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ABSTRACT

Two-year institutions of higher education have, in many ways, been anomalies in America's educational enterprise. Vocational education studies and assessments completed in 1981, 1989, and 1994 have all treated postsecondary vocational education primarily as more advanced versions of secondary programs and minimized the differences. Compared to secondary vocational education programs, community colleges do the following: (1) serve a much broader range of student populations; (2) have a different relationship to their local economies and thus different customers and missions; (3) operate in a different competitive environment; (4) serve different customers; (5) exhibit greater variations among states and within states than do high schools; and (6) are freer to respond to changing economies and labor markets. Also, community college programs, curricula, and enrollments are driven by different forces. The upcoming National Assessment of Vocational Education presents an a opportunity to better understand the current nature of the community college enterprise by studying the following: (1) individuals' goals and expectations and the ways they use the system; (2) colleges' decisions concerning missions, alliances, and investments and businesses' use of and linkages to colleges; (3) the impacts of colleges on regional labor markets and economies and the effects of labor markets and economies on students; and (4) innovators and catalysts for innovation. (YLB)

Linking Measures of Quality and Success at Community Colleges to Individual Goals and Customer Needs

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I. Introduction

Three major trends have contributed to the heightened prominence and expanded missions of two-year colleges within the nation's educational enterprise. The first is the increasing technical nature of work and, therefore, the growing number of jobs requiring more than twelve years of education. The second is the increasing demands and appetite of small- and mid-sized enterprises for more technology and information. The third is the increasing expectations and demands among parents and youth for postsecondary education — apparently either regardless or unaware of the income and employment potential of many mid-skilled jobs and regardless of college readiness.

This paper contends that there are specific and relatively new characteristics of community colleges and that they have implications for federal vocational education policy. One is that postsecondary vocational education in community colleges is a highly diverse enterprise and substantially different from the secondary vocational system with respect to the range and mix of customers and institutional settings and services. This difference affects the structure and timing of the learning process, measures of performance, and uses of federal funds, and raises the question of whether it is time for postsecondary vocational education to be treated under separate legislation to avoid both the recurrent competition for funds at the federal and state levels, as well as the need for a single state agency responsible for both levels of education. The other distinction is the implicit and explicit focus of community colleges on their regional economies. This influences the range of and priorities among services, programs, and missions and the associated student and economic outcomes and impacts.

These two premises suggest different forms of information and different studies than past national assessments. To fully understand the current nature of the community college enterprise and to assess its performance and needs, the Congress would benefit from knowledge about: (1) individuals' goals and expectations for postsecondary vocational education and the ways they choose to use the system; (2) colleges' decisions concerning missions, alliances, and investments and, correspondingly, businesses' use of and linkages to colleges; (3) the impacts of colleges on regional labor markets and economies and the effects of labor markets and economies on students' choices and chances; and (4) the innovators and catalysts for innovation. Very little of this information can be found in existing databases, thus requiring new data collection and analysis.

II. The Case for Vocational Education in Postsecondary Institutions

Two-year institutions of higher education, in many ways, have been anomalies within America's educational enterprise. Lacking the guidance and support from the federal government that has been given to four-year

institutions in federal legislation since the Morrill Act in 1862, and to secondary vocational education since the Smith-Hughes Act of 1917, community colleges have been left to their own devices and/or home state's interests to carve out their particular niches. Without clear-cut missions, they often developed in the image of and as appendages of either the four-year college or high school; i.e., their academic missions were associated with higher education legislation and their vocational missions with secondary vocational education. In many respects two-year colleges for many years were really nonessential institutions because their vocational education and adult training were available in-and until the 1980s remarkably similar to-programs in the secondary schools, and transfer programs were similar to the first two years of four-year programs in four-year colleges and universities. This is not to underestimate their considerable democratizing value, which provided access to educational opportunities for many segments of the population unable to qualify (or pay) for the more prestigious schools or acquire the skills they needed in high school. As demand for postsecondary education has grown, community colleges have become even more recognized for their open enrollment policies and gateways to higher education.

In the 1960s the vocational programs of community colleges expanded in response to the growing demands of industry for workers and the threat of automation. Yet, as recently as the 1981 Vocational Education Study, postsecondary vocational programs at community colleges were often found to be near-duplicates of those offered in secondary schools. Programs such as secretarial, welding, and auto mechanics consistently had the highest enrollments. Adult postsecondary vocational education, which accounted for the vast majority of the full-time equivalent enrollments (FTE), and customized training for industry occurred mainly in the area vocational centers of secondary systems.

