# Vocational education in the United States: reforms and results

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**In the early 1990s there was a shift in the attention of the education reform movement in the United States. Because of the economic situation the focus was directed towards vocational training and the connection between education and economic competitiveness. Employers needed a skilled workforce for their restructuring processes. Instead of designing a new job training programme reform-oriented politicians, educators and employers demanded a new systemic approach to the whole complex of vocational education.**

## Introduction

"In studying foreign systems of education we should not forget that the things outside the schools matter even more than the things inside the schools, and govern and interpret the things inside. We cannot wander at pleasure among the educational systems of the world, like a child strolling through a garden, and pick off a flower from one bush and some leaves from another, and then expect that if we stick what we have gathered into the soil at home, we shall have a living plant. A national system of education is a living thing, the outcome of forgotten struggles and 'of battles long ago'. It has in it some of the secret workings of national life."

(Sadler, in: Phillips 1993, p. 15)

One would think that this quote came from the early nineties when there was a vivid discussion on education reform in the United States. Interest in European educational systems, especially the German 'dual system', was one common aspect in the debate on the loss of a skilled labour force. However this quote was by Michael Sadler, a member of the English Board of Education from 1895 to 1903. At the end of the 19th century and the beginning of the 20th, interest in the German education system was very high, not only in Britain but also in the United States. This interest was influenced by German immigrants who knew the German apprenticeship system and tried to revitalise a structured apprenticeship programme. Supported by employer organisations, unions and representatives of the education system, these efforts resulted in the National Apprenticeship Act of 1937, often called the Fitzgerald Act. After the Second World War there was the need to integrate veterans into the work force and society. Thus new federal programmes were set up to invest more money in vocational education and new legislation was established to open apprenticeship programmes for adults. Until the early 1970s there was only little interest by policy-makers and researchers in vocational education. However, the growing problem of youth unemployment attracted national interest in vocational education. In 1973 Congress passed the Comprehensive Employment and Training Act (CETA) which was succeeded by the Job Training Partnership Act (JTPA).

The 1983 publication of 'A Nation at Risk' focused on the effects of inadequate education of US workers on the nation's economy and can be seen as the starting point of the current debate on education reform. The proponents of a change in the education system looked to the German and Japanese system where the workplace plays a crucial role in vocational education. After the inauguration of President Clinton his secretary of labor, Robert Reich, endeavoured to establish a comprehensive school-to-work system so as to improve the occupational qualification of young people. His efforts resulted in the School-to-Work Opportunities Act of 1994.

This article examines the history of vocational education in the United States and its impact on recent reforms.

## History of vocational education

Vocational education and training in the United States is a highly fragmented and

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complex system which one can divide into four main areas where it takes place:

a) high schools
b) two-year colleges
c) on-the-job training
d) apprenticeship

In all of these areas one can find different forms of vocational education regarding the learning situation, specialisation and organisation.

**High School**

The high school system was set up at the end of the 18th century and the beginning of the 19th century. In the first period the efforts of the colonial states were focused on the establishment of a comprehensive elementary school system. After the Civil War there was a movement to build a system of "free public secondary schools supported by public taxation, publicly controlled, open to all" (Barlow, in: Münch 1989). However, some opposed paying taxes for free public schooling. This opposition was overcome by a decision of the Michigan Supreme Court in 1874.

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Vocational education was first established in private high schools in the second half of the 19th century. These schools offered vocational courses like accounting, stenography and machine typing. One could say that the first high schools were set up to prepare their students for a business life. It was only later that the priority shifted to the preparation for college. Nonetheless many high schools retained their business programmes, for example high schools in Boston, Philadelphia, St. Louis, Washington DC and New Haven. After the introduction of compulsory school attendance for older students in many states, the percentage of high school graduates going to college was diminishing. Therefore, the curriculum had to change to take the new situation of a great number of non college-bound graduates into account.

In 1917 Congress passed the Smith-Hughes Act which promoted vocational education in high schools. The federal government offered financial incentives for setting up vocational programmes. Most courses were related to agriculture and home economics. However, vocational education played only a minor role in high schools until the beginning of the 1960s.

