

▲aimhigher...



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Workforce Development and Progression to Higher Education

The California Experience





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The Council for Industry and Higher Education (CIHE)

The CIHE's mission is to advance all kinds of learning through the fostering of mutual understanding, co-operation and support between higher education and business.

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Aimhigher is a national programme to encourage pupils in school, and older students, to aspire and progress to higher education. Schools, colleges and universities come together in local partnerships with funding from the Higher Education Funding Council for England and the DfES and support from the Learning and Skills Council.

In the London region there are six geographical partnerships and three thematic partnerships (for the arts, health and sport) which between them offer nearly 60,000 Aimhigher interventions a year. These range from taster sessions, masterclasses and mentoring by current students through to week-long residential summer schools for students with no family history of higher education.

The range of activities across London is described on the Aimhigher website.

Madeleine King is the Executive Manager at Aimhigher London West.



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1. Introduction

The origins of this paper lie in a visit to California earlier this year in order to learn more about approaches there to workforce development, including progression to higher education from vocational or work-related learning pathways. The visit was inspired by the Aimhigher initiative and organised by Madeleine King from the Aimhigher London Region. All of the party shared an interest in widening participation in higher education and in the equally pressing need for high-quality vocational education programmes. These are urgently needed to address national higher-level skill shortages in an increasingly global economy. This paper reports on what we heard about and saw on our visit and offers some recommendations for English policy makers dealing with education and skills issues.

Why California?

California is one of the most successful economic regions in the world. Its population of 37 million is two thirds that of England, but spread over twice the land mass. Traditionally associated with dynamism, entrepreneurial leadership and a high quality of life, California is now experiencing some changes and facing many new challenges and it continues to be a strong, growing, innovation-based and internationally competitive region. Some of the challenges and background factors include some familiar to us in the UK:

- Threats from the new global economy, in particular highly-competitive countries like China. As a result, business leaders are increasingly reassessing the skills of their workforce and their ability to adapt, in order to improve productivity and gain a competitive edge. Without more investment in workforce development across the State, shortages of skilled labour will seriously impede business development¹.
- A shift from manufacturing to more service-related industries. This brings a changing occupational structure, and increased demands for higher levels of education among workers. For example, the demand for workers with a college education is forecasted to increase from a share of 30 to 39 per cent by 2020². In some industries, like IT, the majority of current job openings now require a degree.
- There are too few university places in the public system currently to meet demand from the existing population, let alone capacity for expected future demand.
- Significant problems being addressed in low attainment of many high school students and high drop-out rates, both of which affect eligibility rates for entry to higher education.
- Fast population growth and growing ethnic diversity: the state population is expected to grow by at least a fifth in the next 20 years; and by 2015 the Hispanic population is likely to equal the White population (currently there is no ethnic group in majority).
- Comparative disadvantage within some communities (such as Hispanics, African Americans) because of lower educational attainment and less access to well-paid jobs. This raises concerns about the State's potentially dwindling pool of talent, which traditionally has been promoted as a way of drawing in and retaining high value businesses.
- A political climate in California which favours less state and federal funding for education, transport and infrastructure and more accountability for budget decisions at local levels. State officials would like to develop a more strategic approach to solving economic problems, particularly those resulting from external economic threats, which is at odds with their traditional "arms length" approach to governance.

Despite our different cultures and different post-16 education and training systems, we share some common concerns. These include: how to meet changing workforce demands from the new economy and increased global competition? How to give greater access to educational opportunities to all of the population not just the more socially and economically advantaged? How to improve the integration of different parts of the education system and the world of work to provide greater efficiencies and a more seamless system of workforce development?

Main focus of this paper

Despite the considerable differences that exist between us, there is much that can be learned from studying the Californian administration's experience of addressing skill needs in a rapidly changing world. As a result, these findings from our study visit focus on the role of state and public policy in encouraging workforce development, rather than on ad hoc local employer responses to skill shortages. In particular, we highlight the role of the Community Colleges (CCs) which are taking on an expanding agenda relating to economic and workforce development in their local economies. We also focus on vocational progression routes from school to HE and linkages between education and employers.

Readers should note that we found the term 'workforce development' being used in a much wider sense in the US than here. In California, it includes the school and vocational education which we would usually label as 'workforce preparation'. It was also apparent that workforce development is linked much more closely to economic development than in England. These are important differences which are brought out further in our Conclusions section. In our short visit we could only see a few examples of workforce development initiatives and talk with a small number of people. Our paper does not attempt to be at all comprehensive but focuses on some particular issues which we found relevant to the current English debate about current and future skills needs.

We are grateful for the assistance given by the Californian Post-secondary Education Commission (CPEC) in assisting with the organisation of the visit, in particular Robert Schallig, Education Program Consultant in their Workforce Development Unit, and the interest and courtesy shown by him and his colleagues at the Commission and by others in universities and colleges throughout our visit. Particular thanks are also due to Adrian Griffith (CPEC) and David Militzer (California Workforce Investment Bureau, CWIB) for their willingness to advise on matters of policy as well as proof-reading our final document for accuracy of interpretation. We would also like to express our appreciation of the help given by the other two members of the visit team: John Jones of the Department for Education and Skills (DfES) and Andrew Ward of Thames Valley University (TVU), both during the visit and in helping with writing this paper, but the conclusions and views expressed here are those of the authors alone.

2. California's post-secondary education system: policy agenda

2.1 Background

The post-secondary education system in California differs from our system in several important respects, but we share some familiar policy issues. In California, post-secondary education refers to all education after age 16, and covers what we would consider to be FE as well as HE. Publicly funded post-secondary education is delivered by the Community Colleges, and the constituent universities of the University of California and the California State University.