This emphasis on vocational education during the years of compulsory schooling happened despite the recommendations of many national commissions. The nation's first full-scale national assessment of vocational education (1936-39) stated that "The needs of the economic order clearly point to the junior college period as the time when a relatively large amount of vocational education should be given." [1] Although the federal legislation limited funding for college programs, vocational education, the Commission said, was a more important role for junior colleges than simply replicating the first two years of four-year schools. The Panel of Consultants that was appointed by President Kennedy in 1961 to study vocational education agreed, but took a dimmer view of college-level work, despite its attention to rising levels of automation and skill requirements. The Panel stated that the term in the federal legislation "less than college grade" meant not just below college level but courses that do not require college entrance requirements. While opening access it lowered standards and may have led to duplication of effort between secondary and postsecondary programs.

The 1963 Vocational Education Act was the first to target "persons who have completed or left high school and who are available for full-time study in preparation for entering the labor market," although the funding set aside was combined with construction of area vocational education school facilities and could be used for either. But the Act's declaration of purpose was to assist students in high school-those "who have completed or discontinued their formal education and are preparing to enter the labor market..." and those needing skill upgrading. This, of course, was largely because prior to the mid-sixties most two-year colleges were in fact junior colleges whose aim was to transfer students to four-year colleges. Vocational programs were of lesser importance and received fewer resources.

In 1968, a report of the Advisory Council on Vocational Education found that postsecondary schools took an early stand on linking academic and vocational programs, stating "There is no longer any room for any dichotomy between intellectual competence and manipulative skills and, therefore, between academic and vocational education." [2] The report also recommended moving towards a "unified system of vocational education" where occupational preparation begins in elementary schools, continues through economic orientation and occupational preparation in junior high school, to more specific occupational preparation in the high school (but not limited to a specific occupation), and eventually to universal formal postsecondary

occupational preparation. Further, preparation should not be limited to the classroom, students with special needs should get special help, students at rural schools with inadequate programs should be able to use residential facilities, and data should be available "to eliminate undesirable duplication[3]."

The vocational education studies and assessments completed in 1981, 1989, and 1994 all treated postsecondary vocational education primarily as more advanced versions of secondary programs and minimized the differences. None of the planning papers in the 1981 study or design papers for the 1989 assessment specifically addressed postsecondary issues and secondary issues have appeared to drive the data collection. The one study that did focus on postsecondary in 1989 was a survey of employers to compare factors that influenced quality of manufacturing and accounting programs in both public and proprietary postsecondary institutions[4].

III. Distinguishing Marks

The term "postsecondary schools" appeared in federal vocational education legislation for the first time in the 1968 Amendments, which set aside 25 percent of the total basic grants to states for postsecondary institutions. This was the first vocational education funding specifically earmarked for two-year colleges. Despite the set-aside, federal vocational education legislation, even after decades of adjustments to markets, populations, and technologies, has never systematically taken into account the fundamental differences between secondary and postsecondary vocational education (PSVE). Even the judgment of whether PSVE should be considered an extension of K-12 or a track towards higher education is still an open question. When community colleges were still primarily junior colleges oriented towards transfer programs, area vocational centers assumed much of the responsibility for postsecondary adult education and for contract and customized training, and were the "institutions of choice" among most employers.

Current arguments for a universal K-14 education imply that that the associate's degree is merely an extension rather than entrance into a new type of education. I would argue that today the occupational programs offered by community colleges, and the environments in which they are offered, are not extensions of high schools but are more akin to universities, and today the differences between the compulsory and post-compulsory vocational and technical education are much greater than their similarities. Therefore, policies established for high schools are not automatically transferable to community colleges. The vocational and technical education at community colleges (i.e., associate's degree, certificate, credit and noncredit courses and training) differ from those in secondary vocational education in the following ways.

Community colleges serve a much broader range of student populations

Students enrolled in community college vocational programs range from youth just out of high school to senior citizens, from women with no work experience to laid-off machinists or engineers with decades of experience, from high school dropouts to adults holding Ph.D.s. Some vocationally oriented registrants are pursuing degrees, others want shorter term certificates, some are enrolled to acquire very specific skills or to explore occupations through selected courses, and others are not yet sure of their intentions. Adelman's analysis of High School and Beyond data highlights the problem of trying to measure retention among community college students because of the frequency of interruptions, changes in plans, and transfers among institutions between the time of initial enrollment and completion or final leaving. Almost three in eight students are over 30 years of age and one in eight is over 40 years[5] (though 70 percent of federal funds are distributed according to populations of age 24 or less), about 63 percent attend part time, about half of all students work full time (including 30 percent of all full-time students), and many have family responsibilities. Dropping out of a community college temporarily may be a necessity, and dropping out early to take a better job may be a very rational economic decision, particularly in tight labor markets and for employment in a company with strong internal education programs. One of the recent high-growth student populations is the "reverse transfer" —

