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ABSTRACT

The author has reviewed and discussed the separatism existing among vocational, technical, and academic education and between secondary and post-secondary educational institutions. Results are reported of two national surveys to determine the perceptions of key State officials on the status of articulation of secondary and post-secondary occupational education programs in each State. Findings clearly indicated, "Separatism still exists with the nature and degree of difficulty in articulation directly related to the relationships of the agencies involved." It was revealed that State organizational structure had a significant impact on the articulation of secondary and post-secondary occupational education; where structures foster separate jurisdictions, special efforts to form lines of communication and interworking relationships were necessary for successful articulation. Several national efforts and State activities (North Carolina, Oregon, Florida, Utah, and New York) in secondary and post-secondary articulation have been included as ways to attack the problem. The author has presented the position that mistrust among educators must be eliminated and greater articulation between educational levels and subject matter areas must be established if a true educational continuum is to be realized.

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ARTICULATION OF SECONDARY AND POST-SECONDARY OCCUPATIONAL EDUCATION PROGRAMS

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Clearinghouse on Vocational
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**ARTICULATION OF SECONDARY AND POST-SECONDARY
OCCUPATIONAL EDUCATION PROGRAMS**

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1973

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FOREWORD

This publication discusses the separatism which exists between vocational, technical, and academic education and between secondary and post-secondary educational institutions. The paper presents the position that mistrust among educators must be eliminated and greater articulation between educational levels and subject matter areas must be established if a true educational continuum is to be realized. The author reviews the evolution of separatism, reports the results of two recent studies on the articulation of secondary and post-secondary education, and summarizes several national efforts and state activities in secondary and post-secondary articulation.

The profession is indebted to Louis W. Bender for his scholarship in the preparation of this report. Recognition is also due Raymond J. Needham, Linn-Benton Community College; and S. R. Wiersteimer, The Williamsport Area Community College; for their critical review of the manuscript prior to final revision and publication. Paul E. Schroeder coordinated the publication's development, and Alice J. Brown provided the technical editing.

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INTRODUCTION

Most Americans find incomprehensible the sectarian related wars of the Middle East or Northern Ireland which have been reported almost daily in newspaper accounts over the past several decades. We are appalled at the mayhem and senseless violence which can only be explained by deep emotional commitments to separate views and causes. We are mystified by the apparent ignorance on the part of both parties of the historical fact that the religious wars demonstrated the ridiculousness of conflict and animosity in the approach or concepts used by one group or another to achieve the same ultimate goal--worship of the Divine Power. Discussions of the sectarian conflicts usually conclude that the problem never will be solved until there is an appropriate, meaningful communication between the different groups and an acceptance of the imperative need to unify as a single national group, while honoring the justifiable differences among individuals and groups.

With such a stark illustration of medieval thinking in clear view, it is astounding that the American educators cannot recognize discomfoting parallels and analogies between the attitudes and prejudices revealed in such conflicts and those which developed and still exist, unfortunately, in our own educational system. We have been responsible for an equally ridiculous ideological conflict in education from the founding of the Colonies even until the present time. Regrettably, we have been ignorant of the obvious solution available to us, blind to the perils and consequences of our tragedy, and unwilling to establish the communications necessary to achieve a unified, comprehensive educational system serving each student constituent as an individual, rather than placing primary concern and effort upon perpetuating educational jurisdictions. Goldhammer and Taylor state it well: "Dissimilar to the fields of social work and health, education does not consider its subjects as clients; consequently, attention is primarily focused on the maintenance of the system rather than services that can be rendered to individuals" (Goldhammer and Taylor, 1972: 24).

The Problem

The American educational system has evolved from a historical separatism as irrational as the separatism involved in the sectarian conflicts of today. Unfortunately, contemporary educational thinking has not appropriately progressed to an appreciation of the tragedy and waste of this situation.

In fact, there are various types of separatism involved. Separatism of sponsorship of public and private educational institutions; separatism of education by level represented by secondary and post-secondary education; and the separatism among vocational, technical, and academic education are but a few examples.

Each of these separations relate to our study, particularly as we see the promise for unified efforts to provide a true educational continuum. It is also important because of substantial evidence that we are living in an age when further delay in unification can be disastrous. Education, historically speaking, was viewed as a special social institution serving an omnipotent destiny for mankind. Whether it be at the "common" school or college level, it carried an aura of Divine direction. It has experienced noticeable modification as we examine the phenomenon of public respectability even of proprietary institutions (with a profit motive) as long as the quality and nature of the education is above reproach (Bender and Murphy, 1971). The "calling" of teaching had for hundreds of years assumed personal commitment and sacrifice as a badge of legitimacy. In our contemporary evolution, the principle of professionalism is more on the basis of qualification and contribution than upon personal sacrifice and "calling." Up until only a few years ago, proprietary education with a profit motive was viewed by many educators as tantamount to sinful exploitation.

Separateness of secondary and post-secondary levels illustrates the unbelievably naive and misdirected attitudes of society toward education in general. The terminology alone is testimony to this fact. When we use the terms elementary, secondary, post-secondary, and higher education, we also convey an attitudinal level of status and prestige. While efforts have been made to turn this symbolism around, social attitudes have, until recently, continued to give greater recognition to the wrong end of the continuum. Use

of the terms "primary schools" or "basic education" to denote the crucial nature of education during the formative years of an individual had relatively little influence in changing the misconception, as we will note later. Nevertheless, there is reason to believe society has come of age in recognizing that the greatest potential for serving the individual differences of students will come during the earliest formative years, even perhaps before the traditional entry level of the public schools. Some of the most exciting developments in new and non-traditional approaches to education are taking place at the pre-school and primary grades end of the continuum.

This paper, however, will deal primarily with the separatism which developed between vocational, technical and academic education. While the difference between vocational education and technical education will be explained, the author shall arbitrarily use the term "occupational education" to encompass both throughout the paper.

Definitions For Articulation

Articulation as a concept is typically treated in either a global macro-context or in a restricted issue or problem context. Sobol (1971: 25) deals with the meaning of articulation as it pertains to the widespread feeling among the general public that a broad gap exists between school and life. Sobol declares: "...We have a deep and widening gulf between the 'have's' and the 'have-nots'..." In this context, Sobol also addresses the problem of articulation between the value systems of the young and the older generations. At the other extreme, Multanen (1968) speaks of articulation of secondary and post-secondary occupational instruction programs in an incremental curriculum approach but addresses himself only to an emphasis upon agricultural occupations. Kintzer (1972), after more than a year-long study of articulation problems between secondary and post-secondary institutions, concluded both must share equally in establishing and maintaining "a team relationship."

Definitions of articulation as a term also vary from the general to the specific. Analysis of the literature of international education dealing with articulation reveals the term defined to mean "compatibility." Post-secondary education in England is divided into two separate sectors

developing independently of each other, prompting the call for a "...search for compatibility between transfer and terminal courses..." (Organization for Economic Cooperation and Development, 1971: 23). Venn (1964) speaks of articulation as provision for an "integral continuity" among occupational and general education.

On the other hand, the definition of articulation appearing in Handbook VI, Standard Terminology for Curriculums and Instruction in Local and State School Systems reads (National Center for Educational Statistics, 1970: 75):

The manner in which the classroom instruction, curricular activities and instructional services of the school system are interrelated and interdependent, the aim being to facilitate the continuous and efficient education program of the pupils (e.g., from one grade to the next; from elementary to secondary school; and from secondary school to college), to interrelate various areas of the curriculum (e.g., Fine Arts and Language Arts), and/or to interrelate the school's instructional institutions (e.g., the home, church, youth groups and welfare agencies).

For this paper, the author will use the anatomical derivational definition stemming from the Latin for "joint," implying an interconnectiveness forming a perfect system without loss of identity or distinctiveness of the separate parts or units. Thus, articulation would encompass an organizational structure whose component parts fit into each other to form a cohesive system of educational opportunity (Bender, 1972).

A Neglected Area

In spite of the range of definitions, little attention has been given to the problem of articulation relating to secondary and post-secondary occupational education programs. A large and growing literature on articulation dealing with general academic education is in sharp contrast with the paucity of such literature for occupational education. This is sobering testimony to the apparent importance attached to academic as opposed to occupational education. A computer search of the Research In Education (RIE) and Current Index

to Journals in Education (CIJE) data bases revealed only two references. One (Smith, 1972) reports on efforts within New York State to correlate secondary and post-secondary vocational-technical programs with particular reference to advanced placement in two-year college programs. The other was a single page rallying call for articulation of agricultural programs between secondary schools and public junior colleges (Beach, 1969).

A search of state documents reveals only two reports which specifically address secondary and post-secondary articulation of occupational education programs. Manley (1970) authored a document dealing with articulation between North Carolina's secondary schools, technical institutes, and community colleges. The Oregon State Board of Education produced a document reporting task force recommendations on coordination of occupational preparatory curriculums from the high school through the community college (Oregon State Board of Education, 1968). Several other states, including Iowa, New York, and Oklahoma, have mentioned articulation in state documents; however, the subject has not been the focus of a specific publication.