**Two-year colleges**

One can draw a clear line between four-year and two-year colleges regarding their main purposes. The first has an academic orientation, the latter focuses on occupational qualifications. On the other hand, the distinction between the two institutions is blurred since two-year college students can easily continue their education in a four-year college and get credits for their courses. Therefore, enrolment in a two-year college does not mean that one is committed to end one's studies after two years.

The development of two-year colleges cannot be distinguished from the history of the American university system. They are only one variant of this system developed from an identical historical process. Their roots can be traced back to the junior colleges which prepared their students for academic studies at university. Thus, the purpose and content of their programmes were directed towards deepening and broadening students' general education. The Morrill Act 1862 was an important precondition for the establishment of new colleges offering programmes in agricultural and technical studies. In 1900 there were only eight private two-year colleges. The first public junior college was set up in 1902.

During the following years, junior colleges gradually extended their curricula by introducing occupational qualification programmes, whereas the newly established community and technical colleges focused on these programmes right from the beginning. However, there was always a combination of occupational and academic orientation which is mirrored in special transfer courses for students wanting to continue their education. This might be an aspect of the American belief in equality of opportunity where an open system theoretically offers the chance for everyone to develop their individual personality.

The number of students enrolled in two-year colleges increased after Congress

passed the Vocational Education Act 1963 which offered matching funds to improve vocational education programmes in the states. At the end of the 1970s there were more than four million two-year college students. This success was due to two-year colleges filling the gap between increasing demand for skilled labour and a lack of sufficient apprenticeship programmes.

**On-the-job training**

"Employee training is an amorphous function. It is conducted and managed and accounted for in many different ways, by many different kinds of organizations." (Feuer, in: Münch 1989) Because this kind of vocational education is done in a highly informal way it is very difficult to classify certain characteristics. Furthermore, due to this diverse structure there is a lack of comprehensive research on this topic.
At the beginning of this century Taylor invented his scientific management approach to organising work, inspired by industrial needs of efficiency and the idea of analysing work into its simplest elements. By organising work in this way industry did not need a broadly skilled labour force, but workers trained in one specific function. Furthermore, the costs for on-the-job training were much lower than the investment in an apprenticeship programme. Therefore, on-the-job training developed out of the industrial organisation of mass production and became the most important kind of initial vocational education for the non college-bound young people.

**Apprenticeship programmes**

The idea of apprenticeship programmes were brought to the United States by British and German immigrants. During the time of British America, apprenticeship was mandated by the Statute of Artificers of 1563 which stipulated an apprenticeship term of seven years or longer and established guilds to administer and enforce the law. By contrast to the British experience, guilds could never reach the same importance in the American colonies since ongoing immigration, skilled labour scarcity and the rural character of the economy inhibited their full development. The absence of an appropriate institution to regulate apprenticeship programmes might be one reason for its decline in the United States. Moreover, there was a significant runaway problem in colonial times which intensified after independence. Between 1783 and 1799, 12 states passed new apprenticeship laws focusing on the runaway problem. Despite such measures, the market and institutional environment did not promote apprenticeship programmes because geographic mobility, especially the opportunity of western settlement, and the spread of an ideology of personal liberty made enforcement of indenture commitments more difficult. The laws had no practical impact since they did not apply across the states, thus apprentices could escape by crossing state borders. Additionally, employers showed little interest in legally enforcing an unwilling apprentice to serve out a full term. Therefore, US firms employing apprentices changed the system by introducing special payment schemes with bonds and bonuses ranged from $100 to $200. This practice was an alternative means for employers to secure training investments and minimise risk. Furthermore, the new arrangements shifted the investment risks from employer to employee. However, the money was insufficient to deter runaways effectively; "a bonus of one to two hundred dollars at the end of an apprenticeship ...is too far away, and figures out but insignificantly when reduced to the hour basis." (Becker, in: Elbaum 1989) In addition, the incentive for employers to find an effective solution to the runaway problem was diminished by the fact that the demand for skilled labour could be met by well-trained immigrants. With growing industrialisation the demand for a system of apprenticeship training including both classroom and on-the-job training increased. The Commission on Industrial Education of the National Association of Manufacturers (NAM) recommended such a system in 1910. The large number of German immigrants in Wisconsin led to an early interest in a comprehensive apprenticeship system. In 1911 the Comprehensive Apprenticeship Law was passed, establishing a compulsory trade school attendance. Critics argued that public laws would eliminate existing apprenticeship programmes because employers did not like to be bound by state regulation, and if one looks at the number of apprentices in Wisconsin in 1931, when only 73 ap-

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prentices were still employed, they might have been right.