people who already have completed a four-year college program but who may want to acquire particular skills or change careers. Estimated to be 7 percent of total enrollments, some programs report much higher rates. A water-testing program at St. Cloud Technical College in Minnesota, and advanced manufacturing technology programs at De Anza Community College in California, and a law enforcement program at Palm Beach Community College in Florida all report that more than one in four students pursuing an associate's degree already have a bachelor's degree.

Community colleges have a different relationship to their local economies and thus different customers and missions

The high school is a creation of the state operated en loco parentis and remains part and parcel of the state's educational system. Public educational institutions have always been locally governed but, since the days of Horace Mann and the first state aid, they have been legitimated, measured, regulated, and given standards to meet by the state. Despite efforts of schools, particularly in rural areas, to make the curriculum locally relevant, the primary responsibility of secondary education is to the student, not the community. Community colleges, however, have much stronger regional ties and are more able to specialize to target local needs-hence the title "community" college. High schools are part of the economic infrastructure, while community colleges are themselves an economic resource and embedded within regional economic systems. Therefore, community colleges have been able to expand their functions and services in ways which complement, supplement, and enhance their core education and training mission. Multiple "customers" suggest different measures of success for various goals, as shown in Table 1.

Table 1

Responsibilities and Goals of Community Colleges

Unit	Form	Economic Goals	Educational Goals	Equity Goals
Student	individual	Increased personal income, improved career opportunities	Acquired skills, competencies, and credentials	Access to jobs and career paths
Employer	corporate	Increased productivity and profits	Learning enterprise, more skilled work force	Fairer hiring and advancement policies
Region	collective	Increased per capita income and more jobs	Tacit knowledge transfer, learning society	Distributed wealth and reduced poverty

Community colleges operate in a different competitive environment

Although there is some competition for public schools, very little of it applies to vocational education. Most private schools, even where vouchers are being used, concentrate on the basics and generally do not offer any significant selection of — if any at all — vocational programs. Community colleges, however, face a major challenge in rapidly growing competition from proprietary schools, for-profit and corporate universities, and distance-learning companies as well as from each other. In California's Silicon Valley, for example, eleven different institutions offer prebaccalaureate education in electronics, nine different agencies or institutions offer programs in computer management information systems, and five teach computer repair.[6] Private colleges, which do not have to worry about offering a broad range of programs and can be selective, are capturing increasingly large niches in work-related education. The University of Phoenix, De Vry Institute of Technology, and corporate universities like ITT, Motorola, Disney, Ford, and Saturn offer some of what

community colleges offer, but more efficiently because they are able to focus their resources more narrowly and build expertise. The rapid growth of private companies is driving more and more community colleges towards increasing their short-term and certificate programs such as those offered by Microsoft and Cisco.[7] Some competition may prove valuable by spurring innovation and improvement. The competitive position of technical colleges is a function of government policy and regulation that determine scope of authority and institutional culture; but ultimately it is a function of entrepreneurial spirit, competency, and marketing.

Community college programs, curricula, and enrollments are driven by different forces

High school vocational curricula, despite mandated industry advisory councils, are primarily driven by state regulations and graduation requirements, strategies to use vocational programs to teach academics, national and state achievement tests, and college entrance requirements. Community college vocational curricula can be shaped more directly by employer needs, industry skill standards, and economic development plans and strategies. In some more regulated industries, that means a degree or certificate that signifies the successful completion of a structured sequence of courses. In other industries it may mean completing a certain number of courses to provide the grounding for subsequent inplant education and training. Therefore, whereas all high school students aspire to a diploma, community college students, depending on employment needs and their own interests, may enroll to work towards an associate's degree, a certificate of completion, or merely to acquire selected competencies. "Nearly one in six [community college students] never even earns a semester's worth of credits," a number undoubtedly far higher if limited to the vocational population. Academic credit may not be an issue, if the set of courses taken meet industry and local employers' standards and needs. For example, becoming a Microsoft Certified Systems engineer may be more valuable to some employers than an associate of science degree.