While hundreds of dissertations have been written on articulation problems relating to academic education, only one dissertation could be found which targets on the topic of this study. Linksz (1971) conducted a dissertation study directed primarily at institutional-level practices in Maryland entitled, "A Plan for Improving Articulation in Occupational Education Between Public Secondary Schools and Community/Junior Colleges in Maryland, 1971."

The bibliography following this report evidences some productivity after an extensive search for literature on the topic, but it is clear that most references deal with the topic only tangentially. As a consequence, it was impossible to develop an "Information Analysis Paper" based primarily upon a review of existing research findings or appropriate literature. Therefore a national survey was conducted for this publication in an attempt to determine the perceptions of key state officials on the status of articulation of secondary and post-secondary occupational education programs in each of the states.

This paper is composed of three sections. The first reviews the evolution of separatism as well as the implications

for a new posture under the career education concept. The second section reports the results of the national survey mentioned above, as well as selected results of another recent survey of state directors of vocational education, community colleges, and adult and continuing education. The state directors survey was conducted jointly by The Center for Vocational and Technical Education of The Ohio State University; and the Center for State and Regional Leadership of Post-Secondary Education, operated cooperatively by The University of Florida and Florida State University. The third section reports present national efforts, some selected state activities and then a brief summary.

SEPARATISM AND THE CAREER EDUCATION CONCEPT

The career education concept permeates all education at all levels (Marland, 1971). Unfortunately, many have focused upon the word "career" rather than on "concept" in finding meaning. As a result, there is confusion in understanding the concept which leads many to make the grievous error of assuming a continuation of separatism in education rather than a unity. The career education concept is also jeopardized by the organizational structure of the educational system which contributes to separatism in jurisdictions and in loyalties. The types of educational programs, even the separate compartmentalization of subject areas, and the methodology of approach, as well as practices at the institutional or operational level are additional potential impediments to the realization of the career education concept. Too much of the educational program is predicated upon the principle of screening or weeding out the "unfit" instead of tailoring experiences to bring to full blossom the potential and uniqueness of each student. A final aspect of the problem is the necessity to bring perspective to these various components to assure something will be done about it from within as well as from without the education system (Marland, 1972a).

Separatism in education, together with misplaced values and status, have resulted in immeasurable loss in human resources. The United States, originally endowed with rich natural resources, spawned a society which condoned

exploitation of the seemingly endless bounty of those resources. Human resources were viewed not too differently until World War II when it became apparent the only regenerative resources available would be those of mankind.

Shortages of natural resources during World War II and the realization that some natural resources would in fact become depleted provided a stern warning that our country must shift from exploitation to conservation as well as regeneration wherever possible. During the quarter century which followed World War II, we have only crept toward an operational model for effective development and regeneration of human resources. Sixty per cent of the youth who enter our public schools are forced through programs which have no meaningful utility to them at the end of the twelfth year of study. We have ample testimony of the resulting loss of human resources, as evidenced by a large segment of that group dropping out along the way and the remainder unable to find meaningful employment upon graduation. We must also consider the slow pace of response of our educational system to those who need re-tooling or renewal education throughout their lifetime because of the rapidity of change and the complexity of our technological society (Daugherty, 1972). Rhetoric still surpasses performance in the challenge of the educational system to respond to change and the concomitant needs of the citizenry.

America's educational system continues to be out of kilter with the career education concept. High school college preparatory and general academic programs continue to be out of proportion with the number of students who will follow the path thus laid. Many fall along the way into a valley of ambiguity which places them in the real world, ill-prepared and ill-equipped to find appropriate employment or to assume an appropriate citizenship role.

The tragedy of unemployment, underemployment, and unhappy employment can, to a great extent, be blamed upon the misalignment of the educational system and its lack of articulation with business, industry, government, and other employers of the real world. Venn (1964: 1) states it bluntly, "Yet, though technology today in effect dictates the role that education must play in preparing man for work, no level of American education has fully recognized this fact of life."

The problem of misalignment is also significant because while we espouse conservation and regeneration of human resources as a principle, the educational community is guilty of wasteful duplication of programs and services in many states. This occurs in spite of scarce resources and the consequences of the inadequate programs which result from such wastefulness. Utah State Senator Ernest H. Dean warns that public confidence in the formal education system has increasingly waned or diminished and that it is inevitable there will be further loss unless something is done about it (Dean, 1971).

Regrettably, educators fail to internalize and identify with the inevitable tendency of society to expect its changing needs to be served by existing social institutions; and when those existing institutions fail, society will turn to others or create new ones. The community college maintains it evolved to a great extent because of the failure of other institutions to respond and serve society's needs; the question will be whether this institution itself will be flexible in responses or whether rigor mortis will set in.

PHILOSOPHIC AND HISTORICAL FOUNDATIONS

The problems of separatism have complex philosophic and historical roots, which, like the mangrove trees, have formed new trunks and branches which makes site of origin poorly discernible. It is possible, however, to examine three periods of our history in order to get a general appreciation of the cause and effect of this phenomenon.

Colonial Period

During the colonial period, the purpose of education was related to the religious heritage of our forefathers. Religious freedoms ordained that education provide one with the ability to read and write, a goal of the early "common" school for the general public. Offspring typically followed the occupational paths of the parents; thus there was little need for the schools to encompass preparation for employment.

Much of the education and training for an occupation came through on-the-job experiences or apprenticeship training with the parent.

Higher education, founded essentially to perpetuate "the faith," was designed to a great extent upon the European model which was based on the Greco-Roman curriculum and the philosophy of elitism. Private sponsorship of higher education was the general structure initially and came about primarily because of the different religious denominations wishing to prepare a ministry for their own orthodoxy. Snobbery and the failure of courses to transfer as equivalent course credits from one institution to another began their cancerous growth during this time (Rudolph, 1965).

Civil War Period

Without repeating the sociological determinants providing the basis for a new philosophic direction during this period, let it suffice us to observe that the industrial age had eroded the pattern of offspring automatically following in the footsteps of the parent because of the labor market generated by industrialization. At the same time, the public schools inadvertently were assuming a new custodial role for students as parents turned from the farm and the home to work in the factories. To a great extent, school districts were made up of one-teacher schools and teachers were poorly prepared in other than the general academic subject areas. Manual training developed during this period, primarily as a way to enrich the old curricula and motivate students to remain in school rather than as a means of vocational training. Nevertheless, the manual training movement was to open the way for vocational training in the secondary school curriculum (Cremin, 1961).

It was during this period that vocational education had its roots. It also triggered some of the major debates within education. Traditionalists insisted upon the academic curriculum as "the way" and gave short shrift to the concept that training for a vocation could be a legitimate part of the formal educational institution. It was the traditionalists who forced separatism within the educational system in spite of efforts of John Dewey and others to integrate vocational education in the overall school program. Dewey saw academic education producing citizens with snobbish attitudes

toward manual labor and without saleable skills, while trade training produced employable workers without insights into self or society. Over fifty years ago, Dewey (1915: 143) called for eliminating separatism: "The democracy which proclaims equality of opportunity as its ideal requires an education in which learning and social application, ideas, practice, work and recognition of the meaning of what is done, are unified from the beginning and for all."

Vocational educators were the first to recognize the existence and value of politics in education. It is amazing that the academic educators never made a serious study or use of the political strategies and tactics developed by the vocational educators. The National Society for the Promotion of Industrial Education, the forefather of the American Vocational Association, is given credit for the landmark federal legislation of 1917, known as the Smith-Hughes Act, which influenced the development of vocational education throughout the nation. This federal legislation was categorical in nature and narrowly defined the vocational education programs to be funded. Significantly, it established a separate organizational structure for vocational education at the federal level and at the state and local levels as well. Vocational educators, recognizing the importance of status which comes from a separate organization with its own sources of funds, continued to work for improved federal legislation. The Smith-Hughes Act provided funding "in perpetuity" and thus subsequent federal acts always built upon rather than replaced the original categorical aspects of that legislation.

A forerunner to the Smith-Hughes Act brought reform to higher education. The elitism philosophy of the colonial period had increasingly come under attack by those believing in the importance and value of education and training for utility's sake. Utilitarianism was the philosophic foundation for the Morrill Act of 1862, popularly known as the Land-Grant College legislation. The Morrill Act provided grants of land in each state to endow or support colleges devoted to agricultural or mechanical arts education. These institutions were to foster practical as well as liberal education for the industrial classes, the sons and daughters of the farmer and the mechanic. This federal legislation, in no way a response to legislative leadership or lobbying from higher education, not only revolutionized higher education but also set the climate for the emergence of vocational education and the comprehensive high school (Venn, 1964).

Interestingly, the land-grant college had to struggle against an identity problem as severe as that of vocational education in the high school curriculum or of the early junior college as a part of higher education. Many of the agricultural and mechanical colleges were described as "cow colleges" and the students as "cows." Prestige was synonymous with being a student in a liberal arts institution and second-class citizenship was synonymous with attending one of the early land-grant colleges. To a great extent, however, these early institutions performed a function similar to the comprehensive community college of today.

