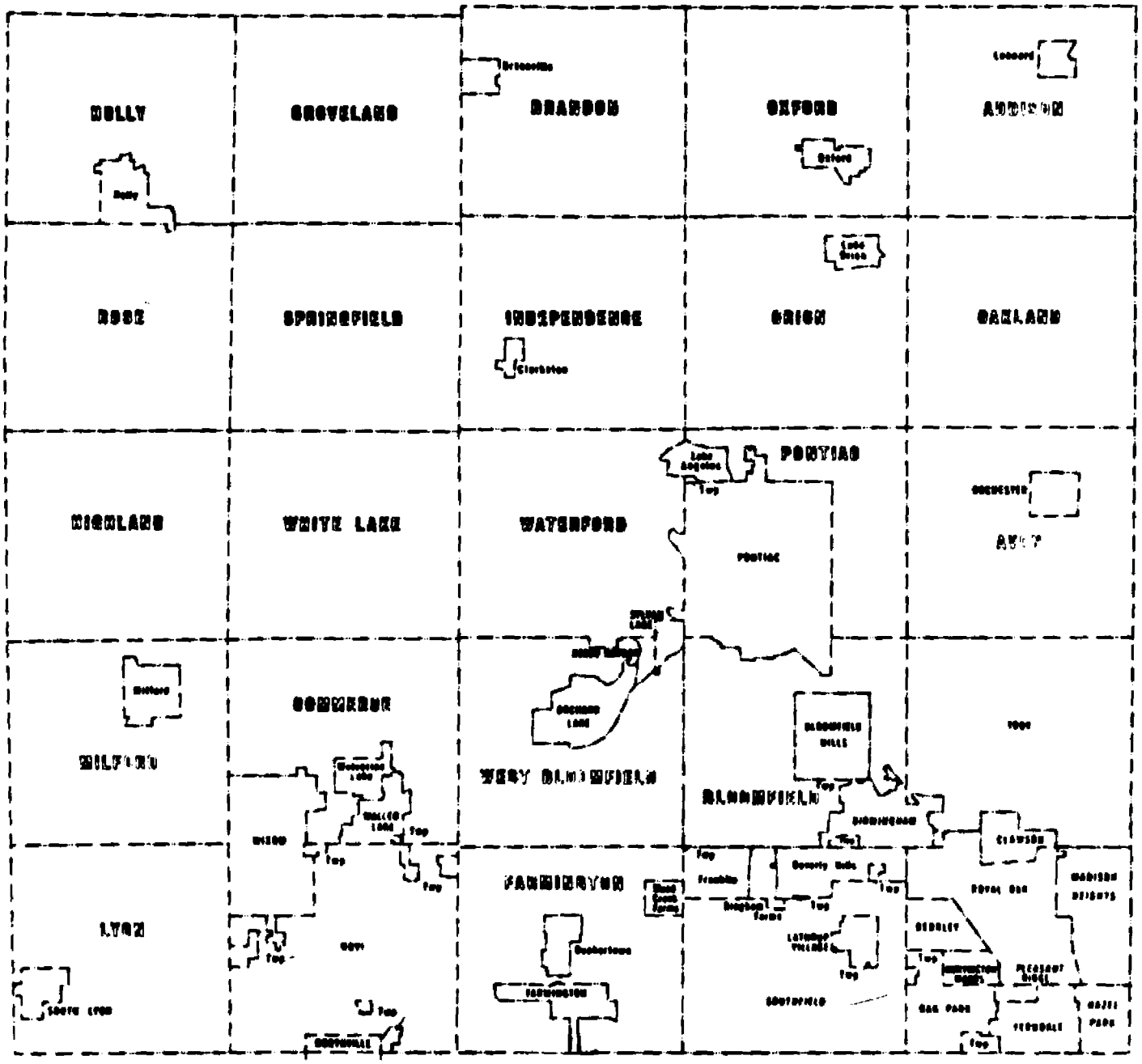


APPENDIX 2

TOWNSHIPS AND MUNICIPALITIES OF OAKLAND COUNTY

APPENDIX 21

TOWNSHIPS AND MUNICIPALITIES OF OAKLAND COUNTY



[1]Development and Resources Corporation, Preparing for Change Oakland County 1970-1990, Report by the Oakland County Planning Commission (New York: January, 1970), p. 4.