Participation rates in higher education in California are higher and broader than in the UK. Young people are encouraged to stay in education for as long as possible, and aspire to a 'college education' to get the best paid jobs. Over 60% of young people go on to higher education courses, although far fewer go there directly from high school compared to England, and fewer qualify with degrees. (The average age of a graduate first degree student is also higher and more study part-time than here). In 1960, The Californian Master Plan for Higher Education recognized the distinctive needs of the different segments of the Californian population and attempted to provide a route to higher education for virtually all high school graduates in the state. This principle can still be seen today in the variety of courses and routes taken, although the original guarantees of access have been weakened over time by changes in political administration and federal and state budget cuts. The Master Plan recommended that the top 12.5% of graduating high school seniors should be eligible to attend the University of California (UC), with the top 33.3% also being eligible for admission to California State University (CSU); but these targets are not being met today due to a number of factors, including poor attainment in high school, fees and other costs of study, lack of physical space to expand and intense competition for places on popular courses (especially in UC system). These eligibility rates are the subject of increased analysis as education and employment officials consider the state's economic needs.

Figure 1 California's public system of higher education

University of California (9 campuses)	research-led, highly prestigious institutions, most famous of which are Berkeley and UCLA	Top 12.5 per cent of high school graduates are eligible for entry <i>Fees: \$6,300</i>
Californian State University (23 campuses)	primarily teaching institutions offering 4 year degrees but also many other professional and postgraduate programs; less selective at degree entry than UC, mainly meeting regional needs.	Top 33.3 per cent are eligible for entry <i>Fees \$2,900</i>
Community Colleges (CCs, 109)	locally focused, offering 2 year associate degrees, and other courses which enable transfer to 4 year degree courses at university; also offer a range of career or technical programs, and remedial or 'catch-up' programmes.	Open access <i>Fees: 'a la carte', \$780 for a 18 unit course</i>

Figure 1 shows some key features of the different types of public institutions. In addition, there is a strong independent sector (65 accredited private colleges and several independent (i.e. private) universities, e.g. Stanford, plus a number of trade schools). A distinctive feature of the Californian system is the credit and transfer system which facilitates movement between colleges and universities, especially between the Community Colleges and the CSU system. Around two thirds of all CSU graduates and around one third of UC graduates get there via a Community College. It is the more common route for older, and for under-represented, groups of students (such as those from poorer families, or African-Americans or Hispanic students).

Another feature of the Californian system is the wide variation in fees between the three providers. All HE students pay fees, the rates being higher at UC than CSU, and lowest at the CCs (which are subsidized by the State): see Figure 1. The highest fees of all are paid to the independent universities. Many students from low income groups are eligible for fee support via targeted federal funding (through schemes such as the Pell Grant programme, less comes directly from the State). This still means that many students are priced out of university programmes, so they opt to go to a Community College on a part-time basis instead.

2.2 The State's priorities

The California Postsecondary Education Commission (CPEC) is responsible for ensuring the quality of the post-secondary system. It is also expected to meet the changing demands of the economy as well as ensuring that sufficient places exist within the system to meet overall population demand. CPEC's main priorities currently are threefold:

- To implement a state-wide accountability system (this has not existed hitherto). California spends 60% of its budget on education, of which \$12billion is spent on higher education. New performance measures are being suggested (and resisted within parts of academia), but it is felt to be reasonable for tax-payers (and potential students) to want to know, for instance, which universities made best use of their resources in terms of time to degree, proportion of degree success, etc, and also the eligibility and transfer rates from CCs.
- To improve the Nexus between post-secondary education and workforce development. There is currently a plethora (80+) of workforce development programmes funded by the state in a complex structure of governance, advisory boards and funding, including many programmes focused on jobs which do not require a Bachelor's (often referred to as a baccalaureate) degree. As these are likely to account for 70-80 per cent of future jobs in the State, the HE sector is being encouraged to be more involved in the supply of skills at this higher technical, rather than degree level, and in supplying a more adaptable, skilled workforce generally. There are also widespread concerns that some university graduates do not find work easily and many have to return to Community Colleges to take specific vocational courses (see below).
- To address the significant gap between the participation of African-American and White students in higher education, and in particular the much lower eligibility rates of some ethnic groups, see Table 1. The UC eligibility rates amongst African-Americans and Hispanics are very low, especially if those leaving before completing the last two years of high school education are taken into account. The problem is greatest in the cities, but particularly in Los Angeles. Commenting on the figures, Howard Welinsky the Chair of the CPEC, said:

"....we have a long way to go before we can say that all Californian students have a realistic opportunity to attend the state's public universities. Schools in the state's poorest areas need the resources and information to help students take the course work and tests necessary to qualify for UC and CSU. Without a commitment to fostering access to all students progress will remain painfully slow."

2.3 Credit and Transfer

There are no absolute standards on most courses and students accumulate credit from courses taken in semesters, 'banked' in each student's transcripts. This makes the system highly flexible and allows transfer between most institutions (in particular from a CC to CSU/UC.) It also allows for 'stopping out' for periods of work or travel and resuming studies later. But there is no comparable system of APEL as we know it in England; instead the system promises general admission, with minimum transfer requirements set by UC and CSU (based on 60 transferable units, their Grade Point Average score, and certain subject requirements).

Table 1 University eligibility as a percentage of all high school graduates
(the lower figures in brackets are for 9th graders i.e. in school 4 yrs earlier)

	<i>CSU</i>	<i>UC</i>
All ethnicities	28.8 (19.3)	14.4 (9.6)
African American	18.6 (10.8)	6.2 (3.6)
Latinos	16.0 (8.6)	6.5 (3.5)
Asians	47.5 (42.3)	31.4 (27.9)
Whites	34.3 (27.4)	16.2 (13.0)

Source: CPEC

CCs develop local articulation agreements for their programmes with local universities (to which transfer is guaranteed under the Master Plan). However, due to the popularity of some disciplines and campuses, there is limited space on some majors (they become 'impacted') and higher entry requirements are set or transfer arrangements from CCs have to be delayed. Competency-based education is in its infancy. A recent study undertaken by HEPI on CAT systems³ confirmed what we heard about first hand - most articulation agreements are not general, but are course-to-course and between colleges and universities. (We noted how resource-intensive this can be: for example, a staffed unit at one Community College we visited was solely engaged with agreeing articulation arrangements for new college courses).