Community colleges serve different customers

High schools exist to serve individuals. Even though some offer industry training, as public schools the customer is ultimately the individual. Community colleges are able to assign businesses a higher priority and reach individuals collectively through their employers as well as directly. This affects the nature of relationships between businesses and schools. While there may be good reason to keep business interests at arm's length from core education in order to retain its primary civic and open character, there is equally good reason for community colleges to form strong partnerships with industry in vocationally oriented education. The fact that community colleges have economic development missions often results in partnerships that go beyond advisory committees or equipment donations. This leads to an assortment of services that, if used effectively, enhance education. For example, new business incubators can provide internships for students and experience for faculty, technical assistance programs can give faculty first-hand knowledge of new technologies and changing skill requirements, and technology demonstration sites can increase the demand for skills, workers, and training among local employers and give students exposure to advanced technologies.

Community colleges exhibit greater variations among states and within states than do high schools

While secondary programs might be offered through comprehensive high schools, area vocational centers, vocational high schools, or career academies, they are all operated within school districts that comprise state systems that are quite similar to one another. Community college systems, however, vary significantly from state to state. They may: be independent systems, e.g., Mississippi, North Carolina, and California; be part of their State Departments of Education, e.g., Iowa and Michigan; operate as part of a state university, e.g., New York, Tennessee, and North Dakota; be under a state higher education system, e.g., Florida, Utah, and West Virginia; be single state entities, some with branch campuses, e.g., Indiana, Rhode Island, and Delaware; be a mix of university-based branches and independent colleges, e.g., Oklahoma and Arkansas; be under a joint secondary/postsecondary board, e.g., Wisconsin and Colorado; or, be split between two agencies, as in

Georgia. Colleges also vary within states, with some colleges concentrating more on workforce development and others focusing on transfer, some with large industry programs and others with virtually none. And scale differs dramatically with states-even more dramatically than high schools. Milwaukee, Dade County, and Phoenix have multi-campus institutions with larger enrollments than their state universities while some of tribal colleges in Montana have only a small number of students.

Community colleges are freer to respond to changing economies and labor markets

Community colleges, being younger than other educational institutions, have fewer traditions and a less rigid organizational structure. Faculty are less regulated, freer to participate in commercial activities, and more likely to have industrial experience and maintain industry contacts or to be industrial employees who teach only part-time. New programs can be introduced more easily and quickly and customized to local technical skill needs. Community college programs, which are less regulated by state regulations and influenced by national tests and graduation requirements, are better able to work with industry in curriculum development and design.

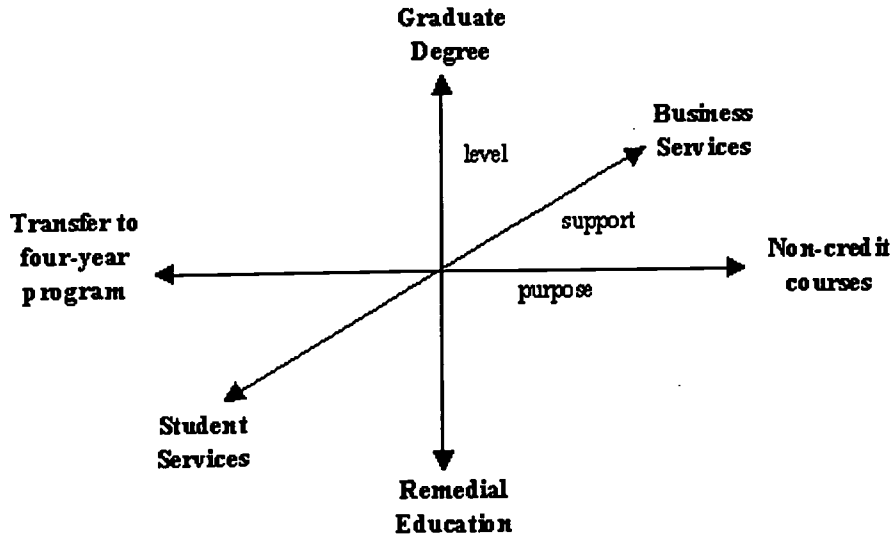
Table 2

Comparisons between Secondary and Postsecondary Vocational Education

Factor	Secondary	Postsecondary
Population	youth	adults
Attendance	compulsory	voluntary
Status	full-time	mostly part-time
Individual goal	diploma	degree certificate, or competencies
Responsibility	state (in loco parentis)	region
Faculty	mostly certified teachers	mainly part time faculty
Primary funding	local, state taxes by ADA	tax base by FTE, tuition, fees
Curricula	set by state	dictated by demand
Competitors	private schools	proprietary, corporate schools
Customer	student	student, company, region
Emerging need	academic though vocational	problem solving, analytical skills

Figure 1

Range of Functions of Community Colleges



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