After the First World War the US economy experienced a boom period with growing demand for skilled labour which had to be met by own sources as immigration fell. A coalition of employer organisations, trade unions, representatives of the education system and government agencies forced the federal government to augment efforts to improve vocational education. One result was the National Apprenticeship Act 1937, a model of brevity since the law contains just five paragraphs. The prescribed government role includes the development of apprenticeship standards with industry. These standards relate to equal employment opportunities requirements, wage rates to be paid to apprentices, and ratios of apprentices to journeymen at the worksite. During that period the basic structure of the apprenticeship system shifted from protection of the employer's investment to protection of the employee. The system was now dominated by trade unions, and for most employers apprenticeship was more costly than its alternatives, not because of training expenditures but the legal obligations to honour contracts while economic circumstances had become unfavourable.

Instead of investing money in apprenticeship programmes employers used public and private trade schools for gaining skilled labour and by doing so transferred the involved investment risks to trainees and the general public. After World War II vocational education and apprenticeship were opened for veterans by passage of new laws. Due to this institutional change the apprenticeship system was gradually transformed from a youth-based into an adult-based training system. According to the US Department of Labor's Bureau of Apprenticeship, only about 2 million people have completed apprenticeship since 1950.

To categorise the four different strands of vocational education one has to look at their specific learning structure. Vocational education in high schools and two-year colleges is mainly school-based whereas on-the-job training and apprenticeship programmes focus on the workplace. However, work-based learning as part of vocational education programmes can be found in high school and two-year college courses, even though work-based learning is generally less important than classroom teaching and there are no comprehensive concepts of alternating learning. By contrast, on-the-job training contains no classroom teaching. The apprenticeship system is the approach in which the concept of alternating learning is best established. However, this system remains the smallest form of training in the US.

## Recent developments in vocational education

In 1983 the National Commission on Excellence in Education published its report 'A Nation at Risk', which had a profound influence on the general public regarding education reform, "Our Nation is at risk. Our once unchallenged pre-eminence in commerce, industry, science, and technological innovation is being overtaken by competitors throughout the world (...) We report to the American people that while we can take justifiable pride in what our schools and colleges have historically accomplished and contributed to the United States and the well-being of its people, the educational foundations of our society are presently being eroded by a rising tide of mediocrity that threatens our very future as a Nation and a people. What was unimaginable a generation ago has begun to occur - others are matching and surpassing our educational attainments."

While the initial focus of the education reform movement was on secondary education and the traditional American high school with its curriculum preparing students for a college career, attention shifted to vocational education in the early 1990s, when the connection between education and economic competitiveness became clearer. Employers argued that the school system failed to provide high school graduates with the skills needed for the workplace. The underlying argument was that business needs flexible workers with analytical and basic skills to remain competitive. Moreover, there was a change in the attitude to education reform, namely, a growing demand for a new systematic approach instead of adding a new job training programme to the existing bundle.

In searching for a systems model, reformers looked to the education systems of their economic competitors, especially Germany. "Just as Germany had been held up as the 'best model' at the beginning of this century it once again became the primary standard bearer for possible replication in the United States." (Wills, 1997) The German 'dual system' with its integration of work-based and school-based learning seemed to provide the German economy with a pool of high-skilled workers. The concept of institutional linkage between school and workplace was seen to be the solution so as to motivate non college-bound young people to stay in school and hence decrease the drop-out rate. Furthermore, the alternating approach to learning should enhance the maturity of the students by exposing them to the 'real world of work'. However, the question is whether the institutions, or maybe the culture for establishing such a formalised vocational education system as the German 'dual system', can be developed in the United States. Referring to Sadler and his quote at the turn of this century one should not forget, that "in studying foreign systems of education… the things outside the schools matter even more than the things inside the schools…" (Phillips, 1993).