Such flexibility has many advantages, but it also presents employers with a number of difficulties. It is unlikely that any two students majoring in the same subject would have taken the same combination of courses (credits). As a result, it can be difficult for employers to judge the depth of knowledge and skills that individuals have attained. Whilst there is substantial commonality in the core elements of most degrees, there is a wide variety of courses available around each core.

2.4 Community Colleges

Whilst the transfer of students from Community Colleges (CCs) to four-year universities is extremely important (and increasingly so in the last decade as the costs of attending university have risen, see earlier CIHE report⁴) the CCs have multiple missions. They are in fact very diverse institutions, meeting very diverse student needs which can include helping adults to complete their high school diploma, as well as young people who may be wanting to gain additional credits in order to enter their preferred university (at a CSU or UC campus) or get an Associate Degree, and workers requiring specific job-related training. CCs offer a full range of courses up to Associate Degree level as well as a range of occupational certificates in technical and business fields which can be recognised entry level skills in the job market, and also various career technical education programs. They increasingly link with schools to provide new progression pathways (e.g. Tech Prep consortia, 2+2 and middle colleges). Crucially, CCs are often the starting point to career advancement for recent immigrants with limited or no English. Some of these have recognised skills, but are unable to practice their trade or profession due solely to a lack of English. Others need to acquire both language and employment skills. The localness and ethos of a CC is often more welcoming to these students than more specialist facilities.

CCs vary in size, but are usually quite large, with each enrolling a minimum of 1,000 full-time equivalent students from their local communities, (some one and a half million students in total are at CCs in California). Around 80% of CC students are in employment. CC courses are also widely used by small businesses, from basic safety training to professional accounting, and many CCs have specialised units (e.g. professional development training centres) where businesses can access state-funded training for their staff, located either on campuses or in separate facilities (some at the workplace). See the Appendix for further information.

In the last few years, the CCs have begun to be regarded as the 'engine room' for the development of the Californian economy, in order to help deliver the higher skill levels the economy is expected to need in the future. In terms of both total numbers and total locations throughout the state, the CCs are the biggest providers of adult training and re-training opportunities. They have become an important focal point of the regional system of economic development and also career development, as a result of the state's Regional Workforce Preparation and Economic Development Act (1998.) As part of this, a new Economic and Workforce Development Program Unit within the CC Chancellor's Office (at the State Capital) was given a coordination role in a framework of regional economic centres, each focused on a growth industry cluster (see example of Biotechnology in Appendix). The CCs, therefore, are at the heart of economic development in California.

2.5 Universities

As shown in Figure 1, the 32 campuses of the two publicly-funded Universities are the main providers of four year bachelor degrees. They had a total of 600,000 students in 2004, around a third (200,000) enrolled at the University of California (UC) and 400,000 at the California State University (CSU). The difference in enrolments is largely reflective of the higher tuition fees and admission requirement at UC (more selective, twice as expensive), but also reflects the wider range of short (and often bespoke) courses provided by CSU.

UC is one of America's most prestigious research Universities, and has just come top of the US league for patents for the 11th year running. (An average of 3 patents a day are claimed by researchers, with obvious benefits to the local economy.) Although UC's fees are relatively high, two thirds of its students qualify for hardship grants under the Pell Grant system, a figure which is far higher than the rate for other research universities in the US. CSU, on the other hand, is acknowledged as being the largest, the most diverse and one of the most affordable University systems in the country.

A current concern within the academic community is the increasing pressure on admissions brought about in recent years by a combination of increasing numbers of eligible students, enrolment funding cuts and strict enrolment targets (due to budgetary constraints). This, combined with the slow pace at which existing UC and CSU students complete their degree courses (average age of graduation is 28), means that some students find it difficult to obtain a place on the course of their choice at their preferred university. Commonly, students who are unable to do so, accept a place on another course at the same University, and then wait for a vacancy to arise in their preferred subject (or go to a CC first to get more credits). This leads to disrupted study and contributes to the length of time that students take to complete their degree programmes. Faced with pressures on numbers, both CSU and UC universities have raised admissions criteria in the more popular disciplines/campuses (in terms of a-g high school grade point averages and/or SATs results needed), or attempted to persuade first year applicants (freshmen) to undertake their preferred course at a CC on the basis of guaranteed admission two years later. In this competitive environment, the needs of African-American and Hispanic students, with low average eligibility rates are of particular concern (see above).

2.6 Challenges to be faced

Assuming that population growth continues at current rates, it is expected that the current pressures on admissions and shortage of university places will continue and probably worsen. Estimates suggest a total shortfall of 686,000 higher education places by 2013, two thirds of which would be in the CC system, and one fifth in CSU. The State has responded by building new University campuses, and attempting to upgrade the facilities available within the CCs. Independent universities benefit from this situation, but only well-heeled students are able to afford their high fees.

Even if the additional places could be funded, there are concerns about the low attainment of Californian school students and what happens to those who don't get a college or university place,

particularly given the lower eligibility rates of some ethnic groups. From research in the period up to 2001, a fairly gloomy picture was presented of high school students in California who lagged behind their peers in other states, and whose achievements at the end of high school were significantly less than expected, given their middle school scores. While the position has improved, SAT scores are still below the national norm, and many students enter CCs "woefully unprepared" for academic coursework (see research by Cohen and Besharov, 2004⁵). Less than half of 10th and 11th grade students earned maths and language scores above the 50th percentile in their SAT-9 tests in 2001, and only just over one-third achieved this level in reading scores⁵. The implications of this are longer times taken to complete courses, and/or early drop out. Given that many will have taken out loans to fund their time at college, those who drop out find themselves with the double disadvantage of being older but having no more qualifications than their younger competitors in the semi/unskilled job market, and also having student debts to repay.