APPENDIX 3

DESCRIPTION OF OAKLAND COUNTY

APPENDIX 3

DESCRIPTION OF OAKLAND COUNTY

Oakland County's geographic location is in the immediate path of Metropolitan Detroit's expansion. Detroit historically has dominated the southwest region but has not been the sole focus of its development. There are four major popular cities within 100 miles of Detroit -- Pontiac, Flint, Saginaw and Bay City. (See Appendix 1)

Oakland County is approximately 30 miles square with a total area of 907.9 square miles. When Oakland County was formally organized in 1820, it was divided into 25 goegraphic townships each of which were approximately six miles square. Villages and cities have since been incorporated, and Oakland County is now comprised of 63 municipalities. (See Appendix 2)

Land Use

The land use of Oakland County is unique in that lakes and other bodies of water comprise 4 per cent. A survey in 1964 showed that of the total area of 581,000 acres 28 per cent had been developed, and 68 per cent was undeveloped. It is important to point out that approximately two-thirds of the county's land area remains open for future development. Projects indicate that the developed area will more than double by 1990.

Since 1960 Oakland County has been developing at the rate of 1700 acres per year. Between 1966 and 1967, 14,820 new dwellings were built in Oakland County; of these 57 per cent were single family homes, ½ per cent were two family homes, and 42.5 per cent were multiple dwellings. This new residential growth has been primarily centered in the southeast quadrant of the county -- Farmington Township, Southfield, Bloomfield Township, Troy, and Royal Oak.

The 1964 land use survey projected that residential land use will rise 122 per cent by 1990 -- an absolute increase of almost 80,000 acres in 25 years.[1] Public and semi-public use of land, including growing facilities, parks, health and educational institutions took up 24.1 per cent of developed land in 1964. By 1990 it is projected that these uses will require a 15 per cent increase in total land area while the corresponding percentage of total developed land will be 18.9 per cent.[2]

Population and Housing

When Oakland County was established in 1820, it had a population of 330 persons. The population growth was rather stable and slow up to World War I at which time it increased very rapidly

---

[1] Development and Resources Corporation, Preparing for Change Oakland County 1970-1990, Report prepared by the Oakland County Planning Commission (New York: January, 1970), p. 3.

[2] Ibid., p. 3.

to 90,000 people by 1920. As the auto industry began to replace farming as a principal occupation, the population once again doubled to over 210,000 by 1931. As was true with most areas there was a lull in population growth during the depression years of the early 30's. However, by 1950 the population had increased by 400,000. The following decade gave an unusual increase of better than 75 per cent bringing the population in excess of 690,000 in 1960. The present population of Oakland County is estimated to be over 900,000. There are numerous projections, most of which project a population in excess of 1,200,000 by 1980 and 1,600,000 by 1990.

This population growth results both from net migration, an excess of in-migration over out-migration and from natural increase, and the excess of births over deaths.

> The probable composition of this population increase and its requirements, as projected in the OCPA report, are:
>
> --more than 200,000 children under 15 (an increase of 68 per cent), requiring at least a proportional increase in schools and recreational facilities serving this group;
>
> --about 97,000 persons aged 15 to 24 (a 56 per cent increase), requiring a proportionally greater increase in educational facilities for this group, as an increased percentage of the population completes high school and goes on to college and graduate schools;
>
> --about 268,000 adults aged 25 to 64 (an increase of 66 per cent), and
>
> --over 55,000 persons 65 and older (an increase of 95 per cent), requiring special housing and services.
>
> In recent years, the non-white population of Oakland's population has grown at about the same rate as the population as a whole. Non-white constituted 4.6

per cent of the population is Negro and has concentrated in Royal Oak Township and sections of Pontiac. The rest of the county is almost entirely white.

How this composition will change in the future will depend on many factors, including:

--the impact of federal legislation regarding non-discrimination in housing;

--changes in local fair housing laws and attitudes;

--the extent to which zoning regulations and market alternatives change to encourage more new housing for low and moderate income families, and;

--the extent to which population pressures in Detroit combine with new employment opportunities in or near Oakland, to draw (or push) people into the county.[1]

Population Increase Projects Service Needs.

There will be increases in schools, roads, utilities, police and other public services as well as all parks and recreational facilities. The county's future planning has to consider the need for housing that the population increase will bring. The need is projected for about 200,000 more dwelling units in 1990 than there is presently. This would be an average increment of 10,000 units per year.

In the 150 years since its establishment Oakland County has developed according to a pattern largely determined by its geographic location and physical setting. Before the end of the century, Oakland will have accommodated approximately twice its present population -- as well as home, industry and all other services previously mentioned.

---

[1] Ibid., p. 5.

Income Characteristics

As Oakland County has grown, it has attracted families with above-average incomes, and there has been an increasing spread between average county income and national and Detroit regional levels. In 1950 the Oakland County median family income was 1 per cent above the Detroit S.M.S.A. By 1960 the Oakland County figure has risen to 11 per cent above the S.M.S.A. average, with Oakland having an advantage of 3 per cent over suburban Wayne County, 22 per cent over the city of Detroit and 7 per cent over Macomb County. Taken as a whole, Oakland County is one of the wealthiest suburban areas in the United States. Its average per capita disposable income over $3,229.00 in 1966 was 36 per cent above the national average, while median family income levels in the same year were greater than in 99 per cent of all United States' counties. Present median family income in Oakland County is estimated to be over $10,000.00, the highest in the state, and pay range figures place it in the top 1 per cent of all United States counties in earnings per employee.[1]

However, beneath this affluent exterior lie growing pockets of poverty and decay, small enough today to be of little direct concern to the majority of the county's residents, but serious enough to warrant early decisive action at all levels of government.

There are poverty implications shown by the Office of Economic Opportunity (OEO) that although 40.7 per cent of Oakland's families in 1966 had net annual incomes exceeding $10,000.00, 5.2 per cent had incomes lower than $2,500.00.

---

[1] Ibid., p. 13.

The OEO figures show that in 1966, 6.4 per cent of Oakland County families were poor, compared with Michigan and United States averages of 13.1 per cent and 15.1 per cent.

Employment Trends And Their Implications

In past years, Oakland County has been a net "exporter" of human resources, fitting the general pattern of surburban counties throughout the nation. In 1960, over 41 per cent of Oakland working population commuted to jobs outside the county, while only 18 per cent of all jobs in the county were held by non-Oakland residents. As the county grows and as the center of economic activity for the whole of the Detroit metropolitian area shifts further in Oakland's direction, the proportion of residents working outside the county can be expected to drop. The county income that today is earned outside Oakland will be replaced in large part by income that is generated by in-county activities, and the county will tend to become more self-contained -- though not to the extent that it will become independent of surrounding areas.[1]

Education

There is little question that education is a prime concern of all residents of the county. It is a means to achieve an improvement in the well-being of the individual by expanding his skills and capability; this is evidence by the size of budgetary expenditures on education in Oakland County. Almost half of total expenditures by the

---

[1] Ibid., p. 14.

county and by local government units are devoted to education -- about four times as much as is spent on the next category, health and welfare.

Although Oakland County now has educational systems in keeping with a county of its size and wealth, the future may bring many challenges. Improvements on present practices or both would be necessary and desirable and are continually being sought.

The human dimensions of Oakland County are complimentary to the educational program. Some of those dimensions are libraries, learning centers, public health facilities, human relation organizational facilities. A cursory glance at even a sampling of Oakland County's cultural offerings would lead to the conclusion that this is one area in which there is little need for action and even less reason for concern on the part of members of planning committees in the future.

APPENDIX 4

HIRING PERSONNEL FOR EACH OAKLAND COUNTY VOCATIONAL EDUCATION CENTER

APPENDIX 4

HIRING PERSONNEL FOR EACH OAKLAND COUNTY VOCATIONAL EDUCATION CENTER

Southeast Oakland Vocational Education Center (Royal Oak)

Mr. Edward Hoot
Assistant Superintendent for Personnel
4000 Crooks Road
Royal Oak, Michigan 48073

Mr. Allan Mathison, Principal
Southeast Oakland Vocational Education Center
5055 Delemer Avenue
Royal Oak, Michigan 48069

Southwest Oakland Vocational Education Center (Walled Lake)

Mr. Joe Winger
Director of Personnel
695 North Pontiac Trail
Walled Lake, Michigan 48088

Mr. John Xenos, Principal
Southwest Oakland Vocational Education Center
1000 Beck Road
Walled Lake, Michigan 48088

Northeast Oakland Vocational Education Center (Pontiac)

Mr. Richard Craig
Director of Instructional & Non-Instructional Personnel Services
350 East Wide Track Drive
Pontiac, Michigan 48058

Mr. Maurice Prottengeier
Director of Vocational Education
350 East Wide Track Drive
Pontiac, Michigan 48058

Mr. Kenneth Huffman, Principal
Northeast Oakland Vocational Education Center
1371 North Perry Street
Pontiac, Michigan 48058

Northwest Oakland Vocational Education Center (Clarkston)

Mr. Floyd Vincent
Assistant Superintendent of Schools
6595 Middle Lake Road
Clarkston, Michigan 48016