While the utilitarian philosophy was to change the curriculum of high schools and many colleges, it was predicated upon what Cross (1971) describes as "meritocracy," a requirement that the student meet certain criteria in order to merit admission to the program. At the turn of the century, technical education began to assume a separate identity itself. The land-grant colleges moved rapidly toward a selective admissions process and professionals such as engineering established their own admissions and programs criteria.

The early beginnings of technical education are rooted outside the formal education mainstream through the creation of technical institutes (Henninger, 1959). This created the same identity problem and jurisdictional relationships between technical and academic education experienced by vocational education earlier. Prior to World War II, few high school programs included technical education, viewed neither by vocational educators as an appropriate component of their curriculum nor by academic educators as their component.

World War II and Beyond

Since World War II, strong societal pressures toward egalitarian principles have developed. State teachers colleges have been transformed to state colleges or state "multiversities" as private sponsorship gave way to public responsibility for higher education, particularly through state systems. The emergence and spectacular, phenomenal growth of community colleges, together with a variety of other post-secondary institutions of less-than-baccalaureate level, brought comprehensiveness to the post-secondary level. Post-secondary institutions also began to enunciate the policy

that the institution and its program should adjust to and meet the requirements of the student as opposed to the earlier tradition of the student meeting or conforming to the requirements of the institution. This fundamental principle has significant implications for secondary and post-secondary articulation of occupational education and academic education as the career education concept is advanced (Martin, 1972).

The George-Barden Act of 1946 substantially improved the condition of vocational education both through providing greater flexibility and more funds. However, as Venn (1964) pointed out, a vocational philosophy evolved which encompassed uniformity in programs and duality or separatism in the educational system whereby the high school was viewed as the capstone to a practical terminal experience. Consequences of this philosophy have sometimes been rigidity of training in skill preparation that becomes obsolete or totally unneeded even before graduation.

Technical education, which has had its greatest surge during the past decade, became identified with vocational education primarily through federal legislative actions. The Vocational Education Act of 1963 not only expanded the occupational fields for vocational education, but also provided for area vocational education designed to compensate for program restrictions. These restrictions were caused by small school districts, and the inability of small communities to establish vocational programs economically and efficiently unless they were provided for on an area or multi-district basis. The need for technicians and the creation of area schools thus brought about a marriage between vocational and technical education at the secondary level. Until this time, vocational education was perceived as a secondary school program and as being outside the province of post-secondary institutions, while technical education had been provided at the post-secondary level. It was at this point that a jurisdictional conflict developed in many states between the director for vocational education and the director for the community colleges. Separate programs labeled technical education were offered in the area schools and in the community colleges, often within a few miles of each other. Community colleges felt they should qualify for federal monies under the 1963 legislation but found themselves excluded from state plans in some cases. At the same time, area schools were confronted with an identity or image problem caused by the refusal of collegiate institutions to accept "credits" when

students attempted to transfer. Equally frustrating was the prohibition to award "degrees" placed upon area schools, even for technical programs of equal scope and rigor to those in two-year colleges.

As the demands for continuing education and for adult education became increasingly heavy, technical institutes and public community colleges began to direct energies toward vocational as well as technical and general education programs. The philosophy of egalitarianism and the previous practice of separatism thus could not work out well; it is clear we are at the threshold of a new day when the separate elements must come together in a unified way to achieve the goals of the career education concept.

Decade of the Seventies

The beginning of the 1970's found education generally enjoying the boom period even though noticeable signs of the downturn could be detected. Nevertheless, enrollment at the post-secondary level continued to climb at approximately 12.5% annually. Construction of new physical facilities fell behind capital budget authorizations so that backlogs of as much as two years in some states contributed to the "sellers market." Establishment of entirely new post-secondary institutions at a rate which exceeded one per week generated relatively little protest or conflict in spite of potential duplication and territorial infringements. The alert observer of the second half of the 1960's could detect disquieting signs of an apparent shift in social attitudes which would have a significant impact upon public policy for both secondary and post-secondary education levels.

Examination of the titles of statewide master plans during this time would reveal a subtle shift in responsibility assumed by state boards, particularly those designated as being responsible for higher education. Titles of state master plans for higher education in the early 1960's were, without fanfare, retitled as master plans for post-secondary education between 1966 and 1968 in several states. By 1970, such master plans in several states were known as master plans for education beyond high school. Thus within an unusually brief period of time, a fundamental change in attitudes occurred. During the early 1970's, post-secondary and higher education have become almost synonymous terms. Greater equity in the status of all forms and levels of education seems imminent.

Loss of prestige for the baccalaureate degree came from many directions. The former president of Cornell University wrote:

First, we in education, particularly in higher education, must reduce our propaganda that a four-year liberal arts experience is a necessity for everyone. This style of education, though essential for many, is probably not meaningful for more than one in five, and may be harmful for half the rest. The junior college is an effective alternative but only one alternative. We must continue to experiment.

Second, we must recognize that specific vocational or professional purpose is a legitimate and necessary objective for the majority of students that come into our colleges and universities. All too frequently career-oriented students have come to believe that they are involved in an inferior kind of education with inferior objectives. It is time to stop such nonsense... (Perkins, 1970: 247).

Equally influential in affecting the shift in societal attitudes was the sensational exposé made by Berg (1970), which was an indictment against both the educational institutions and the employers who contributed to the artificiality of credentialism. The highly publicized Newman Report was critical of various aspects of the education establishment, directing its sting at nearly every post-secondary institution, including the community/junior colleges: "The 'junior college scenario' is thus one of transformation of community institutions into amorphous, bland, increasingly large, increasingly State-dominated, 2 year institutions which serve a number of interests other than that of their own students" (U.S. Office of Education, 1971: 59).

As these frontal attacks were being made on social attitudes as well as the educational system, a rejuvenation in the philosophy and purpose of education was being formulated and enunciated as the career education concept. Thus as positive electrical poles interacted with the negative poles of external criticism, significant re-direction and promise were to result. Enrollment patterns during the 1972-73 academic year have demonstrated this fact. While full-time new admissions to post-secondary institutions have grown

at less than two per cent and some individual institutions have even experienced stabilization or reduction, the actual head-count of students enrolled for part-time and full-time courses continued to increase substantially across the nation. Most significantly, however, was the dramatic shift in applications for admission from academic to occupational programs. The demand for admission to the occupational programs resulted in large numbers of occupational students being turned away for the first time.

The increase in the numbers of part-time students and those who seek occupational education programs suggests that the concept of lifelong educational opportunity is more than rhetoric. The fact that many corporate organizations are developing training and education divisions to serve this expanding market through proprietary schools should signal public secondary and post-secondary educational institutions to move from traditions and separatism to a dynamic articulated organization.

The Education Amendments of 1972, even if not significantly supported by federal appropriations, cannot help but advance this movement toward an articulated educational continuum. The 1202 Commission Provision will force cooperation, coordination, and articulation from a federal level if it is not already in existence or has not been achieved at the state and local level. The effort for national articulation over the next several years will be discussed later.

STUDIES OF PERCEPTIONS OF STATE OFFICIALS

This section reports the results of two surveys to determine the perceptions of key state officials on the status of articulation of secondary and post-secondary occupational education programs in each state.

Survey I

During the months of December, 1972 and January, 1973, the Center for State and Regional Leadership at Florida State University conducted a national survey of key state officials

having direct responsibility for secondary and/or post-secondary occupational education programs. Mr. Rodney G. Hurley, a doctoral student and Kellogg Fellow, served as research assistant throughout the study and was responsible for computer programming of all data analyses. The study was not designed to produce data which could be utilized on an empirical comparative basis. However, three populations were identified in order to provide a picture of the perceptions of those holding a strategic position in the educational structure to influence articulation of secondary and post-secondary occupational education. Those included in the study were the Chief State School Officers (CSSO), State Directors of Vocational Education (DVE) and State Directors of Community Junior Colleges (DCC). All fifty states were surveyed.

Objectives of Survey

There were five objectives of the survey. First, there was an attempt to determine the extent of existing formal articulation mechanisms or agreements on a statewide or institutional basis. Second, the survey attempted to determine the degree and nature of articulation or duplication of occupational education at the institutional level. This also encompassed the variety of types of institutions and their inter-working relationships. Third, the survey sought to determine the loci of problems of articulation perceived from the state-level vantage point as it related to students attempting to move from one institution to another or from one level to another. Fourth, an attempt was made through the survey to identify current articulation efforts, whether within an institution at the departmental level, among institutions, or throughout the state. The fifth objective of the survey was to identify existing or developing non-traditional practices which would facilitate articulation between secondary and post-secondary occupational education programs.

Procedures

Instrument. A check list questionnaire was developed which would facilitate computer treatment of the data. A sequence of items intended to ascertain the perception of the state officials was structured for each of the five

objectives outlined. Any existing publications or documents relating to a given problem were solicited from the state for further in-depth analysis.