The reasons for student drop-out are part-socio-economic and part systemic. California has a shortage of trained teachers, and often relies on instructors or part-qualified staff to deliver lessons in both the school and CC systems. House prices are high in some areas, reducing the incentive for teachers to move from some parts of the state to another even when promotion posts are available. This can polarise a situation in which those schools which are fully staffed with trained teachers are able to push students through an increasingly test-based and academic regime of university preparation, whereas those not in this position (and frequently serving poorer and immigrant communities) are unable to take this approach.

Another set of issues are around graduate employability. Many students do not complete their degrees until they are in their late 20s. In addition, research suggests that the graduates emerging from the Californian system have specialisms which are consistently at odds with employer needs⁶. Over the last 10 years the 20 most popular Bachelor degrees remain largely unchanged, with numbers of general/Arts subjects graduates outweighing science/applied science practitioners by 3:1. In contrast, the greatest number of job openings has consistently been within the craft/technical fields, with the result that a pattern has emerged of Bachelor degree holders returning to the CC system to acquire occupational skills (referred to as 'reverse transfer'). Evidence from the California Workforce Investment Board (CWIP) of what employers want in their employees suggests that employers look for basic reading, writing and maths skills that are learned at high school level, rather than college, together with job-specific knowledge and skills. What employers complain about – a lack of general and "academic" capacities, including the abilities to read, write and communicate and the ability to understand and apply maths in unfamiliar settings – sounds very familiar to us here.

Another challenge is in making improvements to careers education and guidance. Though highly-valued in California by all age groups, this has been affected by a shortage of guidance officers in most parts of the system. Links are greater between school and college teachers and employers (as a result of Career Technical Education: see page 11) than between employers and university academics, though there are some exceptions on some campuses (e.g. CSU Sacramento's College of Continuing Education has a bespoke arrangement for providing training to particular companies or offering short, extra-mural classes to adults). In these university or college environments where links between course content and application are clear to teaching staff and students, their progression options can be discussed with their tutors. However, funding rules mean that access to university campus careers guidance teams is usually denied to anyone not pursuing a degree (or other accredited) course, so adult learners are unable to continue their discussions with professional guidance staff. There appears to be little contact between University careers guidance officers and University teaching staff (in contrast to recent developments here), and even less between University teachers and employers, or between the different guidance services at a University and those for local high school and CC students.

3. Approach to Workforce Development

...To succeed in the new economy, workers must do more than find a job; they must gain the skills that help them to build a career'

From Ladders of Opportunity, 2001⁷

This, along with various other state documents, stresses that the success of California's economy in the future hinges on the ability to develop workers with a higher level and broader range of skills. Within Californian society, two deeply-rooted beliefs predispose the state to success. The first is the view that employers have a responsibility to train and develop their employees. The second is the belief amongst the population as a whole that people need jobs, skills and qualifications in order to obtain security, status and lifestyle. These cultural features offer a good starting point for a workforce development strategy with a focus on long term career development. This is currently being done through two major legislative programmes – the *Workforce Investment Act* and the *Career Technical Education Program* – plus a range of other associated activities.

3.1 Workforce Investment Act

While employers largely take responsibility for training their own employees, the main thrust of workforce investment by the state comes through a myriad of programs and organisations. These have evolved over the years via a number of federal and state legal enactments. Although there have been efforts to streamline these arrangements, there still seems to be a fairly complex and potentially confusing local network of training and job search programs, many targeted on specific groups (e.g. Hispanics, dislocated workers) or organisations, with different kinds of providers, funding streams, and collaborations between employers and providers.

Since 1998, the Workforce Investment Act (WIA) provides federal funds for workforce investment, via the California Workforce Investment Board (CWIB) to the local Workforce Investment Boards (WIBs) and other local organisations. These WIBs have enjoyed a considerable amount of local autonomy, and have varying priorities, client groups and interests. However, recent moves to bring greater coherence to the system and more accountability by the state (see Governor's priorities, figure 2) have prompted concern in some local areas.

The WIA was intended to 'transform a patchwork of employment and training programs into an accountable, integrated system, complete with performance and outcome measurements'. The idea of linking the often over-lapping multiple federal and state run programmes (frequently delivered by different departments and agencies), makes sense. However, California, with its diverse population and different regional needs, has found its execution a major task. Progress has been relatively slow. By 2001, the system was reported as not having changed a great deal from the pre-WIA structure, though some names and participants had. One of the main changes was that the 52 local Private Industry Councils were replaced by 50 local Workforce Investment Boards.