Mr. Herbert Olson, Principal
Northwest Oakland Vocational Education Center
8211 Big Lake Road
Clarkston, Michigan 48016

APPENDIX 5

COURSE OFFERINGS AND STUDENT ENROLLMENTS FOR OAKLAND VOCATIONAL EDUCATION CENTERS

APPENDIX 5

COURSE OFFERINGS AND STUDENT ENROLLMENTS FOR OAKLAND VOCATIONAL EDUCATION CENTERS

	Northeast Center (Pontiac)		Northwest Center (Clarkston)		Southeast Center (Royal Oak)		Southwest Center (Walled Lake)	
	No. of Students	Sec.	No. of Students	Sec.	No. of Students	Sec.	No. of Students	Sec.
Advertising					88	4		
Appliance Repair	40	2	40	2	40	2		
Architectural Drafting					40	2	40	2
Auto Body Repair	40	2	40	2	40	2		
Auto Mechanics	80	4			40	2	80	4
Building Trades	40	2			40	2		
Child Care	40	2			40	2		
Clothing Services	40	2			40	2		
Commercial Arts			80	4	80	4		
Cosmetology	40	2			40	2		
Data Processing					40	2	40	2
Dental Office Assisting			40	2	20	1	40	2
Diesel Power Mechanics					40	2	40	2
Display	88	4					88	4
Distributive Education	88	4	88	4	88	4		
Engineering Drafting					40	2	40	2
Fluid Power	40	2			40	2		
Food Services	240	6			240	6	240	6
Greenhouse and Nursery Occupations					88	4	88	4
Heating, Air Conditioning and Refrigeration	40	2			40	2		
Industrial Electricity	40	2						
Industrial Electronics					40	2	40	2
Machine Shop			40	2	40	2	40	2
Marine and Small Engine Mechanics	40	2						
Medical Office Assisting			40	2	20	1	40	2
Modern Printing Processes			40	2	40	2	40	2
Radio-Television Repair			40	2	40	2		
Retail Plant and Floral Sales					44	2	44	2
Total Office Procedures System			160	4			160	4
Welding	40	2			40	2	40	2

APPENDIX 6

LETTER OF TRANSMITTAL

DIRECTIONS

INSTRUMENT

Oakland Schools
2100 Pontiac Lake Road, Pontiac, Michigan 48054 Phone 313-338-1011

May 15, 1970

Dear Sir:

My present position is Vocational Consultant for the Regional Service Agency, Oakland Schools, which encompasses a county of 900,000 population. We are building four vocational education centers to serve 66 sending high schools on a shared-time basis. As a doctoral candidate majoring in Vocational Education at Michigan State University, I am researching the problem of staffing vocational education centers and hope to establish acceptable guidelines which hiring personnel could use to evaluate the qualifications of teacher applicants. More than 80 such centers are planned for Michigan.

I am assuming that you are involved in making hiring decisions. If not, would you forward this to a person in your school who is. The resource of a person in your position is needed to develop the most practical design possible. Knowing that you are busy, I hope that your professional concern for vocational education would allow me to presume upon a portion of your time. I am striving for a July 10th deadline for reporting the results of the study and thus must have the data by May 31, 1970.

Would you fill in the enclosed check list and return it to me at your earliest convenience. Your information will be treated as a part of a group and not individually. You will in no way be quoted and complete anonymity is assured to you.

Sincerely,

John N. Cain
Consultant, Vocational Education

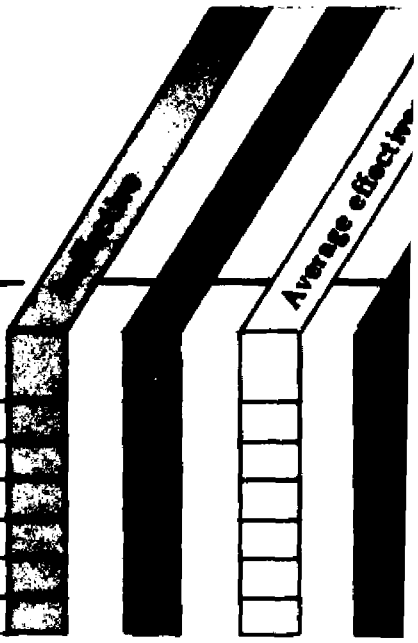
JNC:jgb

Enclosures

[redacted]

Would Hire

[redacted]



WORK EXPERIENCE ( )

1. of 1 or 2 years
2. of 3 years or more
3. in subject area taught
4. in a leadership or supervisory role
5. in a large business or industrial concern
6. in a local business or industrial concern
7. _____ (other)

FORMAL EDUCATION ( )

8. 10-24 hours
9. 2 years
10. Baccalaureate Degree
11. Master's Degree
12. _____ (other)

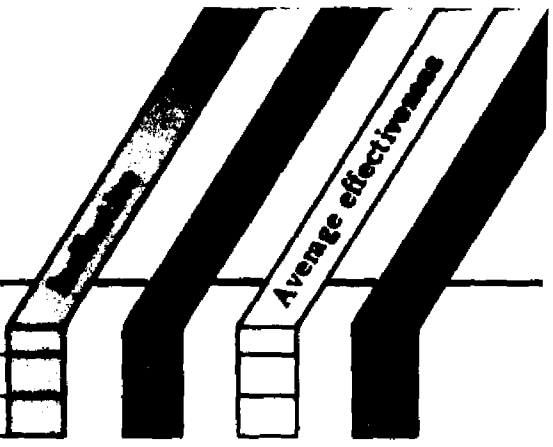
TEACHING ABILITY ( )

13. knowledge of subject area
14. skill proficiency
15. knowledge of related subjects (economics, etc.)
16. knowledge of psychological and sociological applications
17. ability to use audio-visual equipment
18. knowledge of training techniques
19. organizational ability
20. 3 years or more teaching experience
21. membership in professional organizations
22. _____ (other)

PERSONAL CHARACTERISTICS ( )

23. favorable attitude toward subject area
24. positive attitude toward teaching
25. positive attitude toward students
26. cooperative attitude toward other school personnel
27. strong self-concept (poise, ambition, etc.)
28. enthusiasm

QUALIFICATIONS RELEVANT TO TEACHING EFFECTIVENESS



29. leadership
30. valuing (ethical principles, democratic ideals)
31. above average intelligence

UNMODIFIABLE PHYSICAL CHARACTERISTICS ( )

32. 20-30 years old
33. 30-40 years old
34. 40-55 years old
35. over 55
36. married
37. single
38. male
39. female
40. Negro or minority group
41. any disability
42. _____ (other)

MODIFIABLE PHYSICAL CHARACTERISTICS ( )

43. attractive
44. neat dress and grooming
45. fashionable dress
46. favorable image
47. _____ (other)

BACKGROUND QUALIFICATIONS ( )

48. successful student teaching
49. job interview
50. high scores on a predictive test
51. strong work experience recommendation
52. strong recommendations from a school administrator
53. certifiable
54. high grade point count
55. analysis of college curriculum
56. previous experience with youth groups
57. _____ (other)

I should like to know what qualifications you believe would make effective vocational teachers for (selected) vocational education courses.

1. Would you assume that you are hiring candidates to teach the courses specified at the top of the rating questionnaires.

2. Would you consider each of the qualifications listed under the major headings and place a check in the box that in your opinion would indicate the appropriate degree of effectiveness.

3. The color code at top left defines what is meant by the ratings for effectiveness.

4. If you believe a qualification to be insignificant in telling you anything about the assumed candidate's effectiveness for the course, just omit the qualification from your ratings.

5. Would you rate the major areas of the qualifications according to their relative value in pre-determining a teacher's effectiveness in the parentheses after each major heading:

    a. Select the three most crucial areas of qualifications by numbering them 1, 2, and 3.

    b. Select the least crucial area of qualifications by numbering it 7.

EXAMPLE:

Work Experience	(2)	Non-modifiable Physical Characteristics	( )
Formal Education	( )		
Teaching Ability	(3)	Modifiable Physical Characteristics	(7)
Personal Characteristics	( )	Background Qualifications	(1)

---

6. Do you desire a summary of the findings? Yes ___ No ___

7. If you have any questions concerning the desired information, please feel free to call me at (313) 338-1011.

8. Would you return the questionnaires to me in the enclosed return envelope.

APPENDIX 7

VOCATIONAL EDUCATION PERSONNEL OF OAKLAND SCHOOLS

APPENDIX 7

VOCATIONAL EDUCATION PERSONNEL OF OAKLAND SCHOOLS

Dr. David Soule, Director
Vocational Education

Dr. William Baranyai, Consultant
Vocational Guidance, Trade and
Industrial Education

Mr. John Cain, Consultant
Business Education

Mrs. Marilyn Doerter, Curriculum
Writer, Business Education

Dr. James Hannemann, Consultant
Agriculture, Trade and Industrial
Education

Dr. Ruth Midjaas, Consultant
Home Economics Education