Population. Questionnaires with self-addressed reply envelopes were sent to each official listed in the 1972 Directory of Chief State School Officers maintained by the Education Commission of the States; to directors of vocational education for 1972, provided by The Center for Vocational and Technical Education at The Ohio State University; and to each official reported on the 1972 mailing list of the National Council of State Directors of Community Junior Colleges. It was recognized that legal authority for vocational and technical education in several states rests outside the purview of the chief state school officer. Furthermore, while the structure and organization of education in some states provide for the officials to be in separate jurisdictions, questionnaires were addressed to the three populations described with the deliberate intent of examining the variety of perceptions according to two primary groupings. First, responses of each of the three respondent types were sought within each of the five areas mentioned above. Second, a further grouping of responses by organizational type within each of the five areas was made using a classification of state educational agencies provided in the literature.

This classification of states included use of Berdahl's (1971) description of coordinating and governing agencies for post-secondary programs, and the classification of community junior college agencies provided by Wattenbarger and Sakaguchi (1971).

Data Collection. Letters explaining the study and soliciting cooperation from the officials were sent in December, 1972. Requested were existing documents and publications relating to the problem. A self-addressed, postage-paid reply envelope was provided with each questionnaire. A three week deadline was established. No effort was made to increase the number of returns by follow-up techniques.

Results

Returns. At least one reply was received from each of the fifty states with nine states having all three officials submit a reply. Total replies from each of the populations

were as follows: chief state school officers, 22; state directors of vocational and technical education, 40; and state directors of community colleges, 32. Six additional chief state school officers sent letters explaining that they would have their questionnaire completed either by the state director for vocational education or the state director for community colleges, depending upon the structure of the state.

Analysis. Tabulation of the questionnaires was done by computer programming whereby an overall gross tally analysis was first produced. Then an analysis of the responses for each type of official within each state was made. Finally, analyses according to classification of the different state structures were made and then within and between the various classifications as well.

Findings

Articulation Agreements: Nature, Status, Level, and Administration. The answers by type of respondent to the four items related to articulation are presented in Table 1. Written agreements providing for articulation of secondary and post-secondary occupational education are not presently widespread. Where written agreements do exist, they tend to be at the state level and more than likely encompass all institutions offering occupational education programs. Furthermore, for those agreements existent at the state level, the administration of the agreement is by a committee composed of representatives from the levels of education or types of institutions involved. The discrepancy in perceptions of the officials manifested to some degree throughout the study was evidenced in the fact that eight of the states represented in this report had contradictory responses on the part of the two state directors. Either the state director of vocational education reported existence of written articulation agreements while his counterpart for community colleges reported no written agreements or vice versa.

When the responses were grouped by classification of state organizational structure for further analysis, it appeared that coordinating, regulatory agencies were more prone to have written articulation agreements than were governing-coordinating agencies or governing agencies. It might be speculated that governing agencies assume an operational articulation whereas coordinating agencies have sought to

TABLE 1
Status, Level, Coverage, and Administration of Written Articulation
Agreements Within States by Type of Respondent

Item	CSSO	DCC	DVE
1. Are there written policy statements and/or written agreements in your state which provide for articulation of secondary and post-secondary occupational education?	6 - yes 16 - no	13 - yes 19 - no	13 - yes 27 - no
1a. At what level(s) do the statements and/or agreements exist?	6 - State 2 - Local 3 - Inter- inst.	7 - State 6 - Local 5 - Inter- inst.	9 - State 4 - Local 13 - Inter- inst.
1b. If these statements and/or agreements exist at the state level, are they: encompassing for all institutions offering occupational education programs?	3 - yes 1 - no	5 - yes 3 - no	5 - yes 2 - no
1c. If these statements and/or agreements exist at the state level, are they: administered by a committee comprised of representatives from the various levels of education (i.e., elementary and secondary, vocational and community college, etc.?)	2 - yes 0 - no	6 - yes 1 - no	5 - yes 1 - no

Legend: CSSO - Chief State School Officer
DCC - Director of Community Colleges
DVE - Director of Vocational Education

encourage development of agreements by bringing the various parties together to focus on the problem. This would be contradictory to the study of state-level coordination or governance for higher education conducted by Glenny (1965).

Duplication of Occupational Education Programs. The majority of the respondents indicated evidence of duplication of occupational education programs among different types of institutions within the state (Table 2). In a few instances respondents qualified their answer by indicating duplication was necessary or desirable in their case.

Five problem areas contributing to causes of duplication were identified. With the exception of admissions policies and criteria, which did not rank as a major cause of the articulation problem, state officials were fairly consistent in identifying organizational or jurisdictional types of causes.

This finding is further corroborated when the type of state organization classification is introduced into the analysis. It would appear that perceived jurisdictions and separate domains have to a great extent been contributory to the development of overlapping or duplicated occupational program offerings. Venn (1964) declared this existed at the time of his year-long study sponsored by the American Council on Education.

Evidence of Problems in Transferability and the Loci of the Problems. Evidence of problems in transferability (Table 3) of students from the secondary occupational level to the post-secondary level was reported similarly by chief state school officers and directors of community colleges but quite differently by directors of vocational education. Directors of Vocational Education reported more instances of problems in transferability than did the other two respondents.

In analyzing the loci of the problem at the post-secondary level, it is interesting that transition from the secondary level programs to the proprietary schools is viewed by the state officials as being relatively smooth and easy. This is in sharp contrast to perceptions of all three groups of state officials when ranking community colleges. These institutions which espouse the open-door philosophy were viewed consistently higher as transfer problems for occupational

TABLE 2

Evidence of Duplication of Occupational Education Programs Among Different Types of Institutions

Item	CSSO	DCC	DVE
2. Do you have evidence of duplication of occupational education programs among different types of institutions in your state?	16 - yes 6 - no	27 - yes 5 - no	31 - yes 10 - no
2a. Are these duplications either directly or primarily due to articulation problems in areas such as: programs, jurisdictional concerns, admissions policies and criteria, levels of programs, and types of institutions?	8 - P 6 - JC 3 - APC 10 - LP 6 - TI	9 - P 14 - JC 1 - APC 10 - LP 14 - TI 3 - no	14 - P 12 - JC 5 - APC 14 - LP 12 - TI 3 - no

Legend: P - Programs
 JC - Jurisdictional Concerns
 APC - Admissions Policies and Criteria
 LP - Levels of Program
 TI - Types of Institutions

TABLE 3

Evidence of Problems in Transferability and the Loci of these Problems

Item	CSSO	DCC	DVE
3. Do you have evidence of problems in transferability of students from the secondary level to the post-secondary level?	7 - yes 15 - no	15 - yes 17 - no	24 - yes 17 - no
3a. Are these problems more pronounced between comprehensive high schools and:	5 - TI 2 - PS 4 - CC 3 - BS	4 - TI 1 - PS 8 - CC 5 - BS	9 - TI 2 - PS 19 - CC 5 - BS
3b. Are these problems more pronounced between area vocational schools and:	3 - TI 1 - PS 3 - CC 3 - BS	5 - TI 1 - PS 12 - CC 8 - BS	6 - TI 2 - PS 11 - CC 10 - BS
3c. Are these problems more pronounced between area vocational technical centers and:	3 - TI 1 - PS 2 - CC 3 - BS	1 - TI 2 - PS 4 - CC 3 - BS	5 - TI 1 - PS 8 - CC 7 - BS

Legend: TI - Technical Institutes
 PS - Proprietary Schools
 CC - Community Colleges
 BS - Baccalaureate Schools

education than any other type of institution ranked. Surprisingly, technical institutes were also ranked high when considering their mission.

A startling result was the fact that these state officials ranked baccalaureate institutions relatively low as the locus of transfer problems with secondary-level occupational programs. This would imply that, in many cases, the state officials felt baccalaureate institutions were more receptive to transfer of students from secondary occupational programs than either technical institutes or community colleges. Whether this perception was based on the assumption that a student would continue in the field for which he had been preparing or change directions is not known. It is nevertheless a puzzling outcome of the study.

When analyzed on the basis of classifications of state structure, the same unexpected picture is revealed. Apparently proprietary schools have taken the lead in recognizing past achievement and skill or competency level.

Current Plans for Dealing with Articulation within States. It appears that efforts to focus attention on the problem of articulation between secondary and post-secondary occupational education are a recent phenomenon but are increasing. Table 4 shows the majority of states are sponsoring conferences or other organized activities to deal with the problem. The majority of the conferences, however, are at the state level as perceived by these officials.

The responses also indicated that these conferences and consortia are extended to the local and inter-institutional level. Respondents indicated almost unanimously that conferences or meetings are planned for the near future or were recently held dealing with secondary and post-secondary occupational education articulation. It may well be that the career education concept and the national effort to promote the status and dignity of occupational education is triggering substantive leadership efforts throughout the country.