The German 'dual system' is based on a set of unique features: centralised employer associations and unions, mandate of the federal government to regulate vocational education, existence of mandatory training standards, and a consensus on the need of a high-quality training system among all stakeholders. The US lacks all of these features, except the last one, although the consensus is more about the need for a skilled labour force rather than the way to achieve it. Probably the key problem in establishing a comprehensive system is the non-existence of a mandate of the US federal government regarding vocational education. By contrast, the German federal government assumed responsibility for the company training of apprenticeships in 1969. In the US all states have constitutional authority to fund and provide education in cooperation with the local communities. The federal government can set policy for the states to follow, but states have tremendous flexibility in operating programmes.

**School-to-Work Opportunities Act 1994**

The same idea is mirrored in the School-to-Work Opportunities Act 1994, the latest attempt to establish a comprehensive training system as part of a work force development strategy. This federal legislation was supplemented by two other major laws: Goals 2000: Educate America Act and National Skills Standard Act. The key linkage between a strategy of changing the system and different institutions at federal, state and local levels was the development of skill and academic standards. Those standards should ensure quality, indicate goals and promote change. Standards so important in a decentralised system because they can build on the respective strength of all institutions - public and private - engaged in the education and training system and combine different efforts to achieve a common outcome. Moreover, a system of skill standards is the basis for portable credentials recognised by employers. To facilitate employer recognition, however, skill standards have to be nationally mandatory to ensure that a certificate from California can be equally compared with one from Maine. If skill standards are voluntary and each state can set up its own, employers cannot easily compare different state credentials and hence will only partially take training credentials into consideration in their decision to hire a person. This would diminish the value of further education and vocational training. However, that is only important for interstate labour mobility since a state-centred system of skill standards could provide security for employers' recruitment decisions within the state and the local community.

To establish portable, industry-recognised credentials all the different stakeholders, like employer associations, trade unions, education institutions, and governmental agencies have to take part in this process. The National Skill Standards Act established a National Skill Standards Board (NSSB) to construct a voluntary system of skill standards effecting all institutions concerned with worker skills. Firstly the board had to identify broad occupational clusters where skill standards could be adopted. The major problem of the NSSB is that it does not

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have the authority to issue mandatory skill standards, but only recommendations which can be used by institutions of higher education, employers, trade associations and trade unions.

Despite the fact that skill standards have a critical role in changing the system, the constitutional authority of the states regarding education makes it difficult to establish a nationwide system of skill standards which allows employers to use recognised credentials as a key element in the recruitment decision process and provide an incentive for young people to obtain them.

Without portable, recognised credentials there is no incentive for many high school drop-outs to continue education and get some kind of skill certificate as often it does not increase their employability. "Employers rarely consider the high school records of applicants (...) And high school students' awareness that they will end up initially in the same type of jobs (often the same job) that they have had before graduation stifles incentives to work hard in school." (Bailey, 1995a).

*"The National Skill Standards Act is to supplement the School-to-Work Opportunities Act that establishes a framework based on three main components within which each state can develop its own school-to-work transition programme that is best suited to its local needs. These components are: school-based learning, work-based learning and activities that connect both concepts to a comprehensive strategy for all students, not just those in vocational education."*

**National Skill Standards Act**

The National Skill Standards Act is to supplement the School-to-Work Opportunities Act that establishes a framework based on three main components within which each state can develop its own school-to-work transition programme that is best suited to its local needs. These components are: school-based learning, work-based learning and activities that connect both concepts to a comprehensive strategy for all students, not just those in vocational education. Due to the broad definition of how the programmes should be designed this legislation is not to establish one 'best practice', but rather promotes a variety of different school-to-work approaches, for example tech-prep programmes, cooperative education, and youth apprenticeship. All of these programmes link academic and vocational content, and sometimes secondary and post-secondary education. New cooperation between high schools and community colleges is to be encouraged to promote continuing learning. Furthermore, the idea of work-based learning forces schools to seek links with employers to set up planned workplace training. This gives students the chance to build a relationship with an employer and motivates them to stay in school since they perceive the importance of academic learning for the workplace. The risk of dropping out of high school is further reduced by offering a recognised credential that improves the employability.