Figure 2 Governor Schwarzenegger's four priorities for workforce investment⁸

<p>Understanding and Meeting the Workforce Needs of Business and Industry in order to prepare workers for 21st Century Jobs:</p> <ul style="list-style-type: none"> • <i>Increase State and local partnerships and linkages between the education, workforce, and economic development systems;</i> • <i>Improve the shared accountability of publicly funded programs;</i> • <i>Develop stronger partnerships with Local Boards;</i> • <i>Promote policies supporting management/labour partnerships in "high road" industry sector initiatives;</i> • <i>Provide policies supporting local business services; and</i> • <i>Take full advantage of federal flexibility and waiver provisions.</i> <p>Targeting Limited Resources To Areas Where They Can Have the Greatest Economic Impact</p> <ul style="list-style-type: none"> • <i>Currently focus these investments on high-wage, high skilled, high-growth jobs;</i> • <i>advancing workers with barriers to employment; and industries with statewide labour shortages; and</i> • <i>Track the effectiveness of investments and recommend shifts to new target areas as circumstances warrant.</i> <p>Collaborating to Improve California's Educational System At All Levels –</p> <ul style="list-style-type: none"> • <i>Strengthen career technical and vocational education at all levels of education;</i> • <i>Increase the number of high school graduates;</i> • <i>Promote partnerships between the State and Local Boards and education; and</i> • <i>Align lifelong learning opportunities with the new economy.</i> <p>Ensuring the Accountability of Public and Private Workforce Investments –</p> <ul style="list-style-type: none"> • <i>Improve State and local government partnerships and coordination to maximize the use of public and private workforce resources in improving and expanding services such as workforce training;</i> • <i>Leverage federal and private sector commitments and resources; and</i> • <i>Maximize the effectiveness and efficiency of the workforce investment system</i>
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A key development emerging from the WIA are local 'One Stop Centers' for employers, job applicants and workers seeking to upgrade their skills. These operate in all localities, but in other respects the WIBs seem to vary significantly. Some work closely with providers such as colleges in collaborative local programs (including some School-to-Work programs discussed later in section 3.3), while others are focused mainly on providing fairly basic job-specific skills to help particular groups (e.g. welfare recipients) gain access to local employment. In these cases, Community Colleges seem to work independently in meeting local business needs.

California has taken a 'work first' approach to the WIA, meaning that individuals must obtain a job first before getting access to the services of the One-Stop Centers (such as interviewing skills, job search, literacy classes or specific job training). It is argued that while this may help to bring immediate results, especially in a tight labour market, it does less for individuals' long term improvement. It does not enable them to upgrade their skills in order to qualify for better jobs or to ensure they have relevant skills for the changing economy.

The CWIB's 2 year Strategic Plan¹ makes a close link between workforce development and economic reform, and can be seen as yet another attempt to bring more planning to the workforce investment system and also more cost control. The CWIB recently received approval from the Federal Government under the WIA to implement these proposals. Running throughout the Plan are a number of assumptions about the relationship between CWIB and the local WIBs. Recent evidence suggests that there may be some difficulties ahead. When the Plan was in the early stages of drafting, CWIB invited UC Davis to evaluate the effectiveness of WIA implementation in general in California, and some initial concerns have been highlighted in their preliminary findings⁹. There is particular unease within local WIBs about:

- **Having an expanding mission, but declining funding:** the growing gap between mandate and resources was felt to be seriously undermining the ability of local WIBs to implement the WIA.
- **Local Autonomy, but limited state support:** the emphasis on local discretion is valued, but there is a desire that the state WIB should be more of an advocate for local interests with state and national decision makers.
- **Being community catalysts, but also service overseers:** a tension between requirements to maintain social service roots and commitments to low-income job-seekers, and the emphasis in the WIA on serving businesses and promoting local development.
- **Maintaining local boundaries and revising performance measures:** carefully-built relationships with local businesses and other partners have been a cornerstone of WIB activity, and are regarded by them as being time well-spent. Meeting current performance measures imposed by the state WIB is not seen as best use of time and the local WIBs see little pay-off for doing so in terms of access to management information from the State Board.

The UC research also showed strong local WIB support for the One Stop system to remain as being just that – a comprehensive service, provided in one location, for those seeking work or new employment or more training. A high level of commitment to the concept of local economic development being linked to workforce development was present, as was the idea that every resident had a right to improve their standard of living (albeit almost regardless of the economic demand for their skills) and thus bring in extra tax revenues to the state to enable the process to continue ad infinitum.

Eighty-two per cent of the WIBs are run by either Government entities or hybrid Government/non-profit bodies, with the balance organised by non-profit entities. None are operated by the private sector, despite a high level of employer engagement in the recruitment and training process. Data collection appears to be in its infancy, with 16 different data management systems being used by 49 WIBs. In all, the UC survey confirmed a heart-warming commitment to an ideal, and extensive good practice that was based on local knowledge and joint-working, but the success of which was almost impossible to measure state-wide due to local vagaries in data collection. It seems that the State WIB is not in touch with the local WIBs as much as it might be, and is perceived to be either unaware of, disinterested in or powerless to address their most pressing problems (this was broadly reinforced by some of the conversations we had during our visit.)

3.2 Nexus

As highlighted in section 2, a current priority at the state level has been to forge closer working between education and workforce development, in particular the work of the CWIB and CPEC which, in the past, have carried out their roles with the minimum of contact. A multi-disciplinary committee - known as the Nexus Group – has recently been set up to focus on this, but it seems that progress in reaching agreement on priorities seems relatively slow with many complex issues still to be resolved. In particular, significant debate has taken place about how to encourage the research universities of the UC to take a more active part in this process. On a more positive note, there have been urgent discussions between senior staff within the Labor and Workforce Development Agency (LWDA) and CPEC on the issue of Higher Education's role in maintaining California's competitive edge.

Such strategic alliances between state departments and agencies and universities are unusual in California. This is largely cultural, reflecting the regional basis of management in the state, and the status of the university sector (especially the UC). The mantra of California seems to have been "local solutions to local problems" with a clear perception on the part of regional officials that if local tax dollars were needed to fund education and training improvements, then the activity should be managed locally to ensure relevance. It is now being increasingly acknowledged that education and training must be a

greater focus of state department activity over the next five years, and this also must mean engaging the university systems, both UC and CSU, in workforce development.