Existence of Non-traditional Practices. In most instances when respondents reported competency-based or skill measurement criteria for recognition of proficiencies in occupational education programs, they frequently qualified their judgement by indicating the affirmative response was for "some institutions only." The directors of vocational

TABLE 4

Current Plans for Dealing with Articulation within States

Item	CSSO	DCC	DVE
4. Are there conferences or consortia existent in your state that are concerned with articulation of secondary and post-secondary occupational education programs?	15 - yes 7 - no	24 - yes 8 - no	31 - yes 9 - no
4a. At what level(s) do these consortia or conferences exist?	13 - State 7 - Local 4 - Inter- inst.	15 - State 10 - Local 9 - Inter- inst.	26 - State 12 - Local 8 - Inter- inst.
4b. Are there conferences (meetings) planned for the near future or which have been held in the recent past that will deal with or have dealt with articulation of secondary and post-secondary occupational education?	9 - yes 4 - no	16 - yes 9 - no	27 - yes 5 - no

education and the directors of community colleges each perceived the practice as taking place primarily within institutions under their own jurisdiction (Table 5). Chief State School Officers tended to perceive the practices as occurring fairly uniformly among all types of institutions. Advanced placement provisions as well as credit for work experience were ranked relatively high as ongoing practices of the different post-secondary institutions.

Survey II

An entirely different study might profitable be reported here. As part of the preparation for a national invitational conference on career education for state officials responsible for vocational/technical education, adult education, and community colleges, The Center for Vocational and Technical Education at The Ohio State University and the State and Regional Post-secondary Education Center operated by the University of Florida and Florida State University conducted a national survey of all state directors in the fifty states. The survey instrument was designed for the purpose of having the different state directors identify the rank order attached to problems or issues confronting the implementation of the career education concept at the post-secondary level. In addition, the instrument sought the perception of the respondent as to the degree of responsibility his agency had to initiate steps to resolve the problem identified. One of the four sections of that survey dealt with ten articulation issues.

In order to take advantage of that additional information for this paper, all returns were keyed for computer processing and analysis. To relate the Articulation Section with the study already described, responses were treated in the same manner, including an analysis of the responses according to the classification of state organizational structure.

An analysis of selected items reveals interesting contrasts between the state director of vocational education and his counterpart responsible for community junior colleges. In the first place, state directors of vocational education viewed problems of transfer of credits from one program to another and from one institution to another as well as the role of colleges and universities in fostering articulation within the career education concept as among the most

TABLE 5

Existence of Selected Non-Traditional Education Practices and Their Loci

Item	CSSO	DCC	DVE
5. Have institutions in your state developed competency-based or skill-measurement criteria for recognition of proficiencies for occupational education?	12 - yes 9 - no 1 - don't know	15 - yes 8 - no 6 - don't know	25 - yes 13 - no 2 - don't know
5a. In what types of institutions do these practices occur?	4 - TI 0 - PS 4 - CC 4 - BS 8 - CHS 6 - AVS 4 - AVTC	3 - TI 0 - PS 16 - CC 3 - BS 3 - CHS 2 - AVS 1 - AVTC	10 - TI 3 - PS 11 - CC 5 - BS 12 - CHS 13 - AVS 11 - AVTC
6. Are there advanced placement procedures based on competencies in practice in institutions in your state?	10 - yes 10 - no 1 - don't know	25 - yes 1 - no 5 - don't know	25 - yes 12 - no 3 - don't know
6a. In what types of institutions do the practices occur?	4 - TI 1 - PS 7 - CC 3 - BS 2 - CHS 4 - AVS 2 - AVTC	6 - TI 0 - PS 22 - CC 4 - BS 1 - CHS 3 - AVS 1 - AVTC	7 - TI 2 - PS 16 - CC 5 - BS 5 - CHS 13 - AVS 9 - AVTC
7. Do institutions in your state give credit for work experience?	15 - yes 6 - no	25 - yes 3 - no 1 - don't know	31 - yes 8 - no

Legend: TI-Technical Institutions; PS-Proprietary Schools; CC-Community Colleges; BS-Baccalaureate Schools; CHS-Comprehensive High Schools; AVS-Area Vocational Schools; AVTC-Area Vocational Technical Centers

important of any problems. They did not, however, identify their own agency as the appropriate initiator for resolving the problem. State directors of community colleges, on the other hand, ranked the same areas as least important but were prone to identify their agency as the appropriate one for resolving the issues. Thus we find one state official sees the problem of articulation as being significant but does not see his agency as being in a position of initiating action for its resolution, while the other perceives little intensity of the problem which he sees as being in his own jurisdiction.

State directors for community colleges identified the highest rank order in the area of statewide planning and articulation between or among the three state agencies involved in the study. When examining the responses by state reporting, it becomes apparent that the significance of the problem is directly proportional to the degree of direct jurisdictional relationship. In other words, governing agencies for community colleges having no authority over vocational and technical education ranked the organizational articulation issue as most important. Those agencies responsible for community colleges which were within the same organizational structure accountable for vocational and technical education ranked the items as among the least important.

Comparison of the two studies would lead to the conclusion that the greater the separation between the agencies responsible for community colleges and those responsible for vocational and technical education, the greater the problem of articulation. Wherever the agencies are under the same umbrella, whether a state board of education or a separate statewide board, greater coordination and cooperation were implied.

Summary of Surveys I and II

From these two studies, the picture is clear. Separatism still exists with the nature and degree of difficulty in articulation directly related to the relationships of the agencies involved. Where vocational and technical education and post-secondary institutions such as the community colleges are under the same state organizational structure, the likelihood is greater that articulation is being fostered from the state through the local and institutional levels. State

organizational structure has a significant impact on the articulation of secondary and post-secondary occupational education. Where structures foster separate jurisdictions, special efforts must be made to form lines of communication and interworking relationships if articulation is to be successful. Coordinating councils or even informal regular meetings of the state directors involved have been effective mechanisms to achieve this goal. At least two states reported that a higher echelon had been imposed over the state agencies to force coordination because of earlier adverse relationships. This would seem to be the intent of the 1202 Commission provision in the Education Amendments of 1972 as well.

TOWARD THE FUTURE

Those who would challenge the oft stated slogan that change within the educational system requires nearly a half century should read John Dale Russell's declaration written in 1938: "...the fact that general and vocational education should not and cannot be separated in an effective program for the individual child inevitably means that the agency responsible for the conduct of one must also conduct the other phase of educational service" (Russell, 1938: 176). While there can be various challenges and arguments leveled toward this declaration, the events since World War II and particularly within the last few years impress the observer with the continuing cadence toward meaningful articulation from either the national, state or local level.

National Level Efforts

The Education Amendments of 1972 (Public Law 92-318) is viewed as a remarkable legislative package by many. The document alone is impressive, covering one hundred and forty-six pages of text. Numerous educators and legislators have described the Act as among the most significant of any educational legislation in the history of our country. Others are dubious of its ultimate impact since funding authorizations will mean nothing unless they are translated into actual appropriations. It remains to be seen whether such appropriations will be made during the next few years.

Even if not funded, history may record the Act as landmark legislation because of its indirect influence on an articulated educational continuum which is the undeniable intent of the Congressional action. Alford (1972: 6) states: "The new law establishes interlocking programs of support for community colleges and promotion of 'occupational education' at both elementary, secondary and post-secondary levels. The importance that Congress attaches to the community college in the field of occupational education is illuminated by the fact that the new law requires the Secretary of Health, Education and Welfare to 'promote and encourage the coordination' of the two programs." The mechanism to achieve this articulation is popularly known as the 1202 Commission. This Commission would require states seeking federal monies under Title X, Part A and Part B, to establish a state commission responsible for comprehensive statewide planning of post-secondary education encompassing community colleges and occupational education. Membership on the Commission must include representatives of the various types of post-secondary institutions within a given state as well as other represented interests related to occupational education goals. Thus by law from the national level, we find a convergence upon the ultimate necessity for communication and consensus in establishing educational programs and priorities.

Guidelines for the implementation of this and other provisions of the Educational Amendments of 1972 have generated considerable concern by various interests which traditionally have sought strength through separatism. Vying for opportunistic positions and attempts to protect self interests are evident; however, position papers prepared by potent national organizations convey the spirit of conciliatory intent. In many cases this has been done in response to the career education concept which has become the umbrella for various parties to reassess both present posture and future direction.

The National Association of State Directors of Vocational Education's "Position Paper on Career Education" includes the statement:

Central to the belief that career decisions must be made through sensible choice rather than by haphazard chance--and that actual preparation for entry into careers in an organized, purposeful manner is a self-evident requisite--is

the preposition that public education, from kindergarten through college, must set about making arrangements of organization and instruction that will meet such needs (1971: 2).

The "Position Paper Report on Career Education" of the National Council of State Directors of Community/Junior Colleges is even more emphatic.

Problems which must be overcome include:

- 1) lack of understanding between the philosophy of the comprehensive versus the single-purpose institution;
- 2) the conflicts in the philosophy between secondary and post-secondary occupational preparation;
- 3) the organizational structures within states which tend to discourage cooperative activities;
- 4) the feeling of competition among state agencies and different institutional arrangements for the dollar brought about by scarce funds and limited funding possibilities;
- 5) federal legislation which tends to draw a dichotomy between the various groups;
- 6) lack of research activities related to the current articulation policies between the various areas and failure to transmit the research findings;
- 7) lack of organized leadership development programs which give leaders in the various areas a broad understanding of the needs ("Position...", 1972: 4).