**Barriers to change**

However, what are the barriers that impede a systemic change? What are the weaknesses of the School-to-Work Act? There are three major institutional components which have an impact on education reform, especially vocational training. Firstly, employer and trade union cooperation is crucial for the implementation and success of new training programmes and change in the education system. Second, government institutions and the relation of federal, state and local authorities determine the administration and organisation of training programmes. Finally, teachers and parents influence the practice of education programmes, for example courses offered, teaching and student participation.

To establish a large scale school-to-work system, the participation of a majority of employers is a key factor for success since employers have to offer workplace training places for a large number of high school students. There are three incentives for an employer to take part in such a training system: philanthropic, individual and collective motivation. A philanthropic motivation implies employers provide training places because they see it as a commitment to helping their communities and as a corporate responsibility. Despite its importance at an early stage of employer involvement, a purely philanthropic motivation would not be adequate to sustain a large and intense work-based education system. Employer participation in work-based training programmes might be driven by an individual motivation since employers could benefit from better public relations, a source of low-cost labour and future recruitment. Public relations benefits can be achieved with a small number of placements which do not necessarily require well established training arrangements. The special wage for participat-

ing students might be an important incentive for smaller businesses to fill part-time positions with students instead of employing a higher paid adult worker. Some US employers said they saw school-to-work programmes as "a good way to get good, lower-paid part-time help." (Lynn/Wills, in: Bailey, 1995b) However, in youth apprenticeships which require much more employer involvement than other cooperative education programmes, the high supervisory cost for apprentices is a greater barrier to participation than the cost of the trainee wages. Therefore, the significance of supervisory costs cannot be overestimated for the establishment of professional workplace training places.

The third motivation for an employer to participate in work-based education is the opportunity to recruit future workers. Certain features of the US youth labour market, such as the high turnover among young workers, discourage employers to invest in training for students. In addition, since the school-to-work programmes should avoid establishing a tracking-system where good students prepare for college and less successful students join vocational programmes, employers do not have a guarantee that trained students will stay in the firm and not continue further education at a college. Moreover, employers have different options for recruiting and screening applicants and thus do not rely on work-based education in this respect.

Finally, the common argument for reforming the education system is the lack of skilled workers. It is in the interest of industries to promote the development of a skilled labour force. Whereas individual employers are reluctant to invest in training of young people, this could be the area of a collective action. However, there has to be an appropriate institutional framework through which collective interests can be articulated and regulated. Otherwise, individual firms could benefit from a pool of qualified skilled workers even if they did not participate in the system. Therefore each collective action has to overcome the 'free rider' problem. As in the German apprenticeship system one needs to have strong intermediary organisations to force individual firms to take part in training programmes.

To sum up, strong employer participation in a large scale school-to-work system cannot be attained since neither individual nor collective motivation can overcome the problems of training cost - especially supervisory costs, 'free rider' behaviour and the lack of an institutional framework to regulate collective interests. Furthermore, employers can fall back on alternative options to solve their skilled labour demand by employing trained adult workers and upgrading the skills of their employees.

A second impediment to establishing a large scale school-to-work system is the reserved position of trade unions. They are concerned with the employment effects of work-based education systems. Especially in industries with declining or stagnant employment, providing work placements for young people may seem to threaten adult jobs. Furthermore, the development of widespread youth apprenticeship programmes could undermine the apprenticeship programmes run by unions, especially in the construction industry. Those programmes are dominated and controlled by unions which use them to monopolise the labour market of skilled workers. In addition, the average age of apprentices in union apprenticeship programmes is around 26 years, so this is not a school-to-work system since they were usually employed before.

The third difficulty in establishing a large scale school-to-work system is the role of the different governmental levels: federal, state and local. The School-to-Work Opportunities Act mandates the states to develop and implement such an education system. Here, the states can customise a system to their regional and local needs since there are only broad criteria set up in the legislation. Thus, the dominant actor behind the programmes is the states which build on their earlier efforts of providing training and education opportunities for non college-bound youth. By doing so, they keep the school-to-work system highly fragmented and reduce the chance of building a coherent work-based education system. Furthermore, the size of the federal funds for school-to-work programmes is much too small to achieve a nationwide change in the education system. In 1995, 27 states received a total of $204 million in implementation grants

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***"Finally, the last group that has an important impact on education reforms is the teachers. (…) To establish a comprehensive and high-quality school-to-work system teachers have to be willing to work with companies and build a partnership between school and business, classroom and work-based learning."***

compared to a total of around $4 billion for other federal youth training programmes. Those millions of federal dollars have established a powerful political constituency that cannot be overthrown 'overnight'. As the School-to-Work Opportunities Act ends in 2001, there is the question of whether implemented school-to-work programmes can be sustained without federal grants beyond that date.

Finally, the last group that has an important impact on education reforms is the teachers. They are the 'street-level bureaucrats' implementing new policies. However, their discretion allows them to oppose or even change the idea of a new policy. To establish a comprehensive and high-quality school-to-work system teachers have to be willing to work with companies and build a partnership between school and business, classroom and work-based learning. Staff development must be an important feature of school-to-work programmes. Teachers have to be educated in 'new' methods of teaching by integrating vocational and academic subjects. There might be an opposition of some teachers who view vocational education as an option for low-achieving students and who focus on college preparation as the only option of further education. In addition, cooperation between academic and vocational teachers to integrate their specific curricula into a single work- and school-based curriculum might be problematic since the different groups of teachers have not worked together and developed their own occupational status.

Academic teachers involved in college preparation are supported by some parents, especially middle-class ones, for whom vocational education has a low social prestige and who want their children prepared for a college career. Since high school vocational education courses are often preferred by low-achieving and minorities' students, vocational education leads to a high school diploma which does not increase employability and is usually viewed as a minor high school diploma.

There is some resistance of parents who see school-to-work as an instrument of the federal government to intervene into their parents' rights and to limit personal freedom by 'totalitarian' state coercion. "But many parents are angry about these efforts and the $2.3 billion Federal plan that helps support them. Instead of focusing on students in vocational education, these parents point out, school-to-work programs, by law, include *all* students. And in practice, the programs assume unwarranted authority over their children's lives." (Cheney, 1998) All government intervention into education is viewed as a threat to the American dream of equality of opportunity, although this is a fiction in reality every attempt to reform the education system which might establish a formalised 'tracking system' will meet strong opposition.

## Conclusion

In the early 1990s there was a shift in the attention of the education reform movement. Because of the economic situation the focus was directed towards vocational training and the connection between education and economic competitiveness. Employers needed a skilled workforce for their restructuring processes. Instead of designing a new job training programme reform-oriented politicians, educators and employers demanded a new systemic approach to the whole complex of vocational education. They looked to the German education system since Germany is a main economic competitor. The German 'dual system' of vocational training combines work-based and school-based learning in a highly structured way. It is embedded in an institutional setting where centralised employer associations and unions work together with the federal government which has a legislative mandate to regulate vocational training. As all of these institutional preconditions are missing in the US it was obvious that one could not replicate the German system of vocational training. Therefore, the School-to-Work Opportunities Act 1994 was designed to take the specific conditions in the US into account and open the way for state-centred solutions. In this regard the School-to-Work Opportunities Act follows the tradition of education policy in the US.

While the latest attempt to establish one vocational training system has failed, the openness of the School-to-Work Opportunities Act implies a great chance for the

US to have many different regional and local models of vocational training. By having different approaches to vocational training they can learn from each other and adapt the various ideas to their local needs. Tech-prep is a very good example for adjusting the traditional school-based vocational education to the changing conditions of a globalised economy. By combining high school and community college courses students are prepared to satisfy the growing demand for a broader knowledge base and problem-solving qualifications. Since the economy is becoming ever more fragmented and the cycle of technological change is shortened, the idea of a single vocational training system might be overhauled and flexible solutions within a general framework might be a more appropriate approach.

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