However, it seems to be the Community Colleges (CCs), with their long tradition of engagement with their local communities, which are taking the lead in seeking ways of meeting local economic development needs, and doing so from a strategic basis¹⁰. That said, we visited a state-of-the-art new facility at Sacramento State University, within the School of Continuing Education, which had been established expressly to provide both contract education (unaccredited) to local businesses and a range of professional qualification programmes to employees (other constituents of CSU have similar developments). Collaboration between CCs can take place at district level, but there has never been any sense of strategic planning across the whole college system until recently, with the development of a Strategic Plan by staff within the Chancellor's Office.¹¹ The Plan will cover areas such as student access and success, economic and workforce development, and organisational effectiveness. Key amongst the driving forces for the Plan is a sense that schools are no longer able to prepare students adequately for college, and that the balance of academic and vocational courses offered in each College should be reviewed. It is likely that the Plan will sharpen the role of the CCs as providers of vocational education to young people and adults, although this has yet to be confirmed. Additionally, Community Colleges are seen to be a way out of the 'low skills trap' experienced by the most disadvantaged groups, especially those from the Hispanic and African-American communities who have low levels of educational attainment (see section 2). Such a 'career ladder system' involves other organisations, including the universities, private training providers and employers, but it is the Community Colleges which are increasingly seen to be at the centre of it.

3.3 The workforce development challenge

From the above there is a clear message. The California debate presents state policy makers, educators, employers and learners with a stark choice. Traditionally, US governance has been light-touch, with a high reliance on private individuals to contribute to innovation in their local area. Whilst the existing system of education and training is responsive to local needs, it is largely unregulated (raising issues of quality, confidence, and the portability of locally-accredited qualifications) and can be short-term in its focus (raising concerns about sustainability and longer term improvements). These disadvantages are now becoming apparent in the face of population growth and economic competition from abroad (as indicated in section 1). The lack of regulation can only be addressed by state-wide performance and accreditation measures, and state-funded systems of data-collection, enabling better tracking of learners, be they undergraduate students or users of One-Stop systems. Ironically, a greater involvement by the State is now needed in order to preserve the benefits that have come from some of these earlier ad hoc local approaches.

We now turn to the second major workforce development initiative, Career Technical Education (CTE). This is the Californian term used to describe what we refer to as vocational education and some workforce development initiatives. The Community Colleges and high schools in California are playing a central role in its development.

3.4 Career Technical Education

"Income inequality is higher in California than in the rest of the nation, and the difference between the incomes of the "haves" and the "have nots" is largely attributable to education."

David W. Lyon, Public Policy Institute of California.

In California, as in England, there is a general sense that the best advice to any young person is to remain in education for as long as possible, and to achieve "a college education". The jobs that actually require a degree pay more than those which do not, with the result that lifetime earnings are significantly better. But, while participation in higher education is high, many young Californians do not have sufficient qualifications or credits to enroll on a degree course at college or university, and many who do

enroll drop out. Furthermore, although there is a high proportion of jobs requiring a degree, most Californian jobs, including some very good ones, do not (and over 65% of future new ones won't either). For many, vocational education (or Career Technical Education/CTE) can provide a better route to a job or an alternative route to higher education later. Offered from age 14 onwards in a school or college setting, CTE can be a means of ensuring that the student remains in high school after age 16, and can open up new learning pathways into and through college. There is an on-going and serious concern about the higher school drop out rates in African-American and Hispanic communities and their lower transfer rates from college to university. Good CTE can break peer group pressure to drop out or engage in anti-social activities by giving students a clearer sense of the purpose of their learning (i.e. a job in their preferred work area and a means of earning money). Yet many parents steer their children away from extensive CTE programs, as there is a residual memory of CTE being the dumping ground for less able students. The State is seeking to change this perspective by introducing CTE framework standards and promoting the benefits of good quality vocational education to student and state alike.

In a culture where there is only basic and often time-limited support from the State for those who are unemployed, the ability to earn money and support themselves and their families is highly regarded. Health insurance is rarely provided by employers, and this adds impetus to the need to find well-paid work quickly in order to afford the premiums which will at least guarantee access to reasonable medical cover. A characteristic of Californian careers literature is the statement of hourly wage rates that accompanies information about the range of jobs available in each sector. The emphasis is on motivating the reader to aspire to the highest reasonable entry point, because pay (and thus lifestyle) will be better.

"...virtually all students move into the workplace. Therefore, for all students, the provision of information about careers, tools to make decisions about careers, and the acquisition of specific skills valued in the labor market would seem to be an important complement to the academic component of education."

(David Neumark, "The Effects of School-to-Career Programs on Postsecondary Enrollment and Employment").¹²

This reality is often overlooked in schools, colleges and the University system. CTE occupies a major plank of Gov. Schwarzenegger's workforce development policy (see Figure 2). The California Department of Education describes CTE as: "A program of study that involves a multi-year sequence of courses that integrates core academic knowledge with technical and occupational knowledge to provide students with a pathway to postsecondary education and careers." This more rigorous approach has its roots in the federal School-to-Work Act 1994, which specifically encouraged CTE that integrated academic and vocational coursework. This was reinforced four years later by the move to drive up standards in the classroom signaled by the No Child Left Behind (NCLB) legislation.

The adoption of more rigorous academic standards for all students combined with the increases in skills levels needed for most jobs means that CTE programs originally focused on technical skills are increasingly including more academic content. In Californian schools, an auto mechanics class might consciously include more basic physics to enhance the hands-on lessons. The integration of academic with mechanical skills better prepares students to adapt to changes in their industry or to subsequently switch careers with less difficulty. In addition, most educators would argue that all students should have the academic preparation necessary to pursue college should they decide to do this at some point. The integrated curriculum also provides students with flexibility. Only around a quarter of high school graduates have obtained the requirements for admission to UC and CSU, with many of the remainder being left with fewer or uncertain options. An integrated curriculum builds back those options.