A task force of the Education Commission of the States, representing governors, state legislators, educators, and leading citizens, prepared an eloquent report which declared with conviction:

...vocational, occupational, technical, and career education not only are integral to and not alternatives for the educational process at all levels, but must be taken into account and reflected in all major educational decisions and priority determinations in local, institutional, state, and federal settings now and in the future.

If "vocation" or career education is used in the broad and historical sense of "calling" or "life work" then occupational education as distinguished from career education or "vocation" is that education concerned primarily but not exclusively with the development of knowledge, skills, and attitudes necessary for successful entry of its students into a gainful occupation regardless of required preparation time. Such education is not the exclusive prerogative of any one type of institution (Education Commission of the States, 1971: 6).

In addition to such national organizations giving weight to an articulated secondary/post-secondary continuum of career education, national conferences have been organized to contribute to the momentum of the movement. A national invitational conference on post-secondary career education for state directors of community colleges, adult and continuing education, and vocational education was held January 18-20, 1973, in New Orleans. Nearly one hundred state officials sat together in discussion groups to explore problems and issues which confronted them in their daily tasks. Proceedings of the conference reflect a sentiment that meaningful lines of communication be established among the various agencies with the view of an articulated effort at state and national levels (Proceedings..., 1973).

Selected State Efforts

State planning for occupational education is complex, containing numerous unpredictable variables. The volatile nature of occupational changes within a technological society operating under segmented national priorities rather than enunciated national policies make the task of prediction precarious indeed. State planning for occupational education probably is more intricate than for any other social service.

Toffler (1970) speaks of the transient society and describes Americans as the "new nomads." State planning for occupational education is confronted by a paradox in this regard. While nearly half of the people in the United States have changed their residence during the past five years, it has been the middle manpower and young professional segment of the labor force which has earned the new title of "migrant worker." High rates of geographical mobility also exist among those in the unskilled and semi-skilled groups, although the distance involved is usually quite limited--typically being within the neighborhood or county radius. Thus, if a company moves to a new state or government contracts call for large shifts of jobs, immediate adverse effects can be felt in a region of a given state. In order for the labor force to have the potential for a high degree of mobility, provision for training and re-training must be available in an orchestrated continuum.

As previously stated, an examination of state plans for occupational education in existing documents reveals relatively little attention to the problem of articulation between secondary and post-secondary occupational education. A few selected states will be briefly described.

North Carolina

Manly (1970) reports that the State Board of Education established a committee with representatives from secondary and post-secondary institutions as well as the state agencies having jurisdictions over them in order to achieve the major objectives of: 1) developing model administrative arrangements, 2) providing articulation of subject matter, 3) promoting innovation and coordination, 4) providing a better total program of occupational education, and 5) providing articulation of handicapped and disadvantaged programs.

To achieve the first objective, two technical institutes and three community colleges were allocated \$4500.00 each to develop a model educational administrative arrangement between themselves and the secondary schools located within their service areas. To reach the second objective, a statewide articulation committee was formed. All post-secondary institutions in the state were permitted to make budgetary commitments to attain the remaining objectives. By the end of the year, forty institutions had submitted

reports on articulation efforts and guidelines were developed. A recommendation was made for continuing efforts throughout North Carolina's system.

Among the publications sent by respondents to the state director survey was a report of articulation efforts at the local level between secondary and post-secondary institutions. Four needs related to the articulation process were identified: (1) secondary schools must become fully aware of the nature and scope of the offerings of the post-secondary institutions, (2) extensive remedial programs for communicative skills and mathematics are needed at both levels, (3) counselors and teachers of academic subjects must become knowledgeable of the values of occupation skills in today's labor market, and (4) evaluation should be continuous (Durham Technical Institute, 1971). It appears some continuing efforts are being made in North Carolina.

Oregon

In 1968, the Oregon State Board of Education, under the direction of Darrell L. Ward, undertook a statewide articulation project to produce a plan to foster occupational education at the secondary and post-secondary levels. Task force groups included representatives from secondary schools, community colleges, the university, the state employment service, and the board of education. The focus of the project was upon articulating occupational curriculums from the high school to the community college. Challenges confronting the endeavor were identified as follows:

- 1) Acceptance as a basic concept that the development of articulated programs must be cyclical in nature, evolving from a common base of curriculum development data and continually returning to an updated base for revitalization.
- 2) The referral to curriculum planners of appropriate data regarding human resources and labor market needs in a systematic and continuous manner is essential.
- 3) The development of elements of a master plan for occupational education in Oregon which would provide for

- a) Articulated programs from the kindergarten through the university with appropriate allocation of the occupational education function to the various levels of the system, while at the same time insuring local autonomy and control.
 - b) The allocation and coordination of community college curriculums which will optimize offerings and make the wisest possible use of our human and economic resource while at the same time providing for local needs, pride and orientation of programs.
- 4) The provision of student services which will assist enrollment of all Oregon citizens in curriculums offered in only one or a limited number of community colleges and facilitate free movement of students between institutions.
- 5) The free flow of communications between the educational community, the human resource and the labor market to insure relevant education and re-education of youth and adults (Oregon State Board of Education, 1968: 2).

Four task forces were used, covering (1) labor market data, (2) curriculum articulation, (3) curriculum coordination, and (4) open enrollment relations. The report of the project noted that among significant developments was "...the cooperative attitude exhibited toward this project by all agencies concerned with the occupational preparation of Oregon citizens. They have effectively joined together for a mutual thrust toward the further development and improvement of occupational curriculums" (Oregon State Board of Education, 1968: 8).

Evidence that the state leadership was followed at the local level can be seen in the methodology of an articulation project sponsored by the Clackamas County Schools. Nine curriculum task forces were formed which reflected the cluster curriculum approach suggested by the 1968 plan. Ten school districts and one community college participated in the project which was intended to inform and then develop,

organize and integrate curriculum materials into existing or newly needed programs and curricula. The last two sentences of the report read:

This project should be considered a success; the objectives were reached. Furthermore, the "seeds" that were present here have been germinated, and it is intended that this project will be expanded and continued as a permanent part of this district's occupational education program (Lilly, 1970: 3).

Florida

The post-secondary occupational education delivery system in the state of Florida is made up of 21 vocational/technical centers (single purpose institutions), and designated area technical school departments within 13 of the 28 community colleges. All community colleges provide post-secondary occupational education as part of their comprehensive offerings; however, only 13 are administratively identified to serve secondary as well as post-secondary constituencies. A study conducted in 1971 of post-secondary occupational education through this delivery system revealed that each of the three categories of institutions evidenced comparable negative policies and practices of articulation. Nearly two-thirds of each category reported previous work experience and credit by examination were not recognized and credited to students admitted to programs (Florida Community Junior College Inter-institutional Research Council, 1972).

Among the efforts to correct this weakness has been a statewide effort to develop, with the aid of faculty members from the various post-secondary institutions as the experts within disciplines, common course discipline formats as well as a uniform numbering system. The project is envisioned to encompass occupational and academic subject areas. Local efforts to establish comparability without creating a rigid single course of study has led to efforts to design courses around competency based objectives.

Utah

The state of Utah sent documents covering the three-year period of 1970-72. Articulation conferences were held annually

covering the entire state. In addition, integrated secondary/post-secondary curriculum guides have been prepared under the direction of the Utah State Board for Vocational-Technical Education in such areas as drafting and electronics (Utah State Board for Vocational-Technical Education, 1971).

New York

The state of New York employed a private consulting firm to examine the articulation problem in 1972. While success varied from place to place, this report implied greater success had been achieved between admissions offices concerning secondary and post-secondary occupational education programs than between instructional personnel. In one area, the report states, poor communication and cooperation on curriculum matters whereby students do not receive credit for previous vocational training results in penalties placed upon the student. "Further, there appears to be little attempt made at developing college curricula which builds on (rather than duplicates) course offerings at the vocational schools" (Del Rossi, 1972: 16).

Other States

Other states are in the process of addressing the problem of articulation of secondary and post-secondary occupational education. Local endeavor is also reported in the American Vocational Journal. Olson (1971) describes the system-wide OVT (Occupational, Vocational, and Technical) program used in the Pittsburgh, Pennsylvania school system. In this program, content is grouped into clusters with an anatomical jointedness providing for a total occupational education system. Students can thus move in a meaningful career preparation lattice.

SUMMARY

An anatomical conceptualization of articulation is consistent with the new career education concept. Separatism, which was the vehicle of establishing identity and strength

by the pioneers of vocational education, has reached the point of diminishing returns. Society, its legislative representatives, and professional educators have come to realize that each component unit of the educational system must be in its place, interconnected, and joined to form a true continuum. This does not mean the loss of special purpose, mission, or identity of each unit. It does mean, however, that the educational delivery system cannot have individual components going in opposite or independent directions.

In the foreward of a monograph entitled The Role of Postsecondary Occupational Education, Lowell A. Burkett (American Vocational Association, 1972) notes vocational and technical education is an essential component of the total education program. The total concept of career education is nothing more than "putting it all together" from the elementary school through the university for "cradle to the grave" opportunity.

BIBLIOGRAPHY¹

- Adams, Dewey Allen. Review and Synthesis of Research Concerning Adult Vocational and Technical Education. Information Series No. 58. Columbus: The Center for Vocational and Technical Education, The Ohio State University. April, 1972. 69 pp. ED 064 469 MF \$0.65 HC \$3.29. Also available from the Government Printing Office, Stock No. 1780 0919, \$0.45.
- Alford, Albert L. "Education's New Landmark Legislation." American Education. Vol. 8, No. 7 (August-September, 1972), 6.
- American Vocational Association. The Role of Post-Secondary Occupational Education. Washington, DC: American Vocational Association. September, 1972.
- Beach, T. O. "Coordinating Secondary and Post-Secondary Programs." Agricultural Education. Vol. 41, No.8 (February, 1969), 195.
- Bender, Louis W. "Occupational Education Program Articulation Between the Community College and Baccalaureate Levels." Proceedings of the National Seminar for State Directors of Community-Junior Colleges (January 10-11, 1972). Final Report. Leadership Training Series No. 36. Compiled by Ronald Daugherty, et al. Columbus: The Center for Vocational and Technical Education, The Ohio State University. March, 1972. 134 pp. ED 062 520 MF \$0.65 HC \$6.58.

¹Bibliographical entries followed by an ED number are generally available in hard copy or microfiche through the Educational Resources Information Center (ERIC). This availability is indicated by the abbreviations MF for microfiche and HC for hard copy. Order from ERIC Document Reproduction Service, (EDRS), P. O. Drawer O, Bethesda, Maryland 20014. Payment must accompany orders totaling less than \$10.00.

- _____, and Murphy, James P., Jr. "Articulation by Educational Diplomacy." American Vocational Journal. Vol. 46, No. 7 (October, 1971), 50-53.
- Berdahl, Robert O. Statewide Coordination of Higher Education. Washington, DC: American Council on Education. 1971.
- Berg, Ivar E. Education and Jobs; The Great Training Robbery. New York: Praeger Publishers. 1970.
- Chandler, Harold R. Project Accent--A Cooperative Program of San Bernardino Valley College and Surrounding High Schools in Auto-Mechanics, Applied Electronics, and Office Occupations Training in Grades 11, 12, 13, and 14. San Bernardino, CA: San Bernardino Valley College. March 11, 1967. 26 pp. ED 013 074 MF \$0.65 HC \$3.29.
- Cox, James N. Curriculum Coordination in Multi-Campus Junior College Districts--Case Studies in Communication. June, 1966. 57 pp. ED 014 948 MF \$0.65 HC \$3.29.
- Cremin, Lawrence A. The Transformation of the School; Progressivism in American Education, 1876-1957. New York: Alfred A. Knopf. 1961.
- Cross, K. Patricia. Beyond the Open Door. Jossey-Bass Series in Higher Education. Berkley: Center for Research and Development, University of California; and Educational Testing Service. 1971.
- Cyr, Frederick F. "Teaching Opportunities for Post-Secondary Vocational Graduates." American Vocational Journal. Vol. 46, No. 5 (May, 1971), 43-45.
- Daugherty, Ronald. "Career Education for the Secondary and Post-Secondary Schools." Report of Annual Alaska Vocational and Adult Education Conference, August 15-17, 1972. Columbus: The Center for Vocational and Technical Education, The Ohio State University. 1972.
- Dean, Ernest H. "Needed: Preparation for the Occupations." The Public Challenge and the Campus Response. Edited by Robert A. Altman and Carolyn M. Byerly. Berkeley: Center for Research and Development in Higher Education, University of California; and Boulder, CO: Western Interstate Commission for Higher Education. September, 1971.

Del Rossi, Paul R. Second Annual Evaluation Report to the New York Advisory Council on Vocational Education. Cambridge, MA: Arthur D. Little, Inc. 1972.

Dewey, John. Schools for Tomorrow. New York: Alfred A. Knopf. 1915.

Durham Technical Institute. Bridging the Gap. Identifying, Designing, and Articulating Compensatory Education Programs, A Report of the Articulation Workshop Held on the Campus of Durham Technical Institute on June 14-30, 1971. Durham, NC: Durham Technical Institute. June, 1971.

Education Commission of the States. "Report of the Task Force on Occupational Education in Post-Secondary Education." December, 1971. National Invitational Conference on Post-Secondary Career Education for State Directors of Community/Junior Colleges, Adult and Continuing Education, and Vocational Education. Pre-Conference Readings. Columbus: The Center for Vocational and Technical Education, The Ohio State University; and Tallahassee: University of Florida; and Center for State and Regional Leadership, Florida State University. March, 1973.

Feldman, Marvin. "Comprehensive Education, Redefined for a Humanist Society." Vocational Education: Today and Tomorrow. Edited by Gerald G. Somers and J. Kenneth Little. Madison: Center for Studies in Vocational and Technical Education, The University of Wisconsin. 1971. 349 pp. ED 050 276 MF \$0.65 HC not available from EDRS.

Fibel, Lewis R. Review and Synthesis of Literature on Occupational Preparation in the Community College. Information Series No. 55. Columbus: The Center for Vocational and Technical Education, The Ohio State University. 1972. 81 pp. ED 061 416 MF \$0.65 HC \$3.29. Also available from the Government Printing Office, Catalog No. HE5.2:0C1/4, \$0.50.

Florida Community Junior College Inter-Institutional Research Council. Post-Secondary Occupational Education in Florida. Gainesville: Institute for Higher Education, The University of Florida. June, 1972.

Florida Select Council on Post High School Education. Florida Post-High School Education: A Comprehensive Plan for the 70's. Report presented to the Florida State Legislature (March, 1970). Tallahassee: Florida Select Council on Post High School Education. March, 1970. 92 pp. ED 041 468 MF \$0.65 HC \$3.29.

Gaily, David S. Vocational Electronics. An Integrated Secondary-Post-Secondary Curriculum Guide (Tentative). Salt Lake City: Office of Vocational Education, Utah State Board of Education. August, 1970. 55 pp. VT 012 328, MF available in VT-ERIC Set ED 053 339.

Gardner, John W. "From High School to Job." Reprinted from 1960 Annual Report of the Carnegie Corporation. New York: The Carnegie Corporation. 1960.

Glenny, L. A. "State Systems and Plans for Higher Education." Emerging Patterns in American Higher Education. Edited by Logan Wilson. Washington, DC: American Council on Education. 1965.

Goldhammer, Keith. "Career Education--An Educational Concept." Proceedings of the National Seminar for State Directors of Community-Junior Colleges (January 10-11, 1972). Final Report. Leadership Training Series No. 36. Compiled by Ronald Daugherty, et al. Columbus: The Center for Vocational and Technical Education, The Ohio State University. March, 1972. Complete text 134 pp. ED 062 520 MF \$0.65 HC \$6.58.

_____, and Taylor, Robert E. Career Education: Perspective and Promise. Columbus: Charles E. Merrill Publishing Company. 1972. ED 064 517, document not available from EDRS.

Harris, Norman C. Technical Education in the Junior College; New Programs for New Jobs. Washington, DC: Curriculum Commission, American Association of Junior Colleges. 1964. 102 pp. VT 001 272, MF available in VT-ERIC Set ED 030 001.

Henninger, G. Ross. The Technical Institute in America. New York: McGraw-Hill Book Company. 1959.

- Herr, Edwin L. Review and Synthesis of Foundations for Career Education. Information Series No. 61. Columbus: The Center for Vocational and Technical Education, The Ohio State University. 1972. 85 pp. ED 059 402 MF \$0.65 HC \$3.29.
- Hurst, Charles G., Jr. "Occupational Education As a Liberating Force." Occupations and Education in the 70's: Promises and Challenges. Edited by Raymond E. Schultz, et al. Washington, DC: American Association of Junior Colleges. 1970. 40 pp. ED 045 852 MF \$0.65 HC \$3.29.
- Kintzer, Frederick C. "From High School to Community College--A Vital Link in the Articulation Process." Junior College Research Review. Vol. 6, No. 10 (June, 1972). 4 pp. ED 061 935 MF \$0.65 HC \$3.29.
- Lillie, F. Dean. "Secondary Schools and Community-Junior Colleges Vocational Education Articulation." Proceedings of the National Seminar for State Directors of Community-Junior Colleges (January 10-11, 1972). Final Report. Leadership Training Series No. 36. Compiled by Ronald Daugherty, et al. Columbus: The Center for Vocational and Technical Education, The Ohio State University. 1972. Complete text 134 pp. ED 062 520 MF \$0.65 HC \$6.58.
- Lilly, Robert F. Clackamas County Schools Articulation Pilot Project. Oregon City, Oregon. September, 1970.
- Linksz, James Joseph. "A Plan for Improving Articulation in Occupational Education Between Public Secondary Schools and Community-Junior Colleges in Maryland, 1971." Unpublished dissertation (No. 72-1250). New York: Teachers College, Columbia University.
- Linson, M. G., et al. "Is Articulation Possible?" American Vocational Journal. Vol. 46, No. 7 (October, 1971), 29-31, 88.
- McCarrey, Leon R. Career by Choice. A Guide to Career Training Programs at Utah Public and Private Post-high School Institutions--Autumn, 1972. Salt Lake City: Office of The Commissioner, Utah System of Higher Education. November, 1972.

Manley, Fred W. Articulation Between North Carolina's Public System of Elementary and Secondary Schools and Public System of Technical Institutes and Community Colleges. A Report with Suggestions for Continuing Efforts. Raleigh: North Carolina Research Coordinating Unit in Occupational Education. December, 1970. 133 pp. ED 051 375 MF \$0.65 HC \$6.58.

"Marland on Career Education." American Education. Vol. 7, No. 9 (November, 1971), 25-28.

Marland, Sidney P., Jr. "Can We Meet Our Education Needs Through Technology?" Paper presented at the 1972 Annual Meeting of the Education Commission of the States, Los Angeles, California. May 17, 1972b.

_____. "Career Education and the Two-Year Colleges." Paper presented at the Annual Convention of the American Association of Junior Colleges, Dallas, Texas. February 27, 1972a.

Martin, Marie Y. "Advancing Career Education." American Education. September, 1972.

Metropolitan State College, "A Master Plan for Occupational Education in Metropolitan Denver." Position Paper. Denver, CO: Metropolitan State College. 1968. 19 pp. ED 025 628 MF \$0.65 HC \$3.29.

Mikalson, Roy G., and Bloomquist, G. R. Articulation of Occupational Education in Clackamas County. Oregon City: Clackamas Community College. October, 1967. 80 pp. ED 018 185 MF \$0.65 HC \$3.29.

Modderno, Alexander S. "Articulated Programming Opens Collegiate Door to Minority Students." American Vocational Journal. Vol. 46, No. 7 (October, 1971), 46-49.

Morrison, Edward J., and Lecznar, William B. Development and Evaluation of an Experimental Curriculum for the New Quincy (Mass.) Vocational-Technical School, the Sequencing of Learning Units. Seventh Quarterly Technical Report. Washington, DC: American Institute for Research in Behavioral Sciences. December 31, 1966. 39 pp. ED 013 318 MF \$0.65 HC \$3.29.

Multanen, Monty E. "The Articulation of Secondary and Post-Secondary Programs." Agricultural Education. Vol. 41, No. 5 (November, 1968), 120-121.

The National Advisory Council on Adult Education. "Career Renewal for Adults Through Education." (A Position Paper, May, 1972). Washington, DC: The National Advisory Council on Adult Education. n.d.

National Center for Educational Statistics. Standard Terminology for Curriculum and Instruction in Local and State School Systems. State Educational Records and Reports Series: Handbook VI. Report No. OE-23052. Edited by John F. Putnam and W. Dale Chismore. Washington, DC: U.S. Office of Education, Department of Health, Education, and Welfare. 1970. 331 pp. ED 048 510 MF \$0.65 HC not available from EDRS. Available from the Government Printing Office, No. HE5.223:23052, \$3.00.

Olson, Jerry C. "Decision Making Power: Sign of Articulation." American Vocational Journal. Vol. 46, No. 7 (October, 1971), 32-35, 39.

Oregon State Board of Education. An Approach to the Articulation and Coordination of Occupational Preparatory Curricula From the High School Through the Community College; Paper and Reports of Task Forces I and II. Salem: Oregon State Department of Employment; and Oregon State Department of Education. December 16, 1968. 255 pp. ED 031 570 MF \$0.65 HC \$9.87.

Organization for Economic Cooperation and Development. "Towards New Structures of Post-Secondary Education." Convergence. Vol. 4, No. 3 (1971), 17-28.

Perkins, James A. "Higher Education in the 1970's." Educational Record. Vol. 51, No. 3 (Summer, 1970), 246-52.

"Position Paper on Career Education." Adopted by National Association of State Directors of Vocational Education, Las Vegas, Nevada, September, 1971. National Invitational Conference on Post-Secondary Career Education for State Directors of Community/Junior Colleges, Adult and Continuing Education, and Vocational Education. Pre-Conference Readings. Columbus: The Center for Vocational and Technical Education, The Ohio State University; and Tallahassee: University of Florida; and Center for State and Regional Leadership, Florida State University. March, 1973.

"Position Paper Report on Career Education." Adopted by National Council of State Directors of Community/Junior Colleges, San Diego, California, Winter, 1972. National Invitational Conference on Post-Secondary Career Education for State Directors of Community/Junior Colleges, Adult and Continuing Education, and Vocational Education. Pre-Conference Readings. Columbus: The Center for Vocational and Technical Education, The Ohio State University; and Tallahassee: University of Florida; and Center for State and Regional Leadership, Florida State University. March, 1973.

Proceedings of the National Invitational Conference on Post-Secondary Career Education for State Directors of Community/Junior Colleges, Adult and Continuing Education and Vocational Education, January 18-20, 1973. Columbus: The Center for Vocational and Technical Education, The Ohio State University; and Tallahassee: University of Florida; and Center for State and Regional Leadership, Florida State University. March, 1973.

Proposal for Progress, Iowa Cooperative Study of Post High School Education. Final Report. February 1, 1967. 224 pp. ED 019 957 MF \$0.65 HC \$9.87.

Rudolph, Frederick. The American College and University. New York: Alfred A. Knopf. 1962.

Ruhig, Theodore F., et al. A State Master Plan for Vocational Education. Honolulu: Hawaii State Board of Education; Board of Regents, Hawaii University; and Hawaii State Legislature, Senate. February, 1968. 125 pp. ED 018 215 MF \$0.65 HC \$6.58.

- Russell, John Dale. Vocational Education. President's Advisory Committee on Education, Staff Study No. 8. Washington, DC: Government Printing Office. 1938.
- Schultz, Raymond D. "Will Tradition Keep Occupational Education From Meeting Its Potential?" Occupations and Education in the 70's: Promises and Challenges. Washington, DC: American Association of Junior Colleges. n.d. 40 pp. ED 045 852 MF \$0.65 HC \$3.29.
- Smith, Ethel M. "Articulated Programming: A Factor in Career Education." American Vocational Journal. Vol. 47, No. 3 (March, 1972), 58-59.
- Snyder, John E. "Communications with the State Department of Vocational Education and Community-Junior Colleges." Proceedings of the National Seminar for State Directors of Community-Junior Colleges (January 10-11, 1972). Final Report. Leadership Training Series No. 36. Compiled by Ronald Daugherty, et al. Columbus: The Center for Vocational and Technical Education, The Ohio State University. March, 1972. Complete text 134 pp. ED 062 520 MF \$0.65 HC \$6.58.
- Sobol, Thomas. "The Broader Meaning of Articulation." Phi Delta Kappan. Vol. 53, No. 1 (September, 1971), 25-29.
- Toffler, Alvin. Future Shock. New York: Random House. 1970.
- U.S. Bureau of Labor Statistics. College Educated Workers, 1968-80; A Study of Supply and Demand. Bulletin 1676. Washington, DC: U.S. Bureau of Labor Statistics, Department of Labor. 1970.
- U.S. Department of Commerce. U.S. Industrial Outlook 1971 with Projections Through 1980. Washington, DC: Bureau of Domestic Commerce, U.S. Department of Commerce. n.d.
- U.S. Department of Labor. Manpower, Challenge of the 1960's. Washington, DC: U.S. Department of Labor. 1960.
- U.S. Office of Education. Education for a Changing World of Work, Report of the Panel of Consultants in Vocational Education. Washington, DC: U.S. Office of Education, Department of Health, Education, and Welfare. 1964. 307 pp. ED 019 500 MF \$0.65 HC \$13.16.

- _____. Report on Higher Education. Report No. OE-50065. Washington, DC: U.S. Office of Education, Department of Health, Education, and Welfare. March, 1971. 136 pp. ED 049 718 MF \$0.65 HC not available from EDRS. Available from the Government Printing Office, No. HE5.250:50065, \$0.75.
- Utah State Board of Education. Program of Vocational Education Conferences; June 8-12, 1970. Logan: Utah State University; and Salt Lake City: Utah State Board for Vocational Education. n.d.
- _____. Program of Vocational Education Conferences; June 5-9, 1972. Logan: Utah State University; and Salt Lake City: Utah State Board of Education. n.d.
- _____. Vocational Electronics. An Integrated Secondary-Post Secondary Curriculum Guide (Tentative). Salt Lake City: Office of Vocational-Technical Education, Utah State Board of Education. August, 1971.
- Utah State Board for Vocational-Technical Education. Vocational Drafting. An Integrated Secondary-Post Secondary Curriculum Guide (Tentative). Salt Lake City: Utah State Board for Vocational-Technical Education. August, 1971.
- Venn, Grant. Man, Education, and Work; Post Secondary Vocational and Technical Education. Washington, DC: American Council on Education. 1964.
- Wattenbarger, James L., and Sakaguchi, Melvyn. State Level Boards for Community Junior Colleges: Patterns of Control and Coordination. Gainesville: Institute of Higher Education, University of Florida. August, 1971.