Discussion w William Donado 1/15/92

The machining industry in Michigan has declined in some areas but is up in others. It is strong in Howell & Brighton & there it is linked to auto industry. (Japanese)

LCC is the 3rd largest college in Michigan. They have ≈ 24,000 students, in all. They are getting more women & minorities in the program.

He has 370 apprentice students in, fr 87 companies.

For information on training programs, the state, check in SME people. The building trades union have their own training program. There are also a number of small training programs in the state. For details, check in SME people. The UAW union also has training programs

The instructors ~~have~~ have college degrees, as well as experience in industry. which is up to 20 yrs Instructors are predominantly part-time, with some commitments in industry. The The ratio can be

as high as 1 FT instructor per 6 partners in a program such.

Very few of the students graduate from the college. many go to work, & are placed by instructors. The average age of the students is 29. He expects the age may go up.

There are a # of persons who are much older who wish to come back & to learn a skill. Machine repair is a good option for such people. The College has an outreach program where they train people in their own work places Currently they are working on an outreach program for 60 people at Howell

Many of the students are working. Some are people who have a profession & want to Δ profession.

Many students who go to the program may go to Ferris State for a technology program.

Some industries who have acquired a new machine ask LCC to help them learn how to use it.

Layout

They have conventional machines. CNC machines. ?
wire-EDM? linked in fibre-optic
to CAD/CAM.

high school

They have some young students from high school
who come to HCC to learn about many programs.
There is a decline in ~~such~~ programs related
to machining in schools. ~~They have tried to~~
~~organize~~ State-wide competitions for young
~~male~~ students based on machinists have ^recently attracted
~~few so less than~~ 37 students.
Students in schools have access to rudimentary
equipment (can't reverse - agree?)

College does not believe in teaching just
CNC. They would like to ~~have~~ a sequence
~~[illegible]~~ which starts in mechanical.

We presented him with our idea
of studying persons starting in CNC &
others going from mechanical to CNC. He
thought it was an interesting study & was

willing to participate. An instructor could be assigned to work with us. I could take a sequence of classes to build expertise. He prefers enrolled students for liability purposes.

There is a move to reclassify the labs - industry into 2: mechanical & electrical. This s.

Relation with MSU

They do some work for MSU e.g. cyclotron Lab. MSU students have been sent to LCC to gain experience in machine shop (for Dept of Mechanical engineering).

$$\frac{n}{q} \le \alpha \le \frac{n+1}{q}$$

$$\left|\alpha - \frac{p}{q}\right| \le \frac{1}{2q}$$

$$\frac{n}{q} + \frac{1}{q}$$

α

$$\frac{n}{q} + \frac{1}{q}$$

$$\frac{n}{q} + \frac{1}{q} - \frac{1}{2q}$$

$$\frac{2-1}{2q}$$

$$\frac{n}{q} + \frac{1}{2q}$$

$$\frac{n}{q} < \alpha < \frac{n+1}{q}$$

$$\alpha < \frac{n+1}{q}$$

or

$$\frac{n}{q} \le \alpha \le \frac{n}{q} + \frac{1}{nq} \quad (= n+$$

$$\frac{\alpha+1}{q} - \frac{n}{q} - \frac{1}{nq}$$

$$\frac{1}{q} - \frac{n}{q} - \frac{1}{nq}$$

$$\frac{1-n}{q} - \frac{1}{nq}$$

$$\frac{n-n^2-n}{nq}$$

$q=3$

$$\frac{n+1}{q} \quad \frac{1}{3q}$$

$$\frac{n}{q} + \left(\frac{1}{q} - \frac{1}{3q}\right) \quad \frac{3-1}{3q} \quad \frac{2}{3q}$$

$$\frac{n}{q} + \frac{2}{3q} \qquad \frac{n+1}{q} - \frac{1}{q} \qquad \frac{n}{q} + \frac{1}{q} - \frac{1}{q}$$

$$\frac{n}{q} + \frac{1}{q} -$$

ABSTRACT

A COMPARATIVE STUDY OF THE RELATIONSHIP BETWEEN SELECTED SCHOOL CLIMATE VARIABLES AND ADOPTION OF CAREER EDUCATION WITHIN ELEMENTARY SCHOOLS IN DISTRICTS RATED AS HIGH AND LOW ADOPTERS

By

Gloria Chernay

PURPOSES OF THE STUDY

Changes in societal conditions and technological advances have created a need for educational reform. Career education can be a response to this need. In implementing a change such as career education, a significant factor to consider is the climate in which the innovation is to occur. Generally, climate can either enhance or hinder the adoption of an innovation. In this study, school climate was studied in its relation to the adoption of career education.

The purposes for this study were to measure the adoption of career education and to analyze the correlation between the level of adoption and selected school climate variables. Openness scores and demographic data were analyzed to determine whether that information could be used to predict characteristics of school climate.

PROCEDURES

An instrument was developed to identify high and low adopter districts. Tentative criteria were identified, and,

based on recommendations of career education experts, the instrument was finalized. The instrument, Criteria for Evaluating Career Education Programs, measured components of the overall program.

Five high and five low adopter districts were identified by excluding the middle range districts. From each of these ten districts two elementary schools were selected randomly, and the staff within each school was surveyed using the Organizational Climate Description Questionnaire. Information derived from this data included eight characteristics of school climate and openness scores as perceived by teachers.

The eight dimensions of climate—disengagement, hindrance, esprit, intimacy, aloofness, production emphasis, thrust, and consideration—were analyzed by comparing those characteristics with the variable of high or low adoption. An analysis was done to determine the correlation of openness and adoption. Finally, a multiple regression was used to determine which demographic variables might be predictors of the selected climate variables.

FINDINGS

1. Significant differences were found only in the level of adoption and the characteristics of hindrance, thrust, and consideration.
2. Among the demographic variables, education background was predictive of hindrance and consideration.
3. Grade level and years of experience were predictive of esprit.

4. Degree of adoption and classroom organization were predictive of thrust and consideration. Other demographic data had no predictive value.

CONCLUSIONS

1. There was minimal support that there exists a relationship between selected school climate variables and the adoption of career education.
2. The Criteria for Evaluating Career Education Programs instrument can provide a local administrator with a checklist to determine progress toward full implementation of career education.
3. The role of the building administrator is significant in promoting or prohibiting the implementation of an innovation such as career education.

RECOMMENDATIONS

1. Career education programs should be evaluated in terms of long-range effects on students in the areas of academic achievement, career awareness, life skills, and attitudinal development.
2. The Criteria for Evaluating Career Education instrument could be modified by grouping the criteria in subsets: administration, professional development, program development, community participation, and evaluation. Items could be weighted to emphasize the more significant factors.
3. The survey could be cross-validated by rating a different sample and comparing results.

4. The instrument could be tested for reliability using the method of rational equivalence.
5. A larger rating scale could be used.
6. When conducting the climate survey, the researcher could select a random sample of teachers from every school within a district, or all teachers in every school could be surveyed.

$\frac{1}{10n+9} = \frac{1}{10n+10} = \frac{1}{10(n+1)}$

$= \frac{\cdot 1}{n+1}$

$\frac{1}{10n+9}$

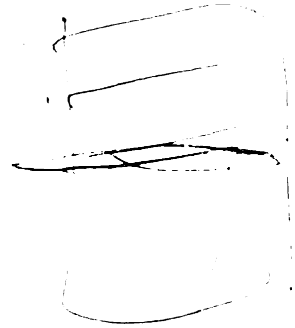
$1 - x(10n+9)$

Cite

Psychology — 1 Science?
— or 2 Science

Wilhelm Wundt 1879 ~~defined~~ as formulated
a conception of Exp. Psychology
Trained James Cattel (PhD, 1886), Stratton (1896)

Layers of consciousness,



Consciousness

"Layers of consciousness" — physiological psychology (introspection)
— Simple reaction
components.

higher psychological function / reason
products of language

Völkerpsychologie   Volkerpsychologie
Outside lab

Volkerpsychologie — study by ethnography
folklore
linguistics

A COMPARATIVE STUDY OF THE RELATIONSHIP BETWEEN SELECTED SCHOOL CLIMATE VARIABLES AND ADOPTION OF CAREER EDUCATION WITHIN ELEMENTARY SCHOOLS IN DISTRICTS RATED AS HIGH AND LOW ADOPTERS

By

Gloria Chernay

A DISSERTATION

Submitted to
Michigan State University
in partial fulfillment of the requirements
for the degree of

DOCTOR OF PHILOSOPHY

College of Education

1977

P. 13 ∃ developmental progression in cultural history which affects individual development.

Herodotus, Plato

$\frac{n}{m} = q + \frac{r}{m}$

$\frac{13}{42} = 0 + \frac{r}{m}$ $\frac{13}{42}$ $q + \frac{r}{m}$.

$= 0 +$

$0 + \frac{1}{42/13}$

$=$

8. Insufficient attention has been given to learning opportunities which exist outside the structure of formal education and are increasingly needed by both youth and adults in our society.

9. The general public, including parents and the business-industry-labor community, has not been given an adequate role in formulation of educational policy.

10. American education, as currently structured, does not adequately meet the needs of minority or economically disadvantaged persons in our society.

11. Post high school education has given insufficient emphasis to educational programs at the sub-baccalaureate degree level.[1]

These conditions call for rapid reform—a change that will make education meaningful and practical and that will prepare people for their roles as adults. The concept of career education can be viewed as one response to this need for reform. The essence of career education—to develop positive attitudes toward work, to develop human relations skills, to acquire knowledge for making career choices, and to supply job skills—seems to respond to society's misgivings and the shortcomings in current education.

This concept is an approach to making education meaningful by establishing a relationship between education, lifestyles, and life roles of individuals. It provides the means to achieve productivity, to find meaning through accomplishments, and to humanize the education process. It unites all

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[1]Kenneth B. Hoyt, An Introduction to Career Education, A Policy Paper of the U.S. Office of Education, United States Department of Health, Education, and Welfare, Publication No. (OE) 75-00504 (Washington, D.C., Government Printing Office, 1975), pp. 1-2.

segments of the formal education system and adds the collaborative efforts of the community and family. In its broadest scope, career education encompasses educational experiences from early childhood through adulthood, and by its very nature demands flexibility in responding to the needs of individuals. These characteristics make career education a logical choice for educational reform.

While career education can respond to the need for reform, implementing the innovation may be difficult to achieve. Many factors influence the adoption of an innovation. Generally, the decision to adopt is an administrative one. However, the process of implementation lies with the school, and more specifically, with the teacher. Ultimately, the teacher determines whether or not he/she adopts the innovation and the degree to which the innovation is allowed to develop and flourish. The role of the teacher is most significant because of his/her direct impact on students.

However, much of a teacher's attitude or receptivity to change is directly affected by the school's climate. School climate is often recognized as one significant factor which influences teacher behaviors in the change process. Generally, a receptive, open climate is more conducive to change, and a closed climate can limit the adoption of an innovation. Therefore, it seems logical to study school climate in its relationship to innovation.

According to Mary Bentzen, "for schools to change, there must be an internal process and a structure to support and

sustain it."[2] She uses the phrase *responsible receptivity to change*, which means that the teachers themselves become actively involved in the entire process of reorganization and implementation of the innovation.[3] Because of this concern for the responsibility of teachers in the change process, this study will examine one facet of the adoption of an innovation—the relationship between selected school climate variables and the adoption of career education.

Problem Statement

The purposes of this study are twofold. One is to develop an instrument to evaluate existing career education programs. This instrument is a gross measure used to evaluate career education programs for public school districts in Michigan Career Education Planning District #32 (CEPD #32). The instrument contains items that evaluate specific characteristics of the Michigan model of career education in addition to more general items. The second, and major, portion of the study was an analysis of a survey of teachers in high and low adopter districts to identify characteristics of school climate and to analyze correlations between adoption of career education and selected school climate variables.

Significance of Problem

A significant aspect of the study is the attempt to determine which school climate variables existed prior to the

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[2]Mary M. Bentzen, Changing Schools: The Magic Feather Principle (New York: McGraw-Hill Book Company, 1974), p. xiii.

[3]Ibid., pp. 18-19.

implementation of career education. This may indicate a need to prepare a school before career education—or any innovation—can be implemented successfully. For 1976-77, each Career Education Planning District in Michigan is expected to establish an experimental or demonstration school for career education. Results of this study may allow CEPD coordinators to predict whether or not the specific innovations are likely to succeed. One implication may be for a change agent to work where there is the best chance for success. Perhaps resources—money, material, and personnel—need to be used in establishing a school climate receptive to change; in turn, implementation of an innovation—in this instance, career education—could occur more quickly and effectively.

Definitions

For purposes of this study, the following are terms used within the context of these definitions.

Career education is defined as "the delivering of skills to all students which will provide them with the ability to explore, understand, and perform in their life roles while learning, working, and living."[4] This definition was established by the Michigan Career Education Advisory Commission.

Life roles include the individual's roles in terms of vocation, avocation, citizen, and family member. This emphasis on life roles allows the school to stress ". . . acquisition of basic skills, preparation for social participation

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[4]Michigan Department of Education, Career Development Goals and Performance Indicators, 2d ed. (Lansing: Michigan Department of Education, 1974), p. 1.

and change, ability to think creatively and critically, development of a strong self-concept, and the gaining of occupational skills."[5]

Career development is defined as "that part of career education which includes: self-awareness and assessment, career awareness and exploration, career decision making, and career planning and placement."[6]

Career preparation is that portion of education which is "the acquiring of academic and vocational knowledge and skills necessary to implement career decisions and plans."[7]

Criteria are the standards on which a judgment may be based. They could be standards of reference or identifiers.[8] In this study, criteria refers to those items used in the gross measure evaluation of career education implementation. Criteria selected will describe characteristics of career education.

School climate refers to those characteristics of conditions which foster responsible receptivity to change. It is also described as the overall patterns of teacher behaviors and the way in which the behaviors tend to fit together in clear, common-sense arrangements.[9]

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[5]Ibid., p. 1.

[6]Ibid., p. 1.

[7]Ibid., p. 1.

[8]Webster's Third New International Dictionary of the English Language, Unabridged (Springfield, Mass.: G. & C. Merriam Company, 1964), p. 538.

[9]Bentzen, op. cit., p. 81.

Organizational climate, in this case, also refers to the climate in an elementary school. For example, when a visitor enters a school, he senses an attitude based on the behavior of the staff. The organizational climate of a school is analagous to the personality of an individual, and each school has its own personality or climate.[10]

An *innovation* is defined as ". . . any change which represents something new to the people being changed." Havelock further stated that usually the change would be beneficial to the people being changed.[11]

Assumptions

This study is based on the following assumptions:

1. Career education is a meaningful reform which will be in effect for a long enough period of time for this study to be significant.
2. In this early stage of career education adoption, a gross measure of career education implementation, when coupled with a statistical treatment of the excluded middle, can in fact identify the highest and lowest adopters of career education.
3. The respondents' perceptions of school climate variables are accurate descriptions of a school climate as reported by the OCDQ.

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[10]Andrew Halpin, Theory and Research in Administration (New York: The Macmillan Company, 1966), p. 131.

[11]Ronald C. Havelock, The Change Agent's Guide to Innovation in Education (Englewood Cliffs, N.J.: Educational Technology Publications, 1973), pp. 21-38.

Limitations

1. The Criteria for Evaluating Career Education Programs instrument is not intended to be a finely discriminating tool for schools to check their progress. The use of the criteria to identify high and low adopter status is simply a gross measure in this stage of the development of career education.
2. Caution should be used in generalizing to a population beyond the elementary schools in Michigan CEPD #32. However, the process may be generalized.
3. The selection of school climate variables represents just one approach to this whole problem, and although the Halpin-Croft instrument has been well accepted by educators over the last thirteen years, there may exist other school climate instruments equally worthy for such a study.

Instrumentation

The instrumentation task consists of four steps: (1) developing criteria for evaluating career education programs, (2) evaluating school districts, (3) selecting an instrument to rate school climate variables, and (4) administering the school climate questionnaire to teachers in the selected schools.

A tentative set of criteria was developed based on a survey of literature in the field of career education. The literature includes models from local districts, career education legislation and transcripts of Congressional hearings,

federal and state policy papers, evaluation and needs assessment instruments from state departments of career education and local school districts, and other definitive books and articles.

The criteria evolved through several stages of refinement before the final set of criteria was established. Opinions were solicited from career education experts in higher education, in state and federal offices, and in local school districts.

The career education coordinators who used the instrument also recommended changes to clarify items in the final format.

The second step of the study was to evaluate each school district using the criteria previously developed. Only those districts rated among the five high and five low adopter districts were used for the remainder of the study. Those districts with middle range scores were excluded.

In selecting an instrument to rate school climate, several were reviewed. The instruments were examined for thoroughness of content, time for administering, data gathered from previous studies using the instrument, validity, reliability, and anticipated teacher reaction. The Organizational Climate Description Questionnaire met these criteria best.

Within each district ranked as a high or low adopter, two schools were randomly selected. The Halpin-Croft Organizational Climate Description Questionnaire was administered

to the teachers in each randomly selected school. Data generated will be the basis for analysis of the research questions.

Research Questions

1. Is there a difference between high and low adopters of career education on the four perceived teacher characteristics (disengagement, hindrance, esprit, and intimacy) of selected school climate variables?
2. Is there any difference between high and low adopters of career education on the four perceived principal characteristics (aloofness, production emphasis, thrust, and consideration) of selected school climate variables?
3. Is there a difference between high and low adopters of career education regarding the characteristic of openness?
4. Can any of the eight characteristics be predicted from any or all of the individual teacher demographic data?

Overview of Study

This study has been organized into five chapters. In the first chapter, the problem was defined, and procedures were described briefly. The research questions were stated as well as limitations.

Chapter II contains a selected review of literature related to the study. Topics include: concept of and rationale for career education, legislation, the development

CHAPTER II

REVIEW OF LITERATURE

The development of career education has been a response to the need for reform in education. Basically, the intent of career education is to make education useful and practical and to contribute to the student's development into adulthood. While career education is considered a viable educational reform, the process of implementing the reform requires care and study. The goal is not only to implement the change but also to maintain it.

In assessing the progress of reform, program evaluation should be considered. The program could be evaluated in relation to its direct effect on students or, in broader terms, the overall organization of the program. These are the basic ideas which will be reviewed in this chapter. More specifically, the literature relates to the concept of and rationale for career education, legislation related to career education, the development of the Michigan model, other selected models, the process of change and school climate, and the evaluation of career education. There seems to be adequate literature related to career education; however, much of it is in the conceptual stages. Actual research related to this study is

limited. Therefore, the review is generally related to the field of career education rather than research in career education.

Concept and Rationale

The attempts to define career education range from a limited view of career education as preparation for work (e.g., vocational education) to the much broader concept of preparation for life. In a USOE policy paper, Kenneth Hoyt defined career education as ". . . the totality of experiences through which one learns about and prepares to engage in work as part of her or his way of living."[1] John Ottina, former Commissioner of Education, stated that career education holds the schools responsible in preparing youth for work through career awareness, exploration, and preparation activities.[2] To develop the definition further, Edmund Gordon stated that career education should be an integral part of all basic education programs. He defined career as ". . . the course by which one develops and lives a responsible and satisfying life" and included the life roles of learner, producer, citizen, family member, consumer, and a socio-political being.[3] The concept of career education is

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[1]Kenneth Hoyt, "An Introduction to Career Education," a policy paper of the USOE (1975), p. 4.

[2]John Ottina, "An Introductory Overview of Career Education," Inequality in Education, XVI (March 1974), p. 35.

[3]Edmund Gordon, "Broadening the Concept of Career Education," IRCD Bulletin, IX (March 1973), p. 4.

built on these basic definitions—that career education is preparation for life, including work, through all aspects of education.

In developing the concept of career education, Hoyt identified ten assumptions that represent a philosophical base for career education:

1. Career education spans the life cycle.
2. Productivity is central to the concept of career education.
3. Work includes not only paid employment but also unpaid activities of studying, volunteering, homemaking, and using leisure time.
4. Career education should embrace a multiplicity of work values.
5. Career and education should be viewed in a developmental sense.
6. Career education is for all persons.
7. The societal objectives are to help individuals want to work, to acquire skills necessary for work, and to engage in work that is satisfying and beneficial to society.
8. The individual goals are that work is made possible, meaningful, and satisfying.
9. A central concern of career education is that the individual has the freedom in choosing and assistance in making and implementing career decisions.
10. Expertise for implementing career education is not limited to those in formal education.[4]

These assumptions might be viewed as a broadening of Sidney Marland's statement that career education depends on the

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[4]Hoyt, op. cit., pp. 4-5.

assumption that the student will make significant decisions affecting personal educational and occupational goals.[5]

The concept of career education is broadened to include these educational goals: (1) students should have a mastery of basic communications skills including speech, reading, writing, and computation; (2) students should develop problem solving skills from identification through resolution; (3) the management and retrieval of knowledge is a necessary skill; (4) employment skills, use of leisure time, and continuing education are necessary throughout life; and (5) the schools should provide for the learning of self-management skills for personal, social, and character development.[6]

The rationale for career education responds to two basic needs of students—to see the relationship between education and work, and to make work a meaningful part of a total life style. Career education then becomes part of the total education program through the collaboration of career educators —all those persons in school and outside who contribute to the student's learning. Career education, then, is a concept utilizing programs and services to enhance the development of the individual.[7]

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[5]Sidney Marland, Career Education: A Proposal for Reform, (New York: McGraw-Hill Book Company, 1974), p. 16.

[6]Gordon, op. cit., pp. 3-4.

[7]Kenneth Hoyt, "Career Guidance, Career Education, and Vocational Education" (paper presented at the meeting of the Guidance Division, AVA, New Orleans, December 10, 1974), pp. 3-5.

While career education has not been identified as a concept until recently, the precepts supporting it can be found in many aspects of education theory. John Dewey's philosophy that education should be meaningful and practical, that it should occur through experiential learning, and that it should develop the whole child concurs with the concepts of career education. He stated that the education process is due to the interaction of social aims, meanings, and values. And he charged educators with the responsibility of developing the curriculum within the framework of the child's experience and need. He used the term *psychologize*[8] in reference to curriculum material implying that students internalize the content of any subject if it is meaningful to them. Meaningful learning is a sound rationale for career education.

Rationale for career education is supported further by Robert Havighurst.[9] According to the origin of the developmental tasks theory of learning, three factors must be present. The student must have the physical maturation and psychological resources to respond to the demands of society around him and behave as a socially responsible citizen within his personal framework of values and aspirations. An example of tasks arising from personal motives and values is choosing and preparing for an occupation and achieving a

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[8]John Dewey, The Child and the Curriculum (Chicago: The University of Chicago Press, 1902), p. 30.

[9]Robert Havighurst, Human Development and Education (New York: David McKay Company, Inc., 1953).

scale of personal values and a philosophy of life.[10] The developmental task concept incorporates the ideas that the student's education should be structured with experiences that allow him to develop as an individual within a group and toward independent, responsible adulthood.[11] These precepts are similar to goals of career education.

Earlier it was stated that a crisis exists in education today, that there was a need for reform, and that career education is one response to the need for reform. The following summaries of articles substantiate that need and support career education as a response to that need:

1. A survey conducted by Adult and Continuing Education Today showed that adults are not being prepared for the simplest life skills. The "Adult Performance Level Study" showed, for example, that only about 56 percent of the sample were able to match personal qualifications and job requirements in help-wanted advertisements. Twenty-two percent were unable to address an envelope and place the return address to ensure that the letter would not encounter difficulties in the postal system. Seventy-three percent were unable to calculate gasoline consumption rates for an automobile. More than seventy-five percent were unable to write a catalog order correctly. The report cited many more examples which supported the

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[10] Ibid., p. 4.

[11] Ibid., p. 332.

idea that the American education system was producing functional illiterates—persons who could not apply skills to day-to-day problems.[12]

2. In the article, "The Children Have Outgrown the Schools," James Coleman cited examples of the changing role of education. At one time schools were the main source of outside information. Today, however, students live in an information-rich culture. Earlier, the students learned their life roles in a home setting. Now, because family life has changed due to advances in industry and technology, the home is no longer the setting for learning life roles and life skills. Coleman suggested that schools of the future must focus on those activities that formerly had been accomplished outside the school: productive action with responsibilities toward others, and development of strategies for using and processing information. He recommended using skill-specific vouchers, integrating the young into functional community roles, and changing workplaces to incorporate the young. This would include ongoing education for both the young and adults.[13]

3. Sidney Marland's book, Career Education, cited reasons for change to career education. There is a

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[12]Norvell Northcutt, "A Frightening List of What Adults Don't Know," Adult and Continuing Education Today (March 31, 1975), p. 29.

[13]James Coleman, "The Children Have Outgrown the Schools," Psychology Today (February 1972).

need for acceptance of all areas of education—vocational education, college preparatory, and general curriculum. Career development provides the capacity to sustain or accelerate progress during a lifetime of learning. Career education could be a zero-reject system whereby students may enter the work system or return to school at any point. And it is student oriented using the knowledge, values, and skills of the individual to meet his goals.[14]

4. An article which appeared in the Detroit Free Press explained "Why Fewer Kids Are Going to College." It cited examples of college graduates with advanced degrees performing jobs for which no degree was required. And in some instances, an interest in a career developed after the employee joined the work force. This required retraining. If those people had had the opportunity to explore careers earlier and engage in experience-based programs, they could have made wiser career choices. The Michigan State Chamber of Commerce advocates career education as a means of matching education to job opportunities.[15]

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[14]Sidney Marland, Career Education: A Proposal for Reform (New York: McGraw-Hill Book Company, 1974), pp. 20-21.

[15]Hugh McCann, "Why Fewer Kids Are Going to College," Detroit Free Press, February 10, 1974.

For several years, many states have been conducting career education programs. But it was not until 1971 that career education received national recognition. Former Commissioner of Education, U.S. Office of Education, Sidney Marland, delivered a speech, "Career Education Now,"[19] at the convention of the National Association of Secondary School Principals in Houston. That speech along with Marland's continuing advocacy led to new legislation. In 1972, President Nixon gave career education special emphasis, and Secretary of Health, Education, and Welfare, Caspar Weinberger, directed his office to keep abreast of developments in the U.S. Office of Education and in the agency for educational research and development, the National Institute of Education.[20]

In 1971, Representative Albert H. Quie of Minnesota sponsored legislation which became Part B of the Title X Higher Education Act. This was labelled "Occupational Education Act of 1972." This was enacted but not funded. However, various amendments of the Elementary and Secondary Education Act were funded. These amendments stressed the importance of occupational education as an equal of academic preparation and provided for occupational orientation and counseling.[21] While this was not specific career education

[19]Sidney P. Marland, Jr. "Career Education Now," Washington: United States Office of Education, 1971.

[20]John Ottina, "An Introductory Overview of Career Education," Inequality in Education XVI, March 1974, p. 36.

[21]Albert H. Quie, Education and Work: A Congressional Perspective, (Columbus, Ohio: The Center for Vocational Education, Ohio State University, May 1976), pp. 4-5.

legislation, it was not in conflict with the precept of helping students to make knowledgeable choices and to implement them.

Section 406 of the Education Amendments of 1974, Public Law 93-380, established the Office of Career Education and authorized funding for pilot and demonstration projects. Specifically, Section 406 provided for: the assessment of the status of career education programs and practices; the demonstration of best practices and the development and testing of exemplary programs; the training and retraining of personnel; and the development of state and local implementation plans. Also, this Section established the National Advisory Council for Career Education and charged the Council with the responsibility of recommending new legislation for career education. To carry out these provisions, $15 million per fiscal year ending July 1, 1978, was authorized.[22] Actually, $10 million was appropriated in each fiscal year, 1975 and 1976. Eighty-one projects were funded in 1975 and a similar number in 1976.[23]

On May 20, 1975, a hearing on career education was held before the Subcommittee on Elementary, Secondary, and Vocational Education, of the Committee on Education and Labor, House of Representatives. In that hearing, Dr. Virginia Trotter, Assistant Secretary for Education, Department of Health, Education, and Welfare, and Dr. Kenneth Hoyt,

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[22]Education Amendments of 1974, Public Law 93-380, Section 406, August 21, 1974, pp. 69-71.

[23]Quie, op. cit., p. 4.

Associate Commissioner for Career Education, supported the position that the federal role of career education should be to support research and demonstration projects and that the responsibility to carry it forward rests with state and local agencies.[24]

A prepared statement was submitted by Eugene Sydnor, Chairman, Education and Manpower Commission, U.S. Chamber of Commerce. The statement concluded with these remarks:

> "We see the federal role primarily as one of developing career education procedures, disseminating information on successful efforts, and providing technical assistance. The results . . . should help provide useful information in adapting curricula to the career education concept and developing industry-education-labor action councils and other working relationships."[25]

Other statements included in the hearing presented research information, model programs, and support for funding of longer duration. Information acquired through this hearing along with recommendations by the National Advisory Council on Career Education was to be used to formulate career education legislation.

An interim report and recommendations for legislation from the National Advisory Council were completed in November, 1975. Essentially, the recommendations focused on elementary and secondary education. Significant recommendations were: to advance the program from the demonstration

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[24]U.S., Congress, House, Committee on Education and Labor, Subcommittee on Elementary, Secondary, and Vocational Education, Career Education, Hearing, 94th Congress, 1st Sess., May 20, 1975 (Washington: Government Printing Office, 1975), pp. 74-76.

[25]Ibid., p. 81.

to the developmental level; to remove the funding authorities from vocational education; to support staff development at state and local levels, leadership identification, community involvement, statewide evaluation, and a communication network of federal, state, and local persons.[26]

In addition, the council reaffirmed the position of placing primary responsibility for education development with the states, and they endorsed the organizational structure of the Office of Career Education and the research and dissemination work in career education of the National Institute of Education.

On December 4, 1975, Carl Perkins, Chairman, Committee on Education and Labor, introduced the career education bill, H.R. 11023, to Congress. The purpose of the bill was to provide federal assistance to state and local education agencies for implementation of career education at the elementary and secondary levels. The bill proposed that $100 million be made available for grants in 1978, $75 million in 1979, $50-million in 1980, and $25 million in 1981, and that state and local agencies increase their matching funds over those four years.[27]

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[26]National Advisory Council for Career Education, Interim Report with Recommendations for Legislation, (Washington: National Advisory Council for Career Education, November 1975), pp. 5-15.

[27]U.S., Congress, House, H.R. 11023, A Bill to Authorize a Career Education Program for Elementary and Secondary Schools, and for Other Purposes, 94th Congress, 1st Sess., December 4, 1975 (Washington: Government Printing Office, 1975), pp. 1-2.

The Congressional Record (House of Representatives) of December 18, 1975 recorded Mr. Perkins' remarks regarding the introduction of H.R. 11023. He summarized the reasons for the bill and the major provisions of it. Mr. Perkins stated that the career education concept had passed the research stage and was ready for wide scale dissemination. The bill would provide for wide scale implementation and leadership through state education agencies. It would also separate and clarify the distinction between career education and vocational education. Thirdly, it would be authorized (funded) in decreasing amounts so that over time states would increase support and control and the role of the federal government in career education would decrease.[28]

According to H.R. 11023, the bill provides for career education programs in elementary and secondary schools but does not terminate research and demonstration programs in postsecondary and adult education as provided under the Career Education Act. The bill provides that 15% of the grant will be used to fund guidance and counseling activities, for a state coordinator directly responsible to the chief state school officer, for infusion models, and for planning in local education agencies. In its entirety, the bill is to fund career education programs through fiscal

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[28]U.S., Congressional Record, 94th Cong., 1st Sess. (December 18, 1975), pp. 13044-13045.

year 1980 and will regulate appropriations for continuing development, implementation, administration, evaluation, and accountability.[29]

A summary statement in Education Daily pointed out that the state education department must accept responsibility for planning and administration and that a policy statement recognizing the prime importance of career education must be adopted by the state board of education. Unusual features of authorization of funds were also mentioned. All or none of the authorization for any given year must be appropriated, and funds are to be authorized on a one-year advanced basis to give states more planning time.[30]

On February 2, 1976, a hearing was held by the Subcommittee on Elementary, Secondary, and Vocational Education regarding H.R. 11023, the Elementary and Secondary Career Education Act of 1976. Three panels delivered statements, made suggestions, and provided testimony in support of the bill. Panel I represented the National Advisory Council for Career Education (NACCE), Career Education Conceptualizers, and State Coordinators for Career Education. Panel II included representatives for the Council of Chief State School Officers, American Personnel and Guidance Association, and

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[29]U.S. Congress, H.R. 11023, A Bill to Authorize a Career Education Program for Elementary and Secondary Schools, and for Other Purposes. 94th Cong., 1st Sess., December 4, 1975, pp. 1-14.

[30]"Perkins Introduces $255 Million Career-Ed Bill," Education Daily, December 15, 1975, p. 5.

the American Association of School Administrators. Panel III included practitioners, teachers, counselors, and business and labor representatives.

The statement, delivered by Dr. Bruce Shertzer, NACCE, identified four problems which led to recommended changes for H.R. 11023. They were: career education should be recognized as a collaborative effort aimed at educational reform; crucial roles of collaborators should be coordinated to emphasize help to students; potential problems of administration should be corrected; and problems regarding implementation should be addressed.[31] Changes introduced by the NACCE clarified terms in keeping with generally accepted career education concepts, left the federal commitment open-ended, provided specific guidelines to the state leadership and local education agencies, and requested additional positions and personnel for the Office of Career Education and the NACCE. Changes to be made regarding the local level were supported by several rationale statements. Those significant to this study were that ". . . the classroom teacher is key to the success of career education. Unless change comes in the classroom, real change will not have occurred. Teachers need time to make infusion a high-quality effort." And in order to keep career education from becoming a

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[31]Bruce Shertzer, "Statement Prepared for Delivery at Hearings on H.R. 11023 Before the Subcommittee on Elementary, Secondary, and Vocational Education, House Committee on Education and Labor," February 2, 1976, pp. 2-3.

specialty, it should be implemented by existing personnel at the building level.[32]

A Conceptualizers' Mini-Conference was held prior to the hearings. This group prepared a statement which was presented at the hearing by Sidney Marland. Comments were made in two general categories, suggestions pertaining to language and generalizations suggesting further development of the bill. The statement suggested that initiative for technical assistance and leadership should reside with the state so that no student would be excluded because of lack of local initiative or will. This would remove the implication for competitive grants to local districts. In addition to other recommendations, the report called attention to ". . . the wholeness or comprehensiveness of the career education process" in an attempt to eliminate fragmentary approaches to staff development.[33]

More recent publications reported on the current state of career education legislation. The October 1976 issue of Legislative Briefs reported Congressional authorization for career education.

> "The Career Education program was introduced by Senator William Hathaway (D-ME), has an appropriation level of $10 million and was designed to help state agencies. States are to prepare and submit a report to the Office of Education by

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[32]"Suggestions of the National Advisory Council for Career Education with Respect to Specific Changes for H.R. 11023, The Elementary and Secondary Career Education Act of 1976, February 2, 1976, pp. 5-6.

[33]Sidney Marland, "Statement: H.R. 11023 Concensus of Career Education Mini Conference," February 1, 1976, pp. 5-6.

the elementary and secondary career education bill. The Federal Register statement was that . . .

> "Funds may also be used for developing State and local plans for implementing programs designed to ensure that every person has the opportunity to gain the knowledge and skills necessary for gainful or maximum employment and for full participation in American society according to his or her ability."[36]

According to the Federal Register, public input is currently solicited on the following issues:

(1) how to avoid overlap or duplication of P.L. 93-380 and P.L. 94-482.

(2) regulations regarding recipients of funds. (P.L. 93-380 designated "state educational agency." P.L. 94-482 indicated "to states."

(3) regulations on the states' reports of planning activities.

(4) scope of "planning" in Section 334.

(5) if and how to define "career education" and "career development."

(6) recommendations for priorities and evaluation criteria for career information activities.[37]

Input regarding these issues may be addressed to:

Career Education Sections 331-336
of Title III
Dr. Sidney High
Regional Office Building - 3
Room 3108-A
7th and D Streets, S.W.
Washington, D.C. 20202
Telephone: (202) 245-2331

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[36] Ibid., p. 51554.

[37] Ibid., p. 51555.

The Development of Career Education in Michigan

While legislation for career education was being developed on the federal level, several states took the initiative to legislate and implement career education through their own efforts and resources. The development of career education legislation in Michigan is pertinent to this study.

In many cases, career education originated through efforts of vocational education departments or guidance and counseling programs. In Michigan, the thrust seems to have been initiated on the state level by the Michigan Advisory Council for Vocational Education. The council was established in 1969 according to the terms of the 1968 Amendments to the Vocational Education Act of 1963.[38] The 1971 report, Career Education in Michigan, contained recommendations in planning, operation, and evaluation for a thrust in career education. The recommendations for planning were to assess projected employment needs, to utilize private resources, and to develop an inventory for resources from private schools. Regarding operation, the council recommended developing programs for the disadvantaged and handicapped and accentuating the potential of occupational education to improve its image. To assist in evaluation, the Council recommended that the Vocational Education and Career Development Service supply data on all vocational education in the state and that the

[38] Career Education in Michigan, Michigan Advisory Council for Vocational Education (Battle Creek, Mich.: Calhoun Area Vocational Center, 1971), p. 1.

State Board of Education examine prerequisites and standards of retention in all vocational education programs.[39]

A booklet published in 1971 by the Michigan Department of Education listed goals statements in three major areas—citizenship and morality, democracy and equal opportunity, and student learning. The Common Goals of Michigan Education, in the area of student learning, made a statement in support of career education preparation.

"Goal 3 — Career Preparation

> Michigan education must provide to each individual the opportunity to select and prepare for a career of his choice consistent to the optimum degree with his capabilities, aptitudes, and desires, and the needs of society. Toward this end, he should be afforded, on a progressive basis, the necessary evaluation of his progress and aptitudes, together with effective counseling regarding alternatives available, the steps necessary to realize each of these alternatives, and the possible consequences of his choice. In addition, each individual should be exposed, as early and as fully as possible, to the adult working world and to such adult values as will enable more thoughtful and meaningful decisions as to career choice and preparation.[40]

For the most part, this early work in career education was directed toward occupational training which would be available for students at the secondary level. However, the latter part of goal statement 3 carried an implication for elementary career education. While there was no state support for elementary career education in the Vocational Education Act, some local districts implemented elementary

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[39] Ibid., p. 8.

[40] The Common Goals of Michigan Education (Lansing, Mich.: Michigan Department of Education, September 1971), p. 6.

career education programs through federal funding such as the World of Work Projects or through local funding.

By 1973 it became apparent that there was a need to coordinate a comprehensive, K-Adult career education program. In response to this need the Michigan Department of Education established a research and development fund to design the Michigan Model for Career Education. It will be described more fully in the following section. Briefly, the goals of this effort were to identify the components of career education, develop implementation methods, identify personal, financial, and instructional resources, develop materials, design training programs, prepare for a statewide transition to career education, and prepare an implementation guide for local districts. The model was developed by state staff and local educators who had implemented career education programs locally.[41]

In addition, the Michigan Career Education Teacher Education Consortium was formed. Teacher educators from the largest teacher education institutions were involved in developing the model and in improving their capabilities to provide inservice and preservice training for leadership and implementation of career education.[42]

In 1974, the 77th Session of the Michigan Legislature passed Public Act 97 known as the "career education act." This act was a means to implement the purposes of Public Law

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[41]"How Has Career Education Developed in Michigan?" [n.d.], p. 1, (Mimeographed).

[42]Ibid., p. 1.

93-380 of the federal government. Public Act 97 gave recognition to career education as a priority of Michigan education. It created a series of career education advisory bodies and required the state to develop goals and guidelines.

Public Act 97 contained the following provisions:

1. It defined career education in terms of the components and purposes of the Michigan model.
2. It established Career Education Planning Districts and assigned them the responsibility of developing plans for implementing local career education programs.
3. It created the Career Education Advisory Commission to evaluate the current status of career education in Michigan and to recommend to the State Board of Education guidelines and performance objectives for a comprehensive career education program.
4. The state board, in conjunction with institutions of higher education, was to develop a plan for professional personnel development at both the pre-service and in-service levels.
5. It required each local education agency to develop a comprehensive career education plan with performance objectives.
6. It mandated that the state department of education periodically report information on current and future job opportunities.[43]

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[43]Michigan, Public Act 97, (1974).

There has been no additional major legislation in Michigan related to career education or categorical funding to support career education as of this date. Some local districts are receiving funds from different sources for exemplary program models. The CEPD's have limited funding from vocational education and a limited ability to stimulate action. Some small grants are used to pilot new programs. Although some districts are moving forward through local efforts, overall career education in Michigan is more a plan than a reality.

In compliance with P.A. 97, the Career Education Advisory Commission developed the model for career education. The term, career education, was changed to career development to encompass all facets of the concept. This included not only preparation for work but for adulthood including attitudes, skills and knowledge to prepare for all life roles. Several publications were used in preparation of the following summary. The descriptions were compared for content and depth or thoroughness of explanations. A summary was made from information cited in these works: Guidelines for Career Education Programming,[44] Career Development Goals and Performance Indicators,[45] Vocational Technical Education: The

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[44]Career Education Advisory Commission, Guidelines for Career Education Programming, (Lansing: Michigan Department of Education, 1974), pp. 9-23.

[45]Career Education Advisory Commission, Career Development Goals and Performance Indicators, (Lansing: Michigan Department of Education, 1974), pp. 1-7.

Program in Michigan[46] transcripts of the Congressional Hearing on Career Education,[47] State Advisory Commission career education concept paper,[48] and a mimeographed paper on the development of career education in Michigan.[49]

An infusion approach is the basis of the Michigan model. Rather than teaching career education as a separate unit or course, those concepts are integrated into the total curriculum. For example, in the primary grades a unit on the neighborhood would include a study of the people who provide goods and services to the community. A variety of approaches would allow children to cover all the subject areas through the study of careers available in their own neighborhood.

Another aspect of the model is the inclusion of an individual's life roles as a family member, a citizen, or community member, a worker, and as a participant in recreational or aesthetic experiences. This is a delivery system by which the goals of Michigan education can be achieved.

The goals include acquiring basic skills, preparing for social participation, developing creative and critical

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[46]Vocational Education Advisory Council, Vocational Technical Education: The Program in Michigan, (Lansing: Michigan Department of Education, July 1974), p. 1.

[47]U.S. Congress, op. cit., pp. 96-97.

[48]Career Education Advisory Commission, "Career Education as a Concept for Educational Planning in Michigan's Schools," (Lansing: Michigan Department of Education, January 1975), pp. 2-5.

[49]"How Has Career Education Developed in Michigan?", pp. 3-5. (Mimeographed).

thinking skills, developing a strong self-concept, and gaining occupational skills.

The components of career education are integrated in a total educational experience. At the same time, separate segments can be identified. The career development components are self awareness and self assessment, career awareness and exploration, career decision making, and career planning and placement. Career preparation components include academic education, vocational education, and technical education. Generally, the career development components are emphasized in kindergarten through ninth grade, and career preparation is stressed in tenth through twelfth grade. However, these elements overlap, and ideally are not ignored at any stage of development.

There are nine elements which are essential to the delivery of career education. The elements are: instruction, guidance, placement, evaluation, professional development, occupational information system, media, advisory groups, and the career education team. Utilizing the people and services of the variety of organizations and agencies will assure a comprehensive program that meets the needs of the students, the education agency, and the community.

Other Career Education Models

Because this study was related only to elementary school settings, models reviewed here will be limited to that level. One such program, Career Education: Career Awareness (K-6), was developed for an intermediate education district in

Oregon. The purpose of the program was to help students discover their own interests and abilities, explore careers based on their individual talents, and learn decision-making with responsibility. These goals were achieved through the means of infusing career education in the curriculum, utilizing resources (persons, materials, and audiovisuals) from various careers, and providing meaningful learning situations away from the school site. The program was designed to develop concepts, understandings, skills, and attitudes of the learners.[50]

The special quality of the Oregon model of career education is that guidance and counseling encompasses the total program from kindergarten through adult education. Like the Michigan model, it embraces the concept of life roles using career education as the focal point for curriculum and program development. The awareness component is developed in elementary grades. It is intended to help children recognize the relationship of careers to other life roles to become aware of many careers and the self in relation to careers, to develop wholesome attitudes of respect and appreciation of all fields of work, and to learn to make responsible career-related decisions.[51]

The model shows the continuation of the development of exploration, preparation, and specialization. The model for

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[50]Keith Goldhammer and Robert E. Taylor, Career Education: Perspective and Promise (Columbus, Ohio: Charles E. Merrill Publishing Company, 1972), pp. 211-226.

[51]Career Education the Oregon Way, (Salem: Oregon Board of Education, 1973).

preparation is not discussed in depth here, but it is mentioned because it is an exemplary model funded by the National Institute of Education through the Northwest Regional Educational Laboratory. The Experience Based Career Education model provides students with the opportunity to acquire a major portion of their education in the community on employer sites. In addition, students attend a learning center. The total experience provides them with the opportunity to learn basic skills, life skills, and career related skills. At the learning center students are taught by the learning manager, student coordinator, and employer relations specialist. The onsite volunteer employer assumes a major role on the educational support team helping students to synthesize their experiences.[52]

While the Oregon model provides work experiences for high school students, the Elkhart (Indiana) Career Education Program (ELCEP) provides experiences for elementary students. The difference is that rather than being at the employer site, experiences are provided at the school site and are identified as "hands-on" experiences. The goal is to help students make career decisions based on their understanding of careers and monetary rewards, education and training, and personal satisfactions. The approach is through use of career experience kits to explore career clusters. (Clusters are groups of related occupations which have been organized into fifteen groups by the U.S. Office of Education.

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[52]Program Overview: Experience-Based Career Education, (Portland: Northwest Regional Educational Laboratory, 1975).

Clustering is a way to simplify the study of a broad range of careers.) The experience kits provide students with opportunities to learn through using the real materials and equipment, performing realistic tasks related to a career, and assuming the roles of persons in a particular cluster. Field trips stress the importance of the person and his work rather than the product. Overall, it is a means of emphasizing awareness, exploration, and experience in multiple career roles.[53]

Other models could be described; however, they would be adaptations of the experience/community-based or school-based models described above. Essentially the models share these commonalities: students prepare for life roles; they learn responsible decision making; they learn through experience; and they learn about themselves, their own interests and capabilities, and their relationship to society.

School Climate and Change

A basic assumption of this study was that school climate affects change or the adoption of an innovation. This section is a review of the relationship of climate and change.

A five-year Study of Educational Change and School Improvement was conducted to develop ways to improve education. Rather than create innovations the study examined the total context in which change took place. Eighteen schools were selected from the eighteen Southern California districts.

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[53]Charles Williams and Virginia Manley, "A Model for Career Education," Hoosier Schoolmaster of the Seventies, (April 1973), p. 19.

These were identified as the League of Cooperating Schools. As those schools initiated changes they were studied to determine which factors were necessary for changes to occur and to be maintained. It was found that teachers needed not only the desire to change but also a variety of personal and organizational factors which would support the change and provide the environment to maintain the change.

All schools were studied in terms of their dimensions of receptivity to change. The following table illustrates the dimensions of scope, importance, relevance, and flexibility as they relate to questions of dialogue, decision, and action.

TABLE 1. DIMENSIONS OF RECEPTIVITY TO CHANGE WHICH WERE USED FOR MEASUREMENT OF THE DDAE PROCESS[54]

	DIALOGUE	DECISION	ACTION
Scope	How open is it?	How concensual is it?	How extensive is it?
Importance	How meaningful is it?	How substantive is it?	How significant is it?
Relevance	How sustained is it?	How consistent is it?	How patterned is it?
Flexibility	How inquiring is it?	How flexible is it?	How modifiable is it?

The dialogue, decision, action, evaluation process (DDAE) was used throughout the study to evaluate the progress of the schools. (Evaluation is not included in the table because it was not used until the last year of the study.) The data gathered from the DDAE process became the framework used

[54]Mary Bentzen, Changing Schools: The Magic Feather Principle, (New York: McGraw-Hill Book Company, 1974), p. 72.

to summarize the major elements identified with the change process.

In summary, it was found that those schools with a high DDAE level at both the beginning and end of the study shared some common characteristics. The organization of each staff contained provisions for cooperative teaching; the staff recognized their principal's professional competence; the teachers felt that they had a significant influence in decision making; the teachers and principal showed high agreement in their description of their school; and the climate was described as open, friendly, and stimulating.[55]

An article in a recent issue of the Kappan reinforced the importance of these provisions in establishing and maintaining a change climate. The procedures used in one school to bring about change are listed below:

1. A workshop was held to permit teachers to identify their concerns.
2. The workshop leader used a group problem solving approach that became the basis for problem resolution throughout the change process.
3. All participants and the principal recognized the need for joint effort.
4. Each work group devised an action plan during the workshop, and it was continued at the school site.
5. The group identified immediate and long range goals.

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[55]Ibid., p. 318.

6. Action committees (teacher/principal, teacher/teacher, teacher/student, and teacher/parent) were established to implement goals.[56]

Up to this point the procedure was mechanical and could have led to success or failure. The last few steps were the ones that made it possible to maintain the humanistic school climate.

7. The teachers maintained a spirit of climate control by using a signal to eliminate gossip and rumors from conversation and by praising efforts of co-teachers.
8. The problem solving technique was used to resolve conflicts and to work toward goals.
9. The principal showed through his actions that he cared about the success of the school.
10. All persons devoted the attention and time needed to maintain a spirit of openness and trust.[57]

For purposes of this study a variety of change models were examined in depth. Summaries of several models follow.

Everett Rogers described the change model as an innovation-decision process. By this he meant that change is not instantaneous but occurs over time with a series of events. The innovation implies the change, and the decision is the determination to accept or reject the change. The entire process consists of three major stages. The first is

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[56]Eileen Breckenridge, "Improving School Climate," Phi Delta Kappan, (December 1976), pp. 314-17.

[57]Ibid., p. 318.

Antecedents: receiver variables, attitude or receptivity to change, social characteristics, and the perceived need for innovation. The second stage is the Process: knowledge, an awareness and understanding of the function of the innovation; persuasion, the attitude toward the innovation; decision, choice of adoption or rejection; confirmation, reinforcement for his decision which may include reversal of the decision or discontinuance.[58]

The significance of planned change was reinforced throughout the readings. A workbook has been developed to assist school staffs in implementing educational innovations. The process is a series of decision making steps based on the group's situation, goals, and preferences. In this case, change was viewed as a calculated decision to make a deliberate, organized effort to improve the system. It was to be viewed as a dynamic, evolving process rather than a static one. Phase I was identifying goals and determining needs. This phase included assessment and prioritization to determine which goals need the greatest concentration of resources.[59] Phase II, planning and operationalizing, includes an assessment of attitudes and a system for devising strategies, identifying resources, and planning and operationalizing solutions.[60]

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[58]Everett Rogers and Floyd Shoemaker, Communication of Innovations, (New York: The Free Press, 1971), pp. 100-104.

[59]Jerrold Novotney, James Freda, and Kenneth Tye, Managing Change (Los Angeles: Educational Resource Associates, 1974), p. 16.

[60]Ibid., p. 31.

Phase III was a process to evaluate change. The evaluation design gave the participants the means to compile, analyze, and report information. It provided the basis for conclusions and recommendations. This feedback system was designed to assist the innovators to control, redirect, and refine implementation plans and procedures.[61]

The Michigan Education Association developed an educational change model which is similar in scope to those mentioned above. However, one significant difference is that internal support is not required for the change to be initiated, but there must be a change unit who share the objective. The three major stages are the planning stage (Phases I and II), the public stage (Phase III), and the institutional stage (Phase IV). The Michigan Education Association has devised this eleven-point system grouped in four phases:

PHASE I: Initiation (leadership)

1. Initial change objective—what the initiators of the change have in mind. Objectives should be clear, specific, significant, and feasible.
2. Staking out the turf—checking out the general climate to identify support or resistance to the objective.
3. Formation of the change unit—a tightly knit group who share the change objective.

PHASE II: Planning (leadership and change unit)

4. Information gathering—done to refine the objective and collect data for strategy and tactic information.

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[61]Ibid., p. 35

5. Strategy—three stages of strategies for different objectives. Planning stage—to create a situation with the greatest probability of success; public stage—to effect change through every acceptable means; institutional stage—to evaluate and institutionalize a change to prevent regression.
6. Tactics—specific actions by which strategy is implemented.

PHASE III: Implementation (leadership, change unit, general support)

7. General support endorsement of strategy and tactics—decisions made by change unit and implementation requires general support.
8. Mobilization of support—the process of implementation.
9. Showdown—resistance to change that must be considered.

PHASE IV: Institutionalization of the results

10. Evaluation of results—a determination of whether or not the change objective was won.
11. Institutionalization of the results—steps to maintain the objective and to insure against regression.[62]

The change process in this model appeared to be a competitive process. It differed from the others in that the change was initiated by an outside agent (an individual or group outside the organizational structure) and appears to be

[62]Michigan Education Association, Professional Development Academy Conference Report, (East Lansing: Michigan Education Association, 1973), pp. 11-15.

enforced rather than growing out of recognized or perceived need for change.

According to Baldridge and Deal no valid, tested, scientific principles have been developed to aid educators in a fool-proof change process. However, they have compiled a series of articles based on social science research and experience that were meant to assist innovators in developing their own change process.

The three elements necessary to understand change processes are: the organizational perspective, the organizational subsystems and processes of change; strategies, persons and techniques of change such as leadership dynamics, change agents, organizational politics, and program evaluation processes; and practical experience, the dynamics of change in case studies.[63]

While it is recognized that no single change process is applicable for every educational change, certain factors may be viewed as generally or commonly acceptable. Havelock compiled a series of case studies that showed the change process as it was approached by a variety of agents. Processes were described for changes which were initiated by a central office administrator, by teachers, by a change agency, and by students.[64]

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[63]J. Victor Baldridge and Terrence E. Deal, Managing Change in Educational Organizations (Berkeley: McCutchan Publishing Corporation, 1975), pp. 1-23.

[64]Havelock, op. cit., pp. 21-38.

From over one thousand studies of educational innovation and utilization of knowledge from other fields, Havelock has developed a six-stage model for the change agent.

Stage I: Relationship

This initial stage is concerned with building a good relationship with clients. The agent must know the background of the influential persons in the community.

Stage II: Diagnosis

This includes the realization of the problem and an attempt to understand the current situation.

Stage III: Acquiring Relevant Resources

Publications, people, and products can be used to stimulate awareness and providing alternatives, and for demonstrating the innovation.

Stage IV: Choosing the Solution

The final solution should be derived from this four-step sequential process: derive implications from research; generate a range of solution ideas; feasibility testing; and adaptation.

Stage V: Gaining Acceptance

Through describing, discussing, and demonstrating, the change agent helps the client to gain awareness, develop interest, evaluate, try out, and adopt an innovation.

Stage VI: Stabilization and Self-Renewal

This is the ability of the system to internally maintain the innovation. The change agent provides

opportunities for the client system to work on other problems using the methods that he initiated.[65]

The review of change and climate also must examine the role of the school administrator in the change process. Halpin established the significance of the principal's leadership role through research designed to identify school climate. The Organizational Climate Description Questionnaire (OCDQ) was designed to assess teachers' perceptions of their own behavior and of their principal's behavior. It was found that teacher morale (esprit) and principal leadership (thrust) were most significant in determining the profile, or organizational climate, of a school.[66] The implication of this in regard to the process of change is that some climates are more conducive to initiating and maintaining innovations than other climates. Halpin pointed out that in order for a leader to be successful, the leader's style needed to be matched with the group's readiness to accept his style.[67] Also, the most effective setting for success was identified as an open climate. Characteristics of openness were high teacher morale, an involvement with and commitment to task-oriented situations, and a friendly relationship not associated with tasks; the principal did not hinder teachers with busywork, he integrated his own personality with the role of leader, he was personable and considerate, he was not highly

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[65]Ibid., pp. 43-139.

[66]Andrew Halpin, Theory and Research in Administration, (New York: The Macmillan Company, 1966), p. 136.

[67]Ibid., p. 132.

directive but moved the organization forward and motivated through example.[68] These characteristics contributed to an atmosphere of freedom to initiate new ideas and to support change.

Grant Venn, in a monograph presented at the Second Career Education National Forum, expressed the importance of the administrator in innovation. In general, he said administrators will support specific innovations if they help to achieve the overall organizational goals, but they will not support an innovation simply for the sake of change. He also pointed out that the climate of the institution may be a much stronger element in the success of an innovation that the concept itself and that in order for a new concept to be successful, the line administration (the persons who give rewards and have authority) must be involved.[69]

According to Venn, three necessary components must be in the overall plan to implement an education innovation. First is an administrative commitment by the superintendent as chief administrator and by principals as unit heads. This is necessary because the innovation is intended to change what is happening. The second necessity is a policy statement for the education unity because the innovation requires a change in the roles and purposes of the school. The third necessity is the administrative plan. This is a design for action including goals and priorities, a time frame, a sequential

[68] Ibid., pp. 174-175.

[69] Grant Venn, Seeking an Administrative Commitment to Innovation, (Columbus, Ohio: The Center for Vocational Education, Ohio State University, April 1976), pp. 1-5.

approach, and an assignment of roles and responsibilities.[70] The demonstrated commitment of the administration provides leadership for teachers that should give them the support needed to implement change.

In addition to the factors mentioned by Venn, D. H. Gress assigned further responsibilities to the chief administrator in implementing career education. According to Gress, once the commitment has been made the administrator needs to assume the role of facilitator. He sets the groundwork, provides in-service training, finds space and materials, seeks funding support, encourages creativity of the staff, and becomes part of the spirit of change. The importance of this is to model an innovative attitude, to encourage others, to attend to staff morale and to provide a humanizing influence. He must also lead the evaluative process, both in terms of program progress and the effect on student learning, and report to and inform the public.[71] These articles not only recognize the need for effective leadership but more than that identify the administration as the key element in successful innovation. Because of this, the role of the administrator must be a significant part of future career education research.

Evaluating Career Education

Locating instruments to evaluate career education programs was a difficult task. University libraries at Michigan

[70] Ibid., pp. 3-11.

[71] D. H. Gress, "Career Education: The Role of the Administrator," Phi Kappa Phi Journal, (Fall 1976), pp. 52-53.

State University and in the Washington, D.C. area were used, the Michigan Department of Education was consulted, publishers of career education periodicals were contacted, and the National Institute of Education research library was utilized. Two E.R.I.C. searches were conducted. Many articles were written to justify the need for evaluation and to suggest different facets of the evaluation process and to enumerate criteria for evaluation. However, no instruments were located which could be used to evaluate the comprehensive career education program. Instead, the only instruments which could be found evaluated career education in terms of learner outcomes. Some of these were results of short-term (six weeks) research, and others resulted from long-term (one year or longer) career courses. None of these evaluated infusion models where career education had been incorporated in a totak K-12 curriculum. Information found was for developing instruments and criteria that should be included. That information will be reviewed in this section.

In describing program evaluation, Wesley E. Budke mentioned these characteristics leading to effective evaluation. The school administration should understand and have a commitment to evaluaton. There should be a well-defined purpose for evaluation. There should exist an effective environment for conducting the evaluation. And it should be conducted by an experienced evaluator or evaluation team.[72]

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[72]Wesley E. Budke, "Evaluating Career Education Programs," Business Education World, (March/April 1975), p. 15.

Budke provided the following guidelines in developing an evaluation instrument:

1. Decide what to evaluate and set priorities.
2. Clarify the program's purpose, objectives, or functions.
3. Select criteria traits (critical aspects of the program) and achievement standards (what is desired, expected, and required).
4. Collect and record data.
5. Analyze data; compare data with criteria traits and achievement standards.
6. Interpret data; draw conclusions about desirability, effectiveness, and adequacy; make recommendations for action.
7. Utilize evaluation results; administrators and staff should determine actions necessary to implement recommendations.[73]

According to Jeanne Barrett, program evaluation should consist of three major areas: goals, inputs, and outputs. Goals are measured by long-term accomplishments and answer the question—do activities move the agency toward its goals? Inputs are considered resources—information, personnel, curricula, space, equipment needed to perform activities, tasks, or strategies. Outputs are the strategies, tasks, and activities necessary to reach goals.[74] Barrett

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[73]Ibid., p. 15.

[74]Jeanne Barrett, "Evaluation: Something You're Supposed to Do," Career Development, (Washington: Human Service Press, June 1971), pp. 11-14.

considered these factors the basis for evaluating career education programs.

Another article, "Evaluating Career Education," contained criteria for evaluation. Guidelines, objectives, and goals were listed separately according to elementary, junior high, and high school levels. It was suggested that these elements should be included in elementary career education programs. Objectives should identify knowledge, skills, and attitudes to be learned. Students should develop an awareness of the numerous occupations and knowledge about jobs. They should have the opportunity to learn the value of work, to develop good citizenship, and to make career decisions based on self-assessment, education options, and accessible occupations. Students should have adequate resource materials to have a multi-sensory approach with hands-on experiences.[75] In general, these guidelines are similar to those recommended by Kenneth Hoyt, United States Office of Education Director of Career Education, and others.

A study by William C. Young contained a comprehensive career education infusion model. Career education content—career information, economic information, self-awareness information, decision-making information, and work values information—is infused into the regular curriculum methods and content. This results in regular expected academic outcomes of knowledge, skills, appreciations, and attitudes

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[75]F. M. Miller, G. E. Baker, and F. E. Clark, "Evaluating Career Education," Career Education Digest, (April/May 1974), pp. 2-7.

with the bonus of other outcomes of career awareness, economic awareness, decision-making skills, self-awareness, and work values awareness. Young said that what is described as career education is, in fact, simply good education.[76]

In assessing career education, attention should be given to the program development as it affects students as Young has done. In addition, other areas need to be considered. A self-study developed in Springfield, Oregon, included the following questions which contribute to the criteria for evaluating career education:

"1. What grade segments does your career education program span?

2. What percent of the students in the school are directly involved in each segment of the career education program?

3. Briefly list and describe the main goals and objectives for the overall career education program and each segment in the program.

4. How is the career education concept being assimilated into the education program?

5. Briefly list and describe those features particular to your career education program for the various grade segments.

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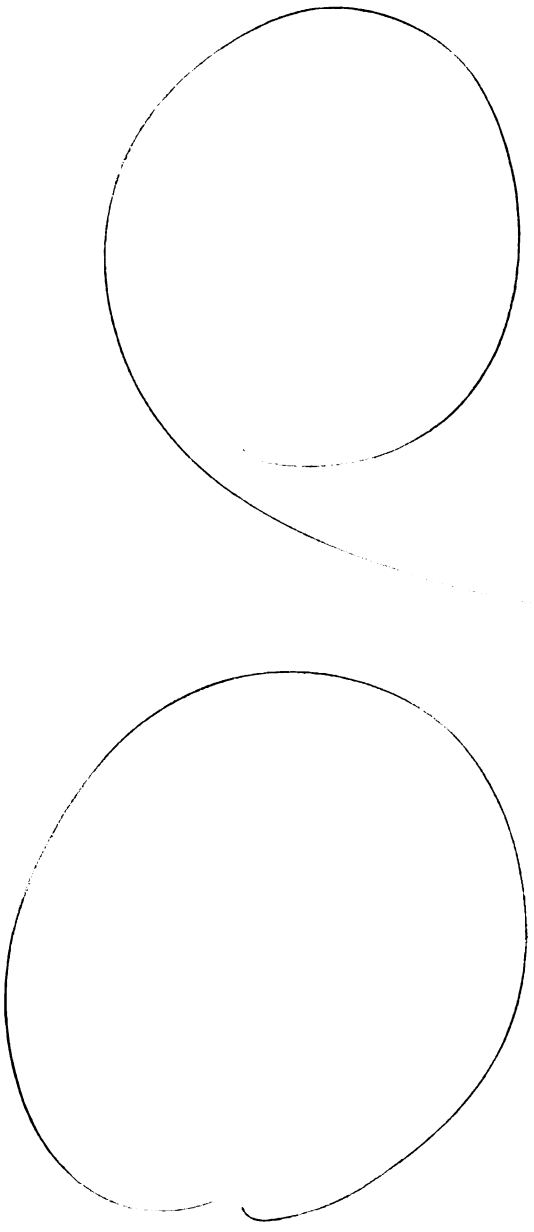
[76]William C. Young, "A Study of the Factors Which Constitute a Comprehensive Elementary Education Program," (unpublished Doctoral dissertation, George Washington University, 1975), p. 55.



6. Briefly list and describe the curriculum changes which took place in implementing the career education program.
7. What supportive services are available to the students in each segment of the career education program?
8. What inservice training was provided for administrators, teachers, and staff in implementing the career education program?
9. Identify and explain how community resources were utilized in planning, actuating and evaluating the career education program.
10. What opportunities are available to students in the career education program for job preparation?
11. Briefly list and describe the data that is being gathered as evidence of success or failure in each segment of the career education program.
12. What provisions have been made for placing students in jobs and/or further educational programs upon their leaving school?"[77]

The Michigan Department of Education prepared an implementation handbook. In the introduction a series of questions is provided as an aid in helping local districts in ongoing assessment.

"What progress has been made thus far toward:

1. Designating a Career Education leader?

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[77]"Self-Study Career Education Program," (Springfield, Oregon: Springfield Public Schools, October 11, 1971), pp. 1-7.

2. Establishing a Career Education Committee?
3. Orienting the Career Education Committee?
4. Inservicing personnel?
5. Implementing Career Education programs?
6. Conducting a Goals Setting study?
7. Utilizing Career Education materials?
8. Developing Career Education plans?
9. Budgeting funds for Career Education?
10. Developing good community relations?"[78]

In summary, the review of literature included a study of the concept of career education, legislation supporting the development of career education programs, and an overview of selected models. School climate in relation to the process of innovations and the evaluation of career education programs were areas specifically related to this study. It was found that career education has a historical background of many years. Preparing people for the world of work is not a new idea. However, the pervasiveness of the concept which permeates all areas of the curriculum at all levels is relatively new. Career education has gained in stature in recent years because of state mandates and federal funding for research and implementation. A variety of models have been studied, but the infusion model which incorporates career education into all areas of the curriculum seems to have the most impact on students. According to research, school climate has a significant influence on the adoption of innovations.

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[78]Career Education Handbook for Implementation, (Lansing: Michigan Department of Education, 1975), p. I-6.

In reviewing articles on career education evaluation, procedures were found to aid in developing an instrument and criteria were identified which could be used in assessing career education programs. This information was used in developing the instrument, Criteria for Evaluating Career Education, and in studying school climate as it affects the adoption of the innovation career education.

CHAPTER III

DESIGN OF THE STUDY

As career education gains recognition as a delivery system for utilitarian education, it becomes obvious that school systems need guidelines for developing and directing local programs. The Michigan State Department of Education has attempted to meet those needs through the publication of materials for career education leadership training and implementation. An important part of program development and implementation is a system of evaluation. However, until now, few, if any, instruments have been developed to provide a comprehensive review of all aspects of the program—administration, professional development, program development, community involvement, and evaluation.

In response to this need a set of criteria was developed for this study which could serve two purposes: to evaluate existing career education programs and to provide direction for personnel involved in local program development. In other words, the content of the evaluation instrument might answer the questions: what should be contained in a comprehensive career education program, and to what extent has the local district met the criteria. A copy of "Criteria for Evaluating Career Education Programs" is in Appendix A.

This instrument was developed and used for the first portion of this study.

The study, basically, consisted of two major portions. The first portion was the development and use of the criteria instrument to identify school districts which could be described as high or low adopters of career education. Secondly, the study surveyed selected teaching staffs within these districts to identify school climate to see if schools with an open climate were more likely to adopt innovations than schools with a closed climate. In this study the innovation to be examined was career education. A copy of the Organizational Climate Description Questionnaire is in Appendix B.

Instrumentation

Criteria for Evaluating Career Education Programs

Because of a scarcity of information of established criteria to evaluate career education, it was decided that opinions of experts would be used to identify the criteria and to develop the instrumentation for the evaluation. Information was secured to determine the general aims of authorities and to establish objectives to which the experts could agree. A description of the procedure follows.

Ordinarily, the critical incident technique, as described in Psychological Bulletin, July 1954, follows a series of five steps. The first, mentioned above, is securing information. Others are developing plans for collecting incidents,

collecting the data, analyzing the data, and interpreting and reporting the statement of requirements.

Essentially, the critical incident technique is a method of establishing evaluative criteria based on the opinions of experts and/or practitioners in a chosen field. It is a procedure for gathering facts in a defined situation where no previously validated, objective set of criteria exists. The common opinions of experts making independent judgments. It is believed that this technique is successful in view of the validity of earlier studies cited in the article.

There are several advantages in using this technique. It is flexible, and the underlying principles can be applied in various ways. The criteria identified through this technique could be used to establish standards, determine requirements, and evaluate results. However, Flanagan cautioned that because ratings are usually inductive and relatively subjective, care should be taken in establishing definitive categories. Also, the functional description should specify precisely what is necessary if the activity is to be judged successful or effective.[1] Flanagan also pointed out that while this technique is the most satisfactory in establishing criteria, no one person or group of persons constitutes an absolute, authoritative source and that a completely objective general statement cannot be formulated for a specific activity.[2] In summary, the critical incident technique is a method

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[1]Flanagan, John C., "The Critical Incident Technique," Psychological Bulletin 51:327-358, (July 1954), p. 336.

[2]Ibid., p. 337.

of developing a set of criteria which will provide a sound basis for making inferences or generalizations or for judging existing programs.

Items which could be included in the criteria for evaluation were identified from a review of research and related literature which included published books, articles, Congressional documents, and dissertations related to career education. These recommendations were included along with the following action steps for implementing career education. In Career Education: A Handbook for Implementation, the steps listed were:

1. Organize a network of interested individuals and groups.
2. Gain the cooperation of organizations, institutions and individuals.
3. Establish career education as a high priority objective of the superintendent, board, principals, and faculty.
4. Study the present system to determine needed changes.
5. Assemble resources.
6. Design a career education system appropriate to the community.
7. Implement the system.
8. Build an evaluative process.
9. Create a feedback system to evaluate, experiment, and adapt.
10. Provide for program maintenance.[3]

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[3]Career Education: A Handbook for Implementation, (U.S. Government Printing Office, Washington, D.C. 20402), 1972, pp. 70-96.

In addition to these action steps, other criteria were identified. These included provisions for adequate funding and support from the curriculum and instruction staff and pupil personnel leaders, and inservice programs for the faculty. Public relations personnel must work with the media to inform the public and gain community support for career education. The leadership must work to gain support from the faculty and to assist the faculty to exchange and generate ideas for classroom implementation.[4]

These ideas became the basis for criteria for evaluating career education programs. Some of these were expanded, some revised, and more were added, but this is a nucleus.

A method of grouping items was found in Inequality in Education. Gordon F. Law, of Rutgers University, grouped the actions for implementation into seven categories. The categories and a brief description of each follows:

1. Top level commitment - endorsements by the local board of education, superintendent, principals, other administrators, community representatives of government, parent groups, labor, business and industry, state department of education, institutions of higher education, and teachers' organizations.

2. Legislative actions - mandates and permissive legislation that would require career education and provide financial stimulus, amend teacher certification laws and child labor laws.

3. Financial actions - funds allocated for research and development, for support for key personnel, and for in-service preparation.

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[4]Ibid., pp. 67-68.

4. Organizational actions - authority and responsibility for administrative personnel to implement, develop guidelines, and allocate resources and space in the schedule.

5. Administrative actions - designated officer who has an interest in career education and who will develop instructional materials, infuse career education content into curriculum, solicit advisement from labor, business and industry and from students, dropouts, and recent graduates.

6. Actions related to education, accreditation, and rewards - analyze present system to determine accountability and reward for implementation.

7. Professional development actions - conduct inservice programs for professional educators, leadership training for administrators, build pre-service preparations and encourage development of surveys and experimental research.[5]

Selecting and grouping information was an effort to meet the first requirement of the critical incident procedure which is to determine the general aims of authorities in the field. It is a means of establishing objectives to which most experts would agree.

For purposes of this study a modification of the critical incident technique was used. As items were identified which might be included, each one was recorded on a separate file card. Then they were reviewed and sorted into these five arbitrarily defined categories: administration, professional development, program development, community involvement, and evaluation. At this point, career education experts were consulted to review the criteria and to make suggestions for additional items or deletions. The researcher

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[5]Leah Levy, ed., Inequality in Education (Center for Law and Education, Harvard University, Cambridge, Mass., March 1974), pp. 40-41.

interviewed each of the authorities for a half hour to an hour, and notes were made of their suggestions. In addition to comments on the criteria, suggestions were made for possible format for the instrument and analysis techniques of data which would be secured.

In this case, an expert was identified as a person whose professional judgment is accepted by others. He/she is in a decision making position, perhaps a policy maker, who has influence on other professionals in his field. Experts who participated in this portion of the study represented federal and state governmental agencies, higher education, a local school district, and an intermediate school district. Also teachers, counselors, and administrators who were members of a course in career education leadership training reviewed the criteria. Appendix C identifies each authority by name, title, and agency.

From the readings and the recommendations of experts and practitioners a final form was developed. Originally, items were grouped into sections. Later it was decided to eliminate the grouping which would give each item equal importance. If the items remained in groups, responses would have had to be weighted as some portions of the total program might be more significant than others. Viewed in its broadest terms, the criteria can identify which aspects of the program have been accomplished and which may need to be developed further. The instrument was used only as a gross measure of career education programs, and any school district

using it should recognize the limitations, use it as a guide, but at the same time recognize that all items may not be required to have a successful career education program in any particular local setting.

Criteria were rated on a three-point scale where 3 indicated that the practice was well-established and functioning, 2 that the practice existed but was inadequate, and 1 that the practice was either non-existent or non-functional. Coordinators rated one practice evaluation with the researcher to be sure that items were interpreted similarly and that ratings were comparable. Also the raters had been familiarized with the study and understood their role and responsibility. Raters were encouraged to rate each item separately and not to attempt to form an overall impression of a district. Scores were totaled and only those districts which ranked among the five high and five low adopter districts were used for the remainder of the study. Those districts with middle-range scores were excluded. This technique was used because the instrument was only a gross measure, and excluding the middle reduced the need of the instrument to finely discriminate among levels of adoption of career education.

Within each district ranked as a high or low adopter, two schools were randomly selected. The Halpin-Croft Organizational Climate Description Questionnaire (hereafter identified as OCDQ) was administered to the teachers in these schools. Data generated with the OCDQ became the basis for analysis of the research questions.

Organizational Climate Description Questionnaire

The OCDQ is a result of a study conducted by Andrew Halpin and Don Croft in 1962. The purposes of the study were to map out the domain of school climate, to identify, describe, and measure the dimensions of school climate. Other reasons for conducting the study included a dissatisfaction with the concept of morale, developing a method for matching a leader's style and the readiness of a group to accept his/her style, and an interest in organizational climate as it might apply in other settings.[6]

The questionnaire focuses on the social interaction between principal and teachers and among the teachers. It measures the degree of openness in a school. The designers of the instrument assumed that schools with a more open climate were more desirable in that leadership acts could emerge more easily from the teachers or the principal.[7]

Items for the instrument were generated from simple statements. The statements were measures of perception which could provide concensus and discrimination. The bank of about 1,000 items was developed from analysis of critical incidents, the Leader Behavior Description Questionnaire, developed by John K. Hemphill and Alvin E. Coons in research conducted at Ohio State University, and the Group Description

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[6]Andrew Halpin, Theory and Research in Administration, (New York: The Macmillan Company, 1966), pp. 131-133.

[7]Dale G. Lake, Matthew B. Miles, and Ralph B. Earle, Jr., Measuring Human Behavior, (New York: Teachers College Press, Teachers College, Columbia University, 1973), p. 209

Questionnaire, developed by Hemphill and Charles M. Westie.[8] The Group Description Questionnaire became the prototype for the OCDQ.

Items were screened and tested on three preliminary forms of the OCDQ. Form I tested groups with 150 items. With Form II, the items were more definitive, and a cross-validation was done to determine differentiation. Form III was used for the major analysis. The standardization was established using an 80-item form with 1,151 respondents from 71 schools representing six regions in the United States. The final version, Form IV, contains 64 items which identify eight dimensions of organizational climate.[9]

A Likert-type scale was used in which teachers responded to each question with a response to denote, "How true is this in your school?" Response choices were: 1-rarely occurs; 2-sometimes occurs; 3-often occurs; 4-very frequently occurs. Responses were not determined to be fact but were measured as the teacher's perception of the climate judged through his/her own personal values and needs. Generally, the faculty showed consistency in perception, and a climate was described as open if it was perceived as open by the faculty.

Factor analysis identified eight dimensions of organizational climate. These dimensions are also referred to as subscales or subtests. The first four identify teacher behaviors. They are:

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[8]John K. Hemphill and Charles M. Westie, "The Measurement of Group Dimensions," Journal of Psychology, 29:325-342, January 1950.

[9]Halpin, op. cit., pp. 145-154.

principal runs the organization in a business-like, impersonal manner with a high degree of aloofness and thrust.

3. The Controlled Climate - there is a press for achievement at the expense of social needs satisfaction. There is a high degree of esprit and hindrance and a low level of disengagement and intimacy. The principal exhibits high production emphasis and aloofness, low consideration, and average thrust. Leadership acts emanate from the principal. (Halpin comments that many faculties respond well to this behavior and obtain considerable job satisfaction.)

4. The Familiar Climate - there is a friendly relationship between teachers and principal. Characteristics include a high social needs satisfaction and minimal control or direction of the group's activities toward goal achievement. There is evidence of high intimacy and disengagement and low hindrance among teachers. The principal's behavior is characterized by high consideration and thrust and low levels of aloofness and production emphasis. Evaluation and direction are minimal.

5. The Paternal Climate - the principal is ineffective in controlling teachers and in satisfying social needs. His behavior is described as nongenuine and nonmotivating. The climate is partially closed and the group is split into factions. Characteristics of teachers are high disengagement and low intimacy, esprit, and hindrance. This results in inadequate satisfaction in task-accomplishment and social needs. The principal exhibits high production emphasis—things should get done but nothing does. He is considerate but oversolicitous and does not use himself as an example.

6. The Closed Climate - the staff is characterized by high teacher turnover. There is little satisfaction relative to task achievement or social needs. The principal is an ineffective director, does not look out for teachers' personal welfare, and the climate is the most closed and least genuine. Teachers display a high degree of disengagement and hindrance, average intimacy, and low esprit. The principal is ranked high on aloofness and production emphasis and low on thrust and consideration. He does not motivate or set examples, is not genuine, and his words and behavior differ. He expects others to take the

> initiative but does not give them freedom to perform leadership acts. Halpin suggests that ". . . the best prescription is radical surgery."[13]

After defining the organizational climates it was possible to classify schools with respect to climate. Two bases of categorization were used. First, a notation was made on high loading of a single profile factor. Secondly, a profile similarity score was used to establish congruence of individual scores with the prototypic profiles of the climates. In this way, the researchers could determine the degree to which each school reached toward the ideal, or open climate.

Three parameters were used to conceptualize the social interactions within the school organization.

1. Authenticity - the authenticity, or openness, of the leader's and the group members' behavior.
2. Satisfaction - the group members' attainment of satisfaction in respect to task accomplishment and social needs.
3. Leadership initiation - the latitude within which the group members, as well as the leader, can initiate leadership acts.[14]

The concept of authenticity was an unexpected outcome of the original study. While the study was too general to identify characteristics of authenticity, it was found that in general the open school climate was characterized by "real" or genuine behavior of the principal and teachers, the professional roles were secondary to individuals as human beings, and there was latitude to experiment with their own styles in

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[13]Ibid., pp. 174-181.

[14]Ibid., p. 192.

relation to work and to peers. In a closed climate, the opposite characteristics were exhibited, and authenticity was lacking.[15]

The major criticism of the OCDQ, according to Lake, et al, is that no test-retest reliability data are presented, and no reliability estimates are available for the profile similarity scores.[16] Halpin recognizes this limitation and states that the small sample may be a cause for unreliable prototypic profile scores, but it does not alter the basic pattern of the subtest scores. He also explains that when the test was developed the researchers were not concerned about the relationship between profile scores and external criteria of a school's effectiveness. However, he does suggest a method of validation for further study.[17] A later study (Andrews, 1965) reviewed by Lake, concludes that the subtests of the OCDQ have good construct validity. Another study, reported by Hughes (1968) and reviewed by Lake, found that high-innovative schools were more similar to open climate than to closed, and that low-innovative schools were more like the closed climate.[18] This is similar to the premise being studied in this dissertation.

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[15]Ibid., pp. 204-205.

[16]Lake, op. cit., p. 211.

[17]Halpin, op. cit., pp. 194-195.

[18]Lake, op. cit., p. 211.

The Site

The Career Education Planning District #32 (hereafter identified as CEPD #32) was selected as the research site because it seemed to represent a cross-section of districts comparable to other regions in Michigan.[19] Also, career education has been implemented to the extent that programs exist with substance worthy of examination. The city of Grand Rapids was excluded from the study because its characteristics were outside the parameters of the design. It is unlike the other districts in size, population, and environment. The other districts may be described as suburban or rural while Grand Rapids is urban. Also, the population is disproportionately larger, and the sample would not necessarily be representative of the entire city. The second portion of the study was conducted with a random selection of schools within each district. Since it is necessary to randomize from similar populations, it was necessary to eliminate Grand Rapids from the study.

Excluding Grand Rapids, twenty-two local school districts in CEPD #32 were evaluated with the criteria instrument. According to data found in the Michigan Education Directory

[19]At the time that legislation for career education was approved, the Michigan Department of Education established career education planning districts to assist local districts in developing plans for implementing career education programs. Each planning district was assigned a director and coordinators who were to work with representatives from local districts. The fiscal agent for CEPT #32 is the Kent Intermediate School District which includes the city of Grand Rapids and the surrounding county. When the survey was conducted, CEPD #32 included four local districts outside of Kent County; they have since been reassigned.

and Buyer's Guide, the elementary student populations in these districts ranged from about 3,363 to 615 pupils, and the number of elementary teachers ranged from 130 to 26 per district. The total number of elementary teachers in the ten districts identified as high and low adopters was 564. The total number of teachers in the selected elementary school buildings was 298.[20] Of those, 249 participated in the survey. Forty-four percent of the total elementary teachers in the ten districts represented the sample population. The following table provides a breakdown of numbers and percentages of participants in the OCDQ survey.

Three career education coordinators were responsible for assisting in the development of career education programs in the districts used in this study. Each coordinator was responsible for six or seven districts. Appendix D contains an alphabetical list of cooperating districts and schools which were selected to participate in the survey. These people were selected as raters because it seemed that they would be most knowledgeable about the overall program in each district with which they worked. The coordinators chose to rate each district as a whole rather than individual schools within each district. There seemed to be little difference from building to building as efforts were being conducted at a district wide level. Coordinators worked with representatives from each building, activities occured on a district wide basis, and schools were believed to be fairly homogeneous.

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[20] Michigan Education Directory and Buyer's Guide, (Lansing: Michigan Education Directory, 1975).

TABLE 2. PARTICIPANTS IN THE OCDQ SURVEY

District Number	Total Number of Elementary Teachers per District	Total Number of School Personnel in Selected Elementary Schools	Number of School Personnel who Participated in the Survey per District	Percentage of Participants per District
1	68	38	36	94.7%
2	58	19	13	68.4%
3	130	34	33	97.1%
4	37	33	23	69.7%
5	26	26	17	65.4%
6	52	41	31	75.6%
7	67	34	28	82.4%
8	37	8	8	100 %
9	35	35	24	68.6%
10	54	36	36	100 %

Total Elementary Teachers in Population: 564

Total Teachers in Selected Buildings: 304

Total Participants in Survey: 249

Percentage of Sample to Total Population: 44.1%

Percentage of Participants to Selected School Personnel 81.9%

Even though the coordinators were most knowledgable about local programs, there was a possibility of rater bias. For example, a coordinator may have felt more comfortable working in one district and consequently would spend more time there, and ultimately he/she could have rated that district with less objectivity. While the researcher recognized this possibility, it is acknowledged that these people are professionals and make informal evaluations regularly and the researcher chose to rely on the raters' professional competence to objectively evaluate the program in each district. The director of CEPD #32 agreed to permit the study to be conducted in this district and offered full cooperation of the coordinators.

The Sample

Two schools from each district were selected randomly. All teachers in each school were surveyed. Those who participated in the survey represented a cross-section of experience and education. Years of teaching experience ranged from one to forty-five years. Education background included those with a B.A. or M.A. degree. No respondents had earned degrees above a masters. In most cases career education preparation was limited to six hours or less. Respondents were elementary teachers in grades K-6 and some were special services personnel such as reading specialists and music, art, or physical education teachers. Classroom organization included multi-age groups, team teaching, self-contained, and departmentalized settings. School districts were in either suburban or rural environments.

TABLE 6. CLIMATE SIMILARITY SCORES

	DISTRICT	OPEN	AUTONOMOUS	CONTROLLED	FAMILIAR	PATERNAL	CLOSED
High Adopters	1	111	105	90	76	75	41*
	2	105	76	96	65	84	38*
	3	101	76	105	56	73	35*
	4	102	100	98	69	70	43*
	5	110	113	87	76	60	29*
	Total	529	470	476	342	362	186
	Average	105.8	.94	95.2	68.4	72.4	37.2
Low Adopters	6	90	91	111	48*	60	49
	7	111	103	91	76	72	35*
	8	81	58*	97	66	87	72
	9	107	94	98	74	65	27*
	10	107	81	94	72	82	43*
	Total	496	427	491	336	366	226
	Average	99.2	85.4	98.2	67.2	73.2	45.2

*The lowest score represents the score which most nearly approximates the district climate.

Hypothesis 4. There is no correlation between the demographic variables and the eight characteristics of climate; therefore, none of the demographic variables can predict any of the characteristics of climate.

In order to respond to this hypothesis, two steps were taken. First a frequency distribution grouped the respondents according to categories within each demographic variable. The frequency analysis could then point out categories within each variable which may have been significant as a

predictor of the climate characteristics. The second step was a regression analysis. This enabled the researcher to compare the demographic variables with the eight dimensions, or characteristics, of climate to determine if any of the demographic variables could be predictors of climate.

Demographic Data

Demographic data was collected to identify the respondents in the survey and to determine if any of these identifying characteristics correlated with the characteristics of the climate profile scores. The following tables of frequency distribution group the respondents according to the five variables of grade level, classroom organization, years of experience, education background, and career education preparation. The frequency analysis tells how many teachers are in each category.

TABLE 7. GRADE LEVEL CATEGORIES

Grade Level	1	2	3	4	5	6	Kindergarten	Other	Total
Number of Teachers	32	37	34	33	36	18	22	37	249

All schools that participated in the study had grades one through five. Not all schools had sixth grades and kindergartens. The "Other" category included special services personnel—music, art, and physical education teachers, reading and math specialists, and special education instructors.

TABLE 8. CLASSROOM ORGANIZATION

Classroom Organization	1	2	3	4	5*	Total
Number of Teachers	9	15	189	21	15	249

*Data Code:
1 - Multi-age Group
2 - Team Teaching
3 - Self-Contained
4 - Departmentalized
5 - Other

The multi-age groups were those that combined students from more than one age, grade, and achievement level. These could be combinations of primary, or intermediate students or transition groups of third and fourth grade students. The team teaching setting was a combination of teachers working with children in one grade level. The self-contained classroom was characterized by students of one grade level working with one teacher who was responsible for all subjects. In departmentalized settings, each teacher was responsible for teaching one subject. Those who marked the "Other" category were teachers who taught a combination of categories or who provided a special service.

TABLE 9. YEARS OF EXPERIENCE

Years of Experience	0-2	3-5	6-9	10-15	16+	Total
Number of Teachers	23	45	56	66	58	249

Originally the teachers listed the specific number of years' teaching experience, and later these were grouped for

easier analysis. It should be noted that nearly half of the total respondents have taught over ten years. In most cases, these teachers have completed course work necessary for permanent certification and would not ordinarily enroll in advanced studies.

TABLE 10. EDUCATION BACKGROUND

Degree	B.A. or B.S.	M.A. or M.S.	Total
Number of Teachers	161	88	249

The table shows that nearly two thirds of the teachers have not completed advanced degrees.

TABLE 11. HOURS OF CAREER EDUCATION PREPARATION

Hours	1 - 6	2 - 7	8 - 31+	Total
Number of Teachers	187	45	17	249

Career education preparation was considered to be participation in inservice programs, workshops, or career education courses. Hours identified in the data code could be construed in this way: six hours or less could be inservice, workshops, or one or two courses; seven to thirty hours implied that a respondent was working toward a degree in career education and that he/she had been involved in leadership training; thirty-one or more hours indicated that the person had completed a degree in career education or that he/she had completed most of the previously mentioned activities. Thus,

the table shows that seventy-five percent of the respondents have had minimal or no training in career education, about eighteen percent were in the mid-range of career education preparation, and seven percent have participated in a variety of career education training activities on a more advanced level. In many cases these persons were identified as building level coordinators or were otherwise involved in career education leadership positions.

The demographic data provided an overview of a representative sample of teachers from the research site. In general teachers represented a fairly equal distribution by grade level; most classrooms were self-contained; half of the teachers had taught less than ten years; two thirds had completed a bachelor's degree, and three fourths of the teachers had minimal preparation to teach career education.

Regression Analysis

A regression analysis was done to determine whether or not a relationship existed between demographic data and climate profile variables. The multiple regression establishes a correlation between one variable and one or all other variables. The correlation coefficient is meaningful in the .5 to .8 range. In this statistical examination of some of the beta weights, there is no practical and meaningful significance. These relationships lose meaningfulness when the attempt is made to discover what percent of variance in the dependent measure is explained by its relationship to the demographic variables. And the percent of variance in the

dependent measure is explained by its relationship with the demographic variable as given by R^2.

The r^2 is the square of multiple r. It tells what percent of variation in the dependent variable is accounted for by the predictor variable. In this study the demographic variables were correlated with the eight dimensions of climate profiles. The demographic variables were analyzed to see if they were related to school climate. While results were not great enough to be considered significant, there were some trends which can be seen in the following tables. The tables show the cumulative correlation with each variable.

TABLE 12. TABLE OF BETA WEIGHTS AND SIGNIFICANCE LEVEL FOR DEPENDENT VARIABLE DISENGAGEMENT

Dependent Variable	Independent Variables Demographic Data	Respective Beta Weights	Significance Level for β Weights
Disengagement	AO1 Grade Level	.1042816	.062
	AO5 Career Ed. Preparation	.0582165	.384
	AO4 Education Background	.0580636	.415
	AO3 Years of Experience	-.0240449	.728
	AO8 Degree of Adoption	-.0090588	.888
	AO2 Classroom Organization	.0086385	.897

There is some indication of relationship of the dependent variable, disengagement, and the independent variable, grade level at alpha <.062. Other independent variables do not contribute to the relationship of disengagement.

TABLE 13. SUMMARY OF MULTIPLE REGRESSION FOR DEPENDENT VARIABLE DISENGAGEMENT

Dependent Variable	Independent Variables Demographic Data	Multiple R	R^2
Disengagement	AO1	.11827	.01399
	AO5	.13047	.01702
	AO4	.14032	.01969
	AO3	.14205	.02018
	AO8	.14233	.02026
	AO2	.14256	.02032

Table 13 shows that the six independent variables explained together about two percent of the variance in the disengagement variable. Out of the two percent explained, 1.4 percent is explained by grade level only, and the rest is explained by the other five. It does not seem that the choice of these six variables were successful in explaining the disengagement scores because about 98 percent of the variation in the disengagement score is left unaccounted for. To be meaningful, the predictor variable should have accounted for at least 25 to 50 percent of the variance in any of the criterion.

TABLE 14. TABLE OF BETA WEIGHTS AND SIGNIFICANCE LEVEL FOR DEPENDENT VARIABLE HINDRANCE

Dependent Variable	Independent Variables Demographic Data	Respective Beta Weights	Significance Levels for Each Variable
Hindrance	AO4 Education Background	.1764011	.003*
	AO8 Degree of Adoption	-.1185689	.063
	AO5 Career Ed. Preparation	.0741567	.185
	AO2 Classroom Organization	-.0732513	.274
	AO1 Grade Level	.0190409	.798
	AO3 Years of Experience	.0077630	.910

*Statistically significant at alpha = .05.

Education background is significant in predicting the characteristic of hindrance at the .003 level. The degree of adoption at the .06 level should be noted but not interpreted as significant.

TABLE 15. SUMMARY OF MULTIPLE REGRESSION FOR DEPENDENT VARIABLE HINDRANCE

Dependent Variable	Independent Variables Demographic Data	Multiple R	R^2
Hindrance	AO4	.18463	.03409
	AO8	.21804	.04754
	AO5	.23315	.05436
	AO2	.24290	.05900
	AO1	.24343	.05926
	AO3	.24353	.05931

Table 15 shows that the six independent variables together explained about six percent of the variance in the hindrance variable. Therefore, it does not seem that the six variables successfully explained the hindrance scores.

TABLE 16. TABLE OF BETA WEIGHTS AND SIGNIFICANCE LEVEL FOR DEPENDENT VARIABLE ESPRIT

Dependent Variable	Independent Variables Demographic Data	Respective Beta Weights	Significance Levels for Each Variable
Esprit	AO1 Grade Level	-.1864950	.001*
	AO3 Years of Experience	.1030756	.047*
	AO4 Education Background	.0777420	.257
	AO8 Degree of Adoption	.0671041	.271
	AO5 Career Ed. Preparation	.0260124	.692
	AO2 Classroom Organization	.0122115	.851

*Statistically significant at alpha = .05.

Both grade level (.001) and years of experience (.047) are significant in their relationship to esprit. These characteristics do have predictive value relative to esprit.

TABLE 17. SUMMARY OF MULTIPLE REGRESSION FOR DEPENDENT VARIABLE ESPRIT

Dependent Variable	Independent Variables Demographic Data	Multiple R	R^2
Esprit	AO1	.21477	.04613
	AO3	.24771	.06136
	AO4	.25746	.06629
	AO8	.26631	.07092
	AO5	.26743	.07152
	AO2	.26768	.07165

Table 17 shows that about seven percent of the variance in the esprit variable is explained by the six predictor variables of demographic data. The predictor variables were not successful predictors of the dependent variable esprit.

TABLE 18. TABLE OF BETA WEIGHTS AND SIGNIFICANCE LEVEL FOR DEPENDENT VARIABLE INTIMACY

Dependent Variable	Independent Variables Demographic Data	Respective Beta Weights	Significance Levels for Each Variable
Intimacy	AO4 Education Background	-.0767178	.158
	AO5 Career Ed. Preparation	-.0639576	.246
	AO2 Classroom Organization	.0655060	.355
	AO3 Years of Experience	-.0401888	.669
	AO1 Grade Level	-.0361873	.596
	AO8 Degree of Adoption	.0268052	.675

None of the predictor variables are significant in their relationship to intimacy.

TABLE 19. SUMMARY OF MULTIPLE REGRESSION FOR DEPENDENT VARIABLE INTIMACY

Dependent Variable	Independent Variables Demographic Data	Multiple R	R^2
Intimacy	AO4	.08964	.00804
	AO5	.11597	.01345
	AO2	.12999	.01690
	AO3	.13280	.01764
	AO1	.13703	.01878
	AO8	.13961	.01949

Table 19 shows that the six predictor variables explain about two percent of the variance in the variable intimacy.

TABLE 20. TABLE OF BETA WEIGHTS AND SIGNIFICANCE LEVEL FOR DEPENDENT VARIABLE ALOOFNESS

Dependent Variable	Independent Variables Demographic Data	Respective Beta Weights	Significance Levels for Each Variable
Aloofness	AO4 Education Background	-.0822545	.179
	AO2 Classroom Organization	.0396823	.389
	AO8 Degree of Adoption	.0570176	.391
	AO1 Grade Level	.0447008	.529
	AO5 Career Ed. Preparation	-.0258710	.688

F-level or Tolerance Level insufficient for further computation.

The degree of adoption (.024) and classroom organization (.049) are significant and of predictive value in relation to the climate characteristic of esprit.

TABLE 25. SUMMARY OF MULTIPLE REGRESSION FOR DEPENDENT VARIABLE THRUST

Dependent Variable	Independent Variables Demographic Data	Multiple R	R^2
	AO8	.14256	.02032
	AO2	.18897	.03571
Thrust	AO5	.21227	.04091
	AO4	.20934	.04382
	AO3	.22110	.04888

Table 25 shows that five independent variables explained nearly five percent of the variance in the thrust variable. However, since over 95 percent of the variation was not accounted for, the dependent variables were not successful predictors of thrust.

TABLE 26. TABLE OF BETA WEIGHTS AND SIGNIFICANCE LEVELS FOR DEPENDENT VARIABLE CONSIDERATION

Dependent Variable	Independent Variables Demographic Data	Respective Beta Weights	Significance Levels for Each Variable
Consideration	AO8 Degree of Adoption	.1274831	.039*
	AO2 Classroom Organization	-.1449579	.049*
	AO4 Education Background	-.1297519	.047*
	AO1 Grade Level	.0699686	.350
	AO3 Years of Experience	.0202767	.769

*Statistically significant at alpha = .05.

Degree of adoption (.039), classroom organization (.049), and education background (.047) are significantly related to the climate variable consideration and could be considered predictors.

TABLE 27. SUMMARY OF MULTIPLE REGRESSION FOR DEPENDENT VARIABLE CONSIDERATION

Dependent Variable	Independent Variables Demographic Data	Multiple R	R^2
Consideration	AO8	.13095	.01715
	AO2	.18038	.03254
	AO4	.21910	.04800
	AO1	.22675	.05142
	AO5	.22818	.05207
	AO3	.22892	.05241

Table 27 shows that the independent variables explained about five percent of the variance in the dependent variable consideration. The independent variables were not successful predictors in explaining the consideration scores.

While some variance is due to the effect of the demographic variables, the amount of variance is so small that the reader is not to assume that they are correlated. In no case does the cumulative variance account for more than five percent of the criterion by the predictor variables. The reader should note that even though the results do not support the idea that any of the demographic variables can predict school climate, this may still be a measurement problem rather than showing lack of correlation.

Summary

In summary, this study attempted to determine whether or not certain differences exist between districts rated as high and low adopters of career education. Areas that were examined were openness climate, perceived teacher characteristics of openness, perceived principal characteristics of openness, and demographic data as predictors of the eight characteristics of climate. Of the four teacher characteristics, hindrance was the only factor of significance between high and low adopters. Of the principal characteristics, thrust and consideration were significant.

The analysis of variance for openness indicates that there is no difference between high and low adopter districts. The mean scores for openness were: high adopters, 26.74 and

CHAPTER V

SUMMARY

This chapter is a summary of the study. The first portion is a review of purposes, literature and design. The second portion includes findings, conclusions, recommendations for further study, and reflections.

Purposes

Rapid changes and technological advances in the last thirty years have caused a crisis in American education. Adults are discovering that they are no longer being prepared by the schools to meet the challenges of adulthood. In many instances they have been neither academically prepared nor socially prepared to function fully in an increasingly interdependent society. These conditions call for reform that will make education meaningful and practical. Innovating comprehensive career education programs can be a response to this need.

In the process of change in education, the role of the teacher is most significant because of his/her direct impact on students. The success of the innovation rests with teachers. However, a teacher's receptivity to change is directly affected by the school's climate. The climate can advance

or limit the adoption of an innovation. Therefore, it seems logical to study school climate in its relation to innovation.

Because of these concerns, this study was developed to examine the relationship between school climate and the adoption of career education as an innovation. In order to do this, two purposes were established. The first purpose was to identify the districts which were high and low adopters of career education, and secondly, to analyze the correlation between adoption of career education and selected school climate variables.

Literature

In order to prepare for the study, a review of literature was conducted. This review reflected several facets of reform: first, the development of career education; second, a view of the change process relative to education reform; and third, a look at program evaluations for career education.

The development of career education emerged from a need for education reform. It is viewed as a utilitarian approach to education. It is a means of making learning practical and meaningful without slighting academic development. Career education is viewed as preparation for life by not only developing vocational skills but also avocational activities and the responsibilities of a member of a family and the community. It teaches respect for self and others and a quality of interdependence in resolving problems and reaching goals.

The process of change in education may be viewed in terms of creating change and maintaining the innovation once it has been established. While there are various ways to implement change, several writers agree that if changes are to have a continuing impact on students, the responsibility for maintenance lies with the teacher. Through supportive efforts administrators can provide the assistance necessary to maintain innovations and at the same time keep avenues open for continual revision as needs change.

There was very limited literature available for program evaluation in career education. In most cases programs were evaluated in terms of the effect of a career education program on the factual learning of students. For example, if students studied a particular career cluster then they were expected to know such information as preparation for a career, tools and materials used, and actual job skills needed to perform certain tasks. In most cases, no assessment was made of affective learning such as attitudes toward work, development of responsible behavior, or caring for others.

Generally program evaluation implied classroom programs that would directly impact on students. Assessment of comprehensive programs which included assessment of administrative efforts, professional development, program development, community involvement, and evaluation were seemingly nonexistent. Criteria was found that described what should be included in evaluation of career education programs, but the researcher did not find evaluation instruments.

Design

The site selected for the study was CEPD #32. This is basically the Kent Intermediate School District. The city of Grand Rapids was excluded from the study because of its great dissimilarity from the other districts. Districts that participated in the study were primarily suburban and rural.

The design of the study was developed in two parts—the identification of high and low adopter districts and the study of climate variables within high and low adopter districts. Initially, the CEPD coordinators rated each district with the Criteria for Evaluating Career Education Programs instrument. It was designed to measure components of the overall program but not designed to measure student achievement in relation to the program. All districts were ranked according to total number of points, and the five high and five low adopter districts were identified by excluding the middle range districts. From each of these ten districts two schools were identified by random selection, and the staff within each school was surveyed using the Organizational Climate Description Questionnaire. Information derived from this data included eight characteristics of school climate and openness scores as perceived by teachers. The eight dimensions of climate were analyzed by first comparing the four teacher characteristics of disengagement, hindrance, esprit, and intimacy with the variable of high or low adoption and then by comparing the four principal characteristics of aloofness, production emphasis, thrust, and consideration with the same variable adoption. Thirdly, an analysis was done to determine the

correlation of climate and the variable adoption. Finally, a multiple regression was used to determine which demographic variables might be predictors of the selected climate variables.

Findings

The findings showed that there were significant differences in the level of adoption and the characteristics of hindrance, thrust, and consideration, but there were no differences in the level of adoption and the other five characteristics of school climate. There was no difference in the level of adoption and the characteristic of openness.

The demographic variables had limited predictive value. Education background was predictive of hindrance and consideration. Grade level and years of experience were predictive of esprit. Degree of adoption and classroom organization were predictive of thrust and consideration. Other demographic data had no predictive value.

Conclusions

The study did not show a relationship of high and low adopters to school climate. The results repudiated earlier findings of a relationship between high adoption of an innovation and openness. But there was a possibility that the evaluation instrument did not discriminate sufficiently between high and low adopters. This would indicate that there was a measurement problem. Another possibility is that the raters were not sufficiently aware of programs to evaluate accurately. Another possibility is that the design for the

study was improper. The raters evaluated district-wide programs, but teachers from just two schools in each district responded to the OCDQ. Or perhaps other characteristics of school climate should have been examined. Or another instrument might have discriminated more accurately between high and low adopters. Also, the reader should consider the possibility that climate may not be the significant factor. Instead, it could be the quality of the innovation which influences its adoption and maintenance.

At the time of this study, the high adopter districts were in the process of change. The differences in characteristics showed the difference in process, whether it was innovative or traditional, rather than the product which would be the completed act of adoption. Because of the state of flux in high adopter districts, teachers may have been experiencing a state of disequilibrium which would make them feel "disengaged" or "hindered" in the process. Later, perhaps in five years, researchers may be able to see a difference in the product of high or low adoption.

In most cases, teachers who had taught over ten years had completed work necessary for permanent certification and would not ordinarily enroll in advanced studies. This is worthy of consideration as administrators plan strategies for introducing incentives for inservice or advanced training for career education. The implication may be to offer credits or other incentives for teachers needing permanent certification or advanced degrees and other incentives,

perhaps points toward pay increments, for those who already have permanent certification.

Certain external factors are not to be overlooked in interpretation of the results of the study. The climate questionnaire was administered late in the spring term when contract negotiations were underway in most districts. There was some degree of staff dissent because notification of reassignments and lay-offs had been received recently. In several districts there was evidence of community antagonism toward the schools which resulted in failure to pass millages which would have increased school district budgets. The lack of sufficient operating capital to maintain existing programs created disharmony toward the idea of implementing any new programs. These external factors may have had a temporary impact on school climates which would cause them to appear to be closed when under other circumstances they may have been more open.

Another factor to consider is that the quality of openness itself allows for dissention, problem identification, and resolution. And closed climates are evidenced by a sheltering of true feelings. These factors also could have produced biased results.

The most useful contributions this study will make to the literature are: the Criteria for Evaluating Career Education Programs instrument can provide a local administrator with a good checklist to determine progress toward full implementation of career education, and the role of the building administrator is significant in promoting or

prohibiting the implementation of an innovation such as career education.

Recommendations

Serious consideration should be given to defining successful programs and high adopter districts. Most educators would agree that the success of a program is determined by its effect on students. If this is true, then the success of a career education program can be measured in terms of student achievement in various areas, for example, academic achievement, career awareness, life skills, and attitudinal development. However, studies which were reviewed earlier indicated that success was evaluated in only one or two of these areas. Several reasons can explain that. Perhaps the proper tests were not available; or they were not standardized; or the results may not have been reliable. Frequently, because career education is relatively new, only short term results are available in pre- and post-tests.

It is recommended that the entire measurement of "successful" career education programs be reevaluated. A researcher could look at student behavior outcomes relative to career education as measured by some test to identify high and low adopters and the study could go on to climate from there. Tests could be developed and standardized to determine the effects of career education curricula on the development of career awareness and preparation, life skills, and positive attitudes towards oneself and others. Longitudinal studies should be developed to assess the long term effects of career education programs.

The scores which were used to identify high and low adopter districts were not meant to imply that high adopter districts were doing more for students. They simply pointed out which districts had more program components or a more comprehensive program. Rather than defining successful programs in terms of student achievement, this study assessed districts as high or low in the adoption of career education by identifying certain characteristics which could be representative of a district's commitment to and action toward implementing career education.

Opinions of experts provided content validity for the survey. However, the following recommendations could improve the instrument. The items could be grouped according to a set of criteria, perhaps administration, professional development, program development, community participation, and evaluation. Then the items could be weighted to emphasize those factors considered most significant to the adoption of a program. The survey could be used in rating a different sample for cross-validation purposes. Also it could be tested for reliability. A method which could be used is the method of rational equivalence. It tests the internal consistency of a test through an analysis of individual items.

Another change would be to use a larger rating scale so that raters could be more exact in evaluating each item. Also the researcher recommends internal raters. It is assumed that the person responsible for the local career education program would be more knowledgable and could rate more accurately than outside raters. Also, when conducting the

climate survey, the researcher could select a random sample of teachers from every school within a district rather than a random selection of schools. Or all teachers in every school could be surveyed.

The instruments, Criteria for Evaluating Career Education Programs and the Organizational Climate Description Questionnaire, led to the conclusions that there was no difference in the teachers' perception of open climate in high and low adopter districts, and there was no correlation between demographic variables and career education adoption and openness climate. The lack of correlation may have been due to not identifying the right elements or in not identifying the proper instruments. Therefore, it is recommended that the study be replicated using different instruments. And if, in fact, there is no difference in openness climate and the adoption of career education, then researchers should look to other factors which would influence adoption such as administrative commitment and community involvement.

The demographic data showed that there was an equal distribution of participants by grade level, and most of them taught in self-contained settings. About half of the teachers had less than ten years teaching experience; two thirds had completed a bachelor's degree but not a master's degree; and three fourths had minimal preparation in career education. The results may indicate that further work needs to be done in preparing for the implementation of career education, and it may provide implications for emphasis on incentives and motivation.

Perhaps the most significant recommendation is that *in the interest of school morale and teacher effectiveness, teachers should not be charged with implementing an innovation until the principal has a commitment.* In view of that, future researchers may want to consider the relationship between superintendents and principals. That relationship may have a greater impact on the adoption of career education than the principal-teacher relationship. This suggests an entirely different approach to the study of innovation adoption and seems worthy of research.

In view of the results of this study these questions might be worthy of further examination: Is an open climate necessary for the implementation of an innovation? Is it more likely that an innovation will be maintained over time in an open climate? or Which climate, open or closed, is more conducive to the maintenance of an innovation over time?

Reflections

The cooperation of the majority of schools and those people in the Career Education Planning District was especially significant to gathering data for the study. In most instances, the study was viewed by participants as a means of assessing good practice which could ultimately benefit education processes. However, in some instances the researcher sensed a closed attitude, similar to that described by Halpin in Theory and Research in Administration, of some school personnel. The following examples may illustrate open and closed climates within Halpin's definitions.

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The time of day seemed to influence cooperation. In the morning, teachers were generally fresh, alert, and cooperative, but at the end of the day they appeared to be tired and inattentive. The following example supports this. In one district the central office administrators were initially uncooperative and unresponsive to frequent telephone inquiries. An agreement was reached and appointments were scheduled without consulting the principals. The researcher arrived early for a morning appointment, and chatted informally in the lounge with teachers who were friendly and expressed willingness to cooperate in the study. The principal arrived and introduced the researcher as "that woman" from the university and followed with the comment, "We didn't want to have her take up your time, but the superintendent insisted." In spite of the principal's insensitivity to a potentially unpleasant situation, the teachers remained cooperative and attentive and approached the task of completing the survey in a positive manner.

At another school in the same district at the end of the day the teachers were hostile, uncooperative, and expressed negative attitudes about the survey, the other teachers, and the principal. The meeting had not been announced prior to the researcher's arrival; the principal was out of the building even though the appointment had been reconfirmed; not all teachers attended, and some of those who did refused to complete the questionnaire. These examples seemed to demonstrate the contrast between open and closed climates.

APPENDIX B

ORGANIZATIONAL CLIMATE DESCRIPTION QUESTIONNAIRE*

DATA BASE

Grade level_____

Classroom organization:

Multi-age family group_____

Team teaching _____

Self-contained _____

Departmentalized _____

Other_____

TEACHER DATA

Years of experience_____

Education background: BS____ MS____

Career education preparation:

6 hours of instruction or less_____

7-30 hours of instruction _____

31 hours or more _____

This instruction may have been in the form of an inservice day, college course, workshops and conferences, or advanced degree preparation.

MARKING INSTRUCTIONS

Printed below is an example of a typical item found in this questionnaire:

1 - Rarely occurs
2 - Sometimes occurs
3 - Often occurs
4 - Very frequently occurs

Teachers call each other by their first names. 1 2 (3) 4

In this example, the respondent marked alternative 3 to show that the interpersonal relationship described by this item "often occurs" at his school. Of course, any of the other alternatives could be selected, depending upon how often the behavior described by the item does, indeed, occur in your school. Please mark your response clearly, as in the example. Please be sure that you mark every item.

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1 - Rarely occurs
2 - Sometimes occurs
3 - Often occurs
4 - Very frequently occurs

1.	Teachers' closest friends are other faculty members at this school.	1 2 3 4
2.	The mannerisms of teachers at this school are annoying.	1 2 3 4
3.	Teachers spend time after school with students who have individual problems.	1 2 3 4
4.	Instructions for the operation of teaching aids are available.	1 2 3 4
5.	Teachers invite other faculty members to visit them at home.	1 2 3 4
6.	There is a minority group of teachers who always oppose the majority.	1 2 3 4
7.	Extra books are available for classroom use.	1 2 3 4
8.	Sufficient time is given to prepare administrative reports.	1 2 3 4
9.	Teachers know the family background of other faculty members.	1 2 3 4
10.	Teachers exert group pressure on nonconforming faculty members.	1 2 3 4
11.	In faculty meetings, there is a feeling of "let's get things done."	1 2 3 4
12.	Administrative paper work is burdensome at this school.	1 2 3 4
13.	Teachers talk about their personal life to other faculty members.	1 2 3 4
14.	Teachers seek special favors from the principal.	1 2 3 4
15.	School supplies are readily available for use in classwork.	1 2 3 4
16.	Student progress reports require too much work.	1 2 3 4
17.	Teachers have fun socializing together during school time.	1 2 3 4

18.	Teachers interrupt other faculty members who are talking in staff meetings.	1 2 3 4
19.	Most of the teachers here accept the faults of their colleagues.	1 2 3 4
20.	Teachers have too many committee requirements.	1 2 3 4
21.	There is considerable laughter when teachers gather informally.	1 2 3 4
22.	Teachers ask nonsensical questions in faculty meetings.	1 2 3 4
23.	Custodial service is available when needed.	1 2 3 4
24.	Routine duties interfere with the job of teaching.	1 2 3 4
25.	Teachers prepare administrative reports by themselves.	1 2 3 4
26.	Teachers ramble when they talk in faculty meetings.	1 2 3 4
27.	Teachers at this school show much school spirit.	1 2 3 4
28.	The principal goes out of his way to help teachers.	1 2 3 4
29.	The principal helps teachers solve personal problems.	1 2 3 4
30.	Teachers at this school stay by themselves.	1 2 3 4
31.	The teachers accomplish their work with great vim, vigor, and pleasure.	1 2 3 4
32.	The principal sets an example by working hard himself.	1 2 3 4
33.	The principal does personal favors for teachers.	1 2 3 4
34.	Teachers eat lunch by themselves in their own classrooms.	1 2 3 4
35.	The morale of the teachers is high.	1 2 3 4
36.	The principal uses constructive criticism.	1 2 3 4
37.	The principal stays after school to help teachers finish their work.	1 2 3 4

38.	Teachers socialize together in small select groups.	1 2 3 4
39.	The principal makes all class-scheduling decisions.	1 2 3 4
40.	The teachers are contacted by the principal each day.	1 2 3 4
41.	The principal is well prepared when he speaks at school functions.	1 2 3 4
42.	The principal helps staff members settle minor differences.	1 2 3 4
43.	The principal schedules the work for the teachers.	1 2 3 4
44.	Teachers leave the grounds during the school day.	1 2 3 4
45.	The principal criticizes a specific act rather than a staff member.	1 2 3 4
46.	Teachers help select which courses will be taught.	1 2 3 4
47.	The principal corrects teachers' mistakes.	1 2 3 4
48.	The principal talks a great deal.	1 2 3 4
49.	The principal explains his reasons for criticism to teachers.	1 2 3 4
50.	The principal tries to get better salaries for teachers.	1 2 3 4
51.	Extra duty for teachers is posted conspicuously.	1 2 3 4
52.	The rules set by the principal are never questioned.	1 2 3 4
53.	The principal looks out for the personal welfare of teachers.	1 2 3 4
54.	School secretarial service is available for teachers' use.	1 2 3 4
55.	The principal runs the faculty meeting like a business conference.	1 2 3 4
56.	The principal is in the building before the teachers arrive.	1 2 3 4

57.	Teachers work together preparing administrative reports.	1	2	3	4
58.	Faculty meetings are organized according to a tight agenda.	1	2	3	4
59.	Faculty meetings are mainly principal-report meetings.	1	2	3	4
60.	The principal tells teachers of new ideas he has run across.	1	2	3	4
61.	Teachers talk about leaving the school system.	1	2	3	4
62.	The principal checks the subject-matter ability of teachers.	1	2	3	4
63.	The principal is easy to understand.	1	2	3	4
64.	Teachers are informed of the results of a supervisor's visit.	1	2	3	4

APPENDIX C

SELECTED CAREER EDUCATION EXPERTS

Name and Title	Agency
Kenneth Hoyt Director of Career Education	United States Office of Education
Ronald Bucknam Career Education Research Specialist	National Institute of Education
William C. Young Deputy Director, Office of Occupational and Vocational Education	United States Office of Education
William Weisgerber Director of Career Education	Michigan Department of Education
David Loman Deputy Director of Career Education	Michigan Department of Education
Connee Peters Career Education Specialist	Michigan Department of Education
Richard Gardner Career Education Specialist, Department of Secondary Education and Curriculum	Michigan State University
Howard Hickey Associate Professor, Department of Administration and Higher Education	Michigan State University
Lee Bowen Career Education Director	Prince George's County Public Schools, Maryland
Dawn Adloff Career Education Coordinator	Kent Intermediate School District
Keith Anderson Career Education Coordinator	Kent Intermediate School District
Barbara Daudy Career Education Coordinator	Kent Intermediate School District
Edward Aches Career Education Coordinator	Kent Intermediate School District

APPENDIX E

INTERPRETATION OF DATA CODES

Column 1 Grade Level		Column 2 Classroom Organization		Column 3 Years of Experience	
Code	Meaning	Code	Meaning	Code	Meaning
1	Grade 1	1	Multi-age group	1	0-2 years
2	Grade 2	2	Team teaching	2	3-5 years
3	Grade 3	3	Self-contained	3	6-9 years
4	Grade 4	4	Departmentalized	4	10-15 years
5	Grade 5	5	Other	5	16+ years
6	Grade 6				
7	Kindergarten				
8	Other				

Column 4 Education Background		Column 5 Career Education Preparation		Columns 6 and 7 District (Participating Schools)	
Code	Meaning	Code	Meaning	Code	Meaning
1	BS or BA	1	6 hours or less	01	District 1
2	MS or MA	2	7-30 hours	02	District 2
		3	31+ hours	03	District 3
				04	District 4
				05	District 5
				06	District 6
				07	District 7
				08	District 8
				09	District 9
				10	District 10

Column 8 Degree of Adoption		Column 9 Raters		Columns 10 and 11 Number of Teachers Surveyed in Each District	
Code	Meaning	Code	Meaning	District*	
1	High	1	Rater 1	1	36
2	Low	2	Rater 2	2	13
		3	Rater 3	3	33
				4	23
				5	17
				6	31
				7	28
				8	08
				9	24
				10	36
				*Code is actual number.	

1435 F Spartan Village
East Lansing, Mich. 48823

May 11, 1976

Mrs. Agnes Moran
Permissions Department
Macmillan Company
Crowell, Collier, and Macmillan Bldg.
866 Third Avenue
New York, New York 10022

Dear Mrs. Moran:

This is a follow-up on our phone conversation earlier this week. I am requesting permission to use the Halpin and Croft instrument, Organizational Climate Description Questionnaire, as part of my dissertation research. I am testing the hypothesis that there is a correlation between school climate variables and the implementation of career education.

Thank you so much for your help.

Sincerely,

Gloria Chernay

Gloria Chernay

MACMILLAN PUBLISHING CO., INC.
866 Third Avenue, New York, N. Y. 10022

May 19, 1976

Ms. Gloria Chernay
1435 F Spartan Village
East Lansing, Michigan 48823

Dear Ms. Chernay:

You may have our permission to use, in the English language only, the Organizational Climate Description Questionnaire from THEORY AND RESEARCH IN ADMINISTRATION by Andrew W. Halpin, subject to the following limitations:

Permission is granted for usage of the material in the manner and for the purpose as specified in your letter.
Note: If your dissertation research is published (other than University Microfilms) it is necessary to reapply for permission.

Permission is granted for a fee of $35.00. This fee is payable upon signing.

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If you are in agreement, please sign both copies of this letter in the space provided below and return one copy and your remittance to this department.

Thank you.

Sincerely,

(Mrs.) Agnes Moran
Contracts Supervisor

AGREED TO: Gloria Chernay

1435 F Spartan Village
East Lansing, Mich. 48823

May 11, 1976

Dr. Andrew E. Hayes
TADS
University of North Carolina
625 West Cameron Street
Chapel Hill, North Carolina 27514

Dear Dr. Hayes:

I am a graduate student at Michigan State University, and I plan to use the Organizational Climate Description Questionnaire to collect data for my dissertation. I spoke with Mrs. Moran at the Macmillan Company in New York, and she said you might be able to provide information I am seeking.

I would like some background information on the instrument, a history of its development and use, how validity and reliability were established, and norms for elementary teachers. Has this information been published? Mrs. Moran suggested that you could supply information about scoring. Our university provides free computer time to doctoral students, but I would need programming information. She also mentioned a data bank, but she didn't have details on that either.

This background information would be significant to the justification for using the OCDQ, and I would like to explain as much as possible in the dissertation. I will call you Monday or Tuesday, and we can discuss this by phone, but I hope that you can provide written information also. Thanks so much for your help.

Sincerely,

Gloria Chernay

Gloria Chernay

1435 F Spartan Village
East Lansing, Mich. 48823

July 1, 1976

Dr. Andrew E. Hayes
TADS
University of North Carolina
625 W. Cameron Street
Chapel Hill, North Carolina 27514

Dear Dr. Hayes:

I am sending to you data to be scored for the Organizational Climate Description Questionnaire. I appreciated your earlier letter very much citing references to the OCDQ. Also the description of the scoring service was helpful to the research consultant in determining procedures for analyzing the data. I am including a list of the coded items 1-11 which may or may not be helpful to you.

Very briefly, I am examining the correlation between school climate and the adoption of an innovation (career education). First, all school districts in a Michigan county were assessed to determine which districts were high and low adopters of career education. Two schools in each district were identified by random selection, and the teachers in those buildings were surveyed using the OCDQ.

I would like to talk with you about the procedures I used and perhaps you could make recommendations for analyzing the data. As I said earlier, the consultant has some ideas, but I do believe your input would be significant.

Thanks so much for your help. Please call me collect at (517) 355-1117 or 355-1713 any afternoon after 1:00.

Sincerely,

Gloria Chernay

Gloria Chernay

1435 F Spartan Village
East Lansing, Michigan 48823

May 13, 1976

Mr. David A. Fultz, Superintendent
Godwin Heights Public Schools
15 - 36th Street, S.W.
Wyoming, Michigan 49508

Dear Mr. Fultz:

This is a follow-up of our conversation by phone on Thursday. You will recall that I am a doctoral student at Michigan State and would like to survey the teachers from two elementary schools in your district.

The purpose of the study is to find whether or not a correlation exists between school climate and the implementation of career education. If so, then we also might be able to isolate those characteristics of school climate that might influence the adoption of career education. Howard Hickey, my faculty advisor, has worked closely with me in the development of the study, and I have also worked with Bill Harrison and the coordinators from the Career Education Planning District #32.

Two elementary schools in your district, North Godwin and South Godwin, were selected by random sample, and I would like permission to survey the teachers from these schools with a school climate questionnaire. The instrument has been validated and tested for reliability by Andrew Halpin and Don Croft through research conducted at the University of Chicago. The instrument has been in use nationwide since 1963. It will take about a half hour to administer the questionnaire. I have enclosed a copy for your review.

I will meet with North Godwin teachers on May 17 at 8:00 a.m., and I am seeking an appointment with Mr. Wilson for later in the week. If you have any questions, you may call me at (517) 355-1900. I realize that this is late in the school year, and I apologize for the inconvenience, but I do appreciate your willingness to participate in the survey. Thank you very much.

Sincerely,

Gloria Chernay

Gloria Chernay

BIBLIOGRAPHY

Single-Volume Works:

Baldridge, J. Victor, and Deal, Terrence E. Managing Change in Educational Organizations: Sociological Perspectives, Strategies, and Case Studies. Berkeley: McCutchan Publishing Corporation, 1975. 523 pp.

Bentzen, Mary M., et al. Changing Schools: The Magic Feather Principal. New York: McGraw-Hill Book Company, 1974. 287 pp.

Borg, Walter R., and Gall, Meredith D. Educational Research. New York: David McKay Company, Inc., 1971. 533 pp.

Bottoms, James E., et al, eds. Career Education Resource Guide. United States: General Learning Corporation, 1972. 257 pp.

Bowen, O. Lee. Does Career Education Work? A Case Study in Prince George's County, Maryland. Upper Marlboro: Prince George's County Public Schools, 1975. 4 pp.

Bowen, O. Lee, et al. Career Development: A Community Approach. Upper Marlboro: Prince George's County Public Schools, 1973. 23 pp.

Buettner, David, et al. Career Education Workshop Implementor Handbook. Lansing: Michigan Department of Education, 1974.

Career Development Goals & Performance Indicators. Lansing, Michigan: Career Development Unit, 1974. 69 pp.

Career Education: A Guide for School Administrators. American Association of School Administrators, Arlington, Virginia, n.d. 55 pp.

Career Education Handbook for Implementation. Lansing: Michigan Department of Education, 1974.

Chesler, Mark, Schmuck, Richard A., and Lippitt, Ronald. "The Principal's Role in Facilitating Innovation." In Managing Change in Educational Organizations, pp. 323-327. Edited by J. Victor Baldridge and Terrence E. Deal. Berkeley: McCutchan Publishing Corporation, 1975.

Dewey, John. The Child and the Curriculum. Chicago: The University of Chicago Press, 1902. 110 pp.

Drier, Harry N., Jr., et al. K-12 Guide for Integrating Career Development into Local Curriculum. Worthington: Charles A. Jones Publishing Company, 1972. 265 pp.

Experience-Based Career Education: Operating Plan FY 1975. San Francisco: Far West Laboratory for Educational Research and Development, 1975. 127 pp.

Evans, Rupert N., Hoyt, Kenneth B., and Mangum, Garth L. Career Education in the Middle/Junior High School, Salt Lake City: Olympus Publishing Company, 1973. 327 pp.

Fox, Robert S., et al. School Climate Improvement: A Challenge to the School Administrator. Phi Delta Kappa, 1973. 141 pp.

Freda, James A., Novotney, Jerrold M., and Tye, Kenneth A. Managing Change: A Workbook for Implementing Educational Innovation. Los Angeles: Educational Resources Associates, Inc., 1974. 96 pp.

Goldhammer, Keith, and Taylor, Robert E. Career Education Perspective and Promise. Columbus, Ohio: Charles E. Merrill Publishing Co., 1972. 296 pp.

Halpin, Andrew. Theory and Research in Administration. New York: The Macmillan Company, 1966. 352 pp.

Halpin, Andrew W., and Croft, Don B. The Organizational Climate of Schools. Washington: USOE, July 1962. 187 pp.

Havelock, Ronald G. The Change Agent's Guide to Innovation in Education. Englewood Cliffs: Educational Technology Publications, 1973. 279 pp.

Havighurst, Robert J. Human Development and Education. New York: David McKay Company, Inc., 1953. 338 pp.

Hoyt, Kenneth B., et al. Career Education and the Elementary School Teacher. Salt Lake City, Utah: Olympus Publishing Co., 1973. 196 pp.

Hoyt, Kenneth B. Career Education: Contributions to an Evolving Concept. Salt Lake City, Utah: Olympus Publishing Company, 1975. 438 pp.

Hoyt, Kenneth B., et al. Career Education—What It Is and How to Do It. Salt Lake City, Utah: Olympus Publishing Co., 1972. 190 pp.

Ideas for Activities Designed to Combine Career Development with Subject Matter Instruction. Lansing: Michigan Department of Education, 1974.

Jesser, David L. Career Education: A Priority of the Chief State School Officers. Salt Lake City: Olympus Publishing Company, 1976. 168 pp.

Kenneke, Larry J., Nystrom, Dennis C., and Stadt, Ronald W. Planning and Organizing Career Curricula: Articulated Education. Indianapolis: Howard W. Sams & Co., Inc., 1973. 432 pp.

Lake, Dale G., Miles, Matthew B., and Earle, Ralph B. Measuring Human Behavior. New York: Teachers College Press, Columbia University, 1973. 422 pp.

Leedy, Paul D. Practical Research. New York: Macmillan Publishing Co., Inc., 1974. 246 pp.

McClure, Larry. Career Education Survival Manual: A Guidebook for Career Educators and Their Friends. Salt Lake City: Olympus Publishing Company, 1975. 144 pp.

McClure, Larry, and Buan, Carolyn, eds. Essays on Career Education. Portland, Oregon: Northwest Regional Educational Laboratory, 1973. 265 pp.

Marland, Sidney P. Career Education: A Proposal for Reform. New York: McGraw-Hill Book Company, 1974. 334 pp.

Osipow, Samuel H. Implications for Career Education of Research and Theory on Career Development. Columbus, Ohio: The Center for Vocational and Technical Education, The Ohio State University, 1972. 20 pp.

Project Discovery: Information Booklet. Red Oak: Southwest Iowa Learning Resources Center, 1975. 36 pp.

Quie, Albert H. Education and Work: A Congressional Perspective. Columbus, Ohio: The Center for Vocational Education, 1976. 8 pp.

Reinhart, Bruce. Nature and Characteristics of Emerging Career Education Curriculum. Columbus, Ohio: The Center for Vocational and Technical Education, The Ohio State University, 1972. 15 pp.

Remmers, H. H., Gage, N. L., and Rummel, J. Francis. A Practical Introduction to Measurement and Evaluation, 2nd ed. New York: Harper & Row, 1965. 390 pp.

Rogers, Everett M., and Shoemaker, F. Floyd. Communication of Innovation: A Cross-Cultural Approach, 2nd ed. New York: The Free Press, 1971. 476 pp.

Shack, Arthur T., and Voelkner, Alvin R. Career Education in Michigan: Preparing People for Jobs That Need Doing in the Real World Today. Battle Creek: Calhoun Area Vocational Center, 1971. 8 pp.

Survey of Career Education in the Public Schools of the United States. Palo Alto: American Institutes for Research, 1975. 12 pp.

Tiedeman, David V. Career Development: Choice and Adjustment. New York: College Entrance Examination Board, 1963. 108 pp.

Venn, Grant. Seeking an Administrative Commitment to Innovation. Columbus, Ohio: The Center for Vocational Education, 1976. 15 pp.

Wentling, Tim L. and Lawson, Tom E. Evaluating Occupational Education and Training Programs. Boston: Allyn and Bacon, Inc., 1975. 355 pp.

What School Did You Learn in Today? Charleston, West Virginia: Appalachia Educational Laboratory, Inc., 1974. 4 pp.

Scholarly Papers:

Ebel, Robert L. "What Are Schools For?" Paper presented at the School Board Administrator Conference, Kellogg Center, Michigan State University, Lansing, February 1972.

Hoyt, Kenneth B. "Business Office Occupations and Distributive Education: Keys to Career Education." Paper presented to the Business and Office Education Division, American Vocational Association, New Orleans, December 1974.

Hoyt, Kenneth B. "Career Education: A Crusade for Change." Paper presented to the Nebraska School Boards Association, Lincoln, November 1974.

Hoyt, Kenneth B. "Career Education and Teacher Education." Paper presented at the USOE Career Education and Teacher Education Conferences, Philadelphia, Kansas City, Salt Lake City, March-April 1975.

Hoyt, Kenneth B. "Career Education and the Business-Labor-Industry Community." Paper presented at the meeting of the National Apprenticeship and Training Directors Conference, Washington, D.C., June 1975.

Hoyt, Kenneth B. "Career Education and the Marshmallow Principle." Paper presented to the Georgia Personnel and Guidance Association's Winter Conference, Macon, January 1976.

Hoyt, Kenneth B. "Career Education and the Teaching/Learning Process." Paper presented at the American Society for Curriculum Development Convention, New Orleans, March 1975.

Hoyt, Kenneth B. "Career Education, Career Guidance, and Vocational Education." Paper presented at a luncheon meeting of the Guidance Division, American Vocational Association, New Orleans, December 1974.

Hoyt, Kenneth B. "Career Education: Challenges for Counselors." Paper presented at the All Ohio School Counselors Association, Columbus, September 1974.

Hoyt, Kenneth B. "Career Education: Contributions and Challenges." Paper presented at the National Conference on Career Education, The Ohio State University, March 1975.

Hoyt, Kenneth B. "Career Education for Gifted and Talented Persons." Paper presented at the New England TAG Conference, Hartford, December 1974.

Hoyt, Kenneth B. "Career Education for Gifted and Talented Persons." Paper presented at the Texas Education Agency Conference on Career Education for Gifted and Talented Persons, Austin, April 1975.

Hoyt, Kenneth B. "Career Education's Potential for Increasing Productivity." Paper presented at the National Federation of Independent Business, Washington, D.C., June 1975.

Hoyt, Kenneth B. "Career Education for Minority and Low-Income Students." Paper presented at the National Career Education Conference, The National Urban Coalition, Racine, October 1974.

Hoyt, Kenneth B. "Career Education: Strategies and Dilemmas." Paper presented at the State Directors of Vocational Education Leadership Seminar, Columbus, September 1974.

Hoyt, Kenneth B. "Career Education: What's Doable Now?" Paper presented at the Sacramento Career Education Conference, Sacramento, August 1975.

Hoyt, Kenneth B. "Evaluation of Career Education: Implications for Instruction at the Elementary School Level." Manuscript prepared for the Spring 1975 issue of the Journal of Career Education, Washington, D.C., 1975.

Hoyt, Kenneth B. "'Everyone's Favorite Solution' Can't be All Bad: A Reply to James O'Toole." Paper presented at the Washington Vocational Association, Yakima, August 1975.

Newsletter of the National World of Work Economic Education Project, Fall 1972.

Northcutt, Norvell. "A Frightening List of What Adults Don't Know." Adult and Continuing Education Today (March 31, 1975): 29.

Ottina, John. "An Introductory Overview of Career Education." Inequality in Education (March 1974): 35-36.

Peterson, James A., and Pork, Dick. "Values in Career Education: Some Pitfalls." Phi Delta Kappan (May 1975): 621-623.

Plunkett, William T. "An Alternative Approach to Career Education." Phi Delta Kappan (May 1975): 628-629.

Smith, Paul J. "Career Education 'Hoosier Style.'" Career Education Digest (March-April 1975): 24-27.

Unpublished Materials:

Amari, James, et al. "Career Education Needs and Goals for Glassboro Public Schools." Glassboro: The Career Education Needs Assessment Committee, 1974. (Mimeographed.) 98 pp.

Athen, Jim, et al. "A Gauge for Clarifying Concepts in State Career Education Models." DeKalb, Illinois: Committee on Communications in Career Education, 1975. (Mimeographed.) 4 pp.

Bryant, Rita S. "The Efficacy of Career Education, Academic Achievement." Washington: Office of Career Education, U.S. Office of Education, 1975. (Mimeographed.) 39 pp.

Career Education Attitude Scale (7-9). Developed and used in the FAIS Project, P.K. Yonge Laboratory School, University of Florida, Gainesville, no date. (Mimeographed.)

Career Education Knowledge Test (7-9). Developed and used in the FAIS Project, P.K. Yonge Laboratory School, University of Florida, Gainesville, no date. (Mimeographed.)

Goldhammer, Keith. "The Context of Career Education." Paper presented at the Sixth Annual National Vocational and Technical Teacher Education Seminar, Columbus, Ohio, October 1972.

Hayes, Andrew E. "OCDQ Scoring Service." University of North Carolina, no date. 3 pp.

Herr, Edwin L. "Review and Synthesis of Foundations for Career Education." Columbus: ERIC Clearinghouse on Vocational and Technical Education, 1972. pp. 13-30. (Mimeographed.)

Hoyt, Kenneth B. "Career Education and the Handicapper Person." Washington, D.C.: United States Office of Education, 1975. (Mimeographed.)

Hoyt, Kenneth B. "Career Education, Vocational Education, and Occupational Education: An Approach to Defining Differences." Washington, D.C.: United States Office of Education, 1975. (Mimeographed.)

Interim Report With Recommendations for Legislation. Washington, D.C.: National Advisory Council for Career Education, 1975. (Mimeographed.) 36 pp.

Kelley, Gene, et al. "An Assessment for a Total Career Education Program Division of Community Colleges and Career Education." Salem, Oregon: Model Career Education Director Assistance Team, 1971. (Mimeographed.) 15 pp.

Luker, William A., and Jenkins, Floyd H. "An Analysis of the Treatment of Work Modes in Elementary Textbook Materials." Denton: North Texas State University, 1973. (Mimeographed.)

Manley, Virginia and Williams, Charles. "What is the Elkhart Career Education Planning—ELCEP?" Elkhart, Indiana: Elkhart Community Schools, 1972. (Mimeographed.)

Marland, Sidney P., Jr. "Career Education Now." Washington: United States Office of Education, 1971. (Speech.)

Program Overview: Experience-based Career Education. Portland, Oregon: Northwest Regional Educational Laboratory.

Rader, Billie Thomas. "The Revision and Validation of the 'Career Education Cognitive Questionnaire.'" Unpublished doctoral dissertation, University of Minnesota, 1975. 99 pp.

Rietberg, Wayne, and Swainson, Philip. "Career Education Survey." Byron Center, Michigan: Staff Bulletin, 1975. (Mimeographed.) 3 pp.

Troftgruben, Hartley, and Crone, Charles. "Self-Study Career Education Program." Springfield, Oregon: Springfield Public Schools, 1971. (Mimeographed.) 7 pp.

Young, William Collin. "A Study of the Factors Which Constitute a Comprehensive Elementary Career Education Program." Unpublished doctoral dissertation, George Washington University, 1975. 110 pp.

$$\frac{a+c}{d+b} - \frac{a}{b} = \frac{(a+c)b - a(d+b)}{b(d+b)}$$

$$= \frac{ab + cb - ad - ab}{b(d+b)}$$

$$= \frac{bc - ad}{b(d+b)}$$

Hence $\frac{a+c}{d+b} = \frac{a}{b} + \frac{bc-ad}{b(d+b)}$

Now $a/b < \frac{c}{d}$ iff ([illegible])

w/t prove $\frac{bc - ad}{b(d+b)} > 0$

i.e. prove $bc - ad > 0$

but $bc > ad$ [illegible]

since $\frac{a+c}{d+b} > \frac{a}{b}$ [illegible] proved

$$\frac{a+c}{d+b} - \frac{a}{b} = x$$

$$\frac{a}{b} + x =$$

$$bc \geq ad$$