The quality and rigor that was often lacking in the CTE of the 1980s (and which contributed to its image as suitable only for the less academic) has now been given higher priority by the two pieces of federal legislation referred to above. Two local California Bills also committed the state to developing curriculum standards and frameworks for CTE in high schools and CCs just as it had recently done for the core academic areas. A CTE Advisory Group has been formed, and will publish the frameworks in May 2006. The relationship between the various types of CTE is best shown diagrammatically in Figure 3:

Figure 3 Career and Technical Programmes in California

	CTE (at a high school)	ROCPs	School-to career		
Program descriptions	Electives or comprehensive program offered at a high school site	Voc training and placements at occupational centers and high school campuses	General school-to-career	Career or partnership academies	Tech Prep
			Internships, co-op programs, school enterprises	"schools within schools" focusing on occupational areas and integrates academic and technical education, for grades 10-12	Integrates vocational and academic education into 2-4 year high school curricula and then extends into a 2 year college or post-secondary certificate program
Program leads students to	A more comprehensive ROC program or a trade, career or HE course	A trade, career, technical, CC or HEI	A career or HEI	College attendance and work	Associate Degree or certificate in specific field
2004-05 funding	Federal: \$48 m (Perkins Act)	State: \$364m for hs and adult students (General Fund)	State: none	State: \$23m (General fund)	Federal: \$11.5m (Perkins Act)

Source: EdSource, June 2005¹³

3.5 ROCPs

The oldest and largest scheme of CTE in California is the Regional Occupational Centers and Programs (ROCPs), available in more than 100 career areas, and delivered on a range of sites, from shared accommodation in high schools and CCs to specialist centers serving a region. The program is an essential partner with Tech Prep and career academies (see Figure 3). The program offers students and adults careers education, advanced training, and courses which enable them to upgrade existing skills as well as counselling and help with finding a job. Students who are still at school spend part of their day in the classroom, and the other in related vocational activity in industry or in a specialist centre, or at school following a franchised ROCP curriculum.

In 2003-04, there were 74 ROCPs across the state, with 500,000 enrolled students of whom 165,000 were adults. More than 630 ROCP courses attract credit at CCs and Universities. ROCP trainees appear to earn higher wages and have more success in securing promotion than their comparison peers. Tax dollars paid by ROCP participants to the state government in the two years following completion more than offset the cost of their programs. They also continue to study: i.e. their success in the job market is not at the expense of continued education. Although there is little funding to track students, evidence so far suggests that the ROCP scheme does motivate disaffected young people by presenting them with a purposeful education, as well as maintaining the value to the economy of older participants.

State law requires ROCPs to offer courses which meet current labour demands so ROCP staff are mandated to work closely with employers and public bodies to ensure that course content is relevant. Over 18,000 business representatives across the state work with ROCP staff to update course content annually. Each ROCP has employers serving on local Advisory Committees to ensure curriculum relevance. Over 65% of enrolments are in business, IT, and industrial technology subjects.

3.6 School-to-Career programs

As shown in Figure 3, School-to-Work (known as School-to-Career (STC) in California) covers three different types of programs:

- **Tech Prep** combines two years of high school with two years of postsecondary education at a college in areas such as applied science, engineering, health occupations, etc. The scheme is intended to lead to an Associate Degree or a certificate in a specific career field, which would in turn lead to higher-wage employment and/or higher education. There were 80 Tech Prep consortia of high schools, CCs, ROCPs and businesses in 2003-04, in schemes almost exclusively administered by the CCs (and including concurrent registered students, i.e. on role at both high school and college).
- **Career Academies**, some 285 in total, are specialist schools which organise their curriculum around an occupational area (such as health, finance, etc.) and prepare students for CC. They have been shown to improve attendance, retention and graduation rates, but no overall improvement in student test scores. They cost 10% more to run, work closely with ROCPs and staff have mutually-beneficial links with employers. However, parents who prefer a traditional curriculum are unlikely to send their child to a Career Academy.
- **General school-to-career activities**, covering internships, school enterprises, and classroom-based activities, which were funded by the State until 1999. When the STWA was dropped from legislation in 2000, funding began to taper off, and now no funding is provided by the state for these activities. California's current budget crisis means that it is unlikely to increase the funding available for more general, broad-based STC in schools in the future, but will instead focus on Tech Prep.

3.7 The 'academic- vocational' tug of war

The School-to-Work Opportunities Act (SWOA) was intended to promote the integration of academic and technical education in schools, and many educators and policy makers saw this as being a route to the reformation of the high school curriculum. Both Career Academies and Tech Prep continue the original principle of integrating academic and technical education.

Unfortunately, however, when the standards movement took hold in the US, culminating in the NCLB legislation in the 1990s, events pushed things in the opposite direction. High school staff focused on the delivery of the academic curriculum and since 1999, the focus on accountability in the Californian education legislation has pushed this further. The result has been a 'tug of war' between academic and vocational education in the state legislature. The subsequent withdrawal of federal support for SWOA activities may lead to a sharp decline of general CTE provision in Californian schools. However, the Governor's statement about the importance of CTE in his workforce development strategy (see above) and the proposals in the 2005/06 budget to increase coordination between CCs and high schools for fully-integrated, industry-driven CTE curricula, it is likely to offset this.

There is little in the way of evaluations or reviews undertaken of outcomes of the different types of programs in California to show which might be more successful. This seems largely due to poor data sets and a lack of tracking of students. The Institute of Policy Research in 2004,¹⁴ found "little if any convincing evidence of the effectiveness of STC programs, especially on postsecondary outcomes. Many of these evaluations do not use a control group, which makes it impossible to infer the effects of the programs, others fail to account for differences between participants and non-participants and few look at postsecondary outcomes." A US wide study (1997 National Longitudinal Survey of Youth)¹⁵ provides evidence which shows that STC programmes can increase postsecondary enrollment and employment. Career Academies and Tech Prep appear to boost the likelihood of full-time employment, but with a trade-off of lower participation in postsecondary education, while more general STC schemes boosts post-secondary education enrollment.

The bulk of state and federal funding at the moment is directed towards employment-focused Tech Prep, school CTE and ROCPs, but some have argued (see Neumark, above) that more thought needs to be given as to whether or not the funding balance is correct. Whilst the evidence is not overwhelming, it does suggest that if the State is interested in a better-educated workforce, then it should direct a greater proportion of funding towards more general STC schemes which appear to promote greater retention in education. That said, there is also a real danger that the NCLB legislation (or rather the funding coming from it) may have the effect of diminishing state and federal interest in STC, thus increasing both the rate at which students drop-out and their subsequent rate of disengagement in society.

This dichotomy has prompted a great deal of debate in schools and colleges. Some CTE is acknowledged as generally being delivered effectively and efficiently – the ROCP scheme is a good example of this. In other cases, STC is taught as “enrichment electives” in high schools by staff with limited interest or experience in this area. Scale of provision varies (along with quality) as does staff enthusiasm and programme relevance for the learners involved. The curriculum frameworks for CTE will do much to resolve some of these issues for school or college-based delivery. Many CTE sessions are delivered by instructors, who, whilst they may be experts in their field, are not trained teachers and may have difficulty in delivering the academic content required by the curriculum. Team teaching would resolve this, but it is not common place in California, and many believe that the historical divisions between instructors and teachers run too deep to make collaboration possible.

Californians have always respected the role of education, and in the past have always been prepared to pay additional taxes to preserve levels of provision. However, there has equally always been a high level of mistrust of state and federal politicians, and this has manifested itself in an increasing reluctance to pay more taxes for provision which is administered by people at a distance. Whilst there is an awareness that changing population dynamics and increasing foreign competition must lead to a review of existing education and training arrangements, there is a growing sense that perhaps better use could be made of existing funds.

In the case of CTE, increasing attention is being paid to the fact that so many overlaps exist in the schemes already provided. ROCPs (funded by the state, with some federal input) are often located in CCs, and also offer courses to those attending high school, (both of which receive core funding from the state and the federal governments). Better alignments of funding, and new partnership configurations could result in earlier and on-going CTE at no risk to core academic standards, and with every chance of enhancing them. Currently, 75% of high school students do not meet the entrance requirements on school graduation to attend a four year public university. The needs of this majority could well be addressed by better CTE. More details of the role of the CCs in CTE and economic development are given in the annex on page 24.

4. Conclusions

Government and employers in California have a similar view to ours in England about the importance of investing in the development of the workforce in order to meet the needs of a changing economy. California is especially anxious to preserve the competitive advantage it has traditionally had in the global economy. Although we have different traditions, cultures and education systems, we also share some core beliefs, such as:

- greater participation in post-statutory education needs to be encouraged, especially for lower socio-economic and certain ethnic groups who are seriously under-represented in higher education;
- all school students should have access to a vocational curriculum, not just those who are less academically able;
- different routes to university need to be offered and regarded by the population as equally worthwhile;
- vocational learning is not time-limited: it can be a route to higher education or higher paid jobs for adults as well as young people.

We can also identify with several of the issues regarded as problematic in California and being tackled by the State. Many of them have also been rehearsed here in the English press and highlighted in research studies, for instance

- an apparent lack of policy coherence within and between Government departments and programmes;
- funding anomalies between providers of the same courses;
- a legacy of competition rather than collaboration between institutions, as a result of earlier legislation;
- data collection difficulties, making assessments of outcomes from the various programs difficult to compare and evaluative evidence weak;
- the relative prestige associated with academic qualifications
- and the need for vocational qualifications to be respected, credible and portable;
- bureaucracy associated with the implementation of government accountability;
- a lack of readily-available careers guidance in schools, colleges and the workplace.

California's approach to improving workforce development has been implemented through a number of legislative programs (with funding attached), as shown in Figure 4 below. These have been delivered through a variety of local publicly-funded programs, schemes and organisations and also by the independent sector.

Figure 4 Summary of California's main policy drivers and initiatives

Policy Drivers and initiatives (Federal and State.)	Purpose
No Child Left Behind Act 2004	Raise age-related performance scores of children in schools in all academic subjects.
Perkins Act 1998	Increase economic competitiveness by increasing the academic and technical skills of the population.
Workforce Investment Act 1998	Increase training provision and reduce unemployment.
Cal Grant Act/Stafford Loans/Pell Grant Program etc schemes of student loans and grants	Increase participation in University education by removing financial hardship.
The California Master Plan for Higher Education 1960	Provide a route to University for all Californians.

Whilst we can identify some similar policy drivers here (e.g. in the HE Act 2003 and targets for HE participation, Skills Strategy, 14-19 White Paper and the new vocational diplomas, and Lifelong Learning Networks), we have chosen different solutions to some of the problems highlighted above. Historically, we have viewed the school, FE and HE systems as distinct entities, each with a specific purpose and distinctive funding regime. In relative terms, our FE Colleges have only recently been formally linked with schools through a number of vocational initiatives, and the funding arrangements between the school and the FE sectors have yet to achieve level playing field status. The funding gap between an HE course delivered in FE and the same HE course delivered in HE remains wide, and can inhibit collaboration. Recent White Papers have sought to blur these distinctions as policy-makers have recognized the role of FE in addressing a number of Government concerns and targets. Like the Community Colleges, FE Colleges play a significant role in progression to higher education and vocational and technical study for their local communities, and often work in partnership consortia with local schools. But the Community Colleges are being given an increasingly specific economic role in California in addition to their widening access role, and we need to explore the possibilities of the FECs taking up a similar position within, say, Regional Skills Partnerships. We welcome therefore conclusions of the recent Foster Review (on the future role of FECs) which encourage colleges to develop a greater core focus on skills and employability and be leaders of change in their local communities.

We also lack the Californian level of engagement by employers at a local level in workforce development programmes or with local providers to help plan and design provision. Our vocational and work-based pathways to higher education/level 4 exist but are not straightforward (as previous research has shown¹⁶), and they are less likely to be taken by young people (or known about). Although there are good examples where local initiatives have made an impact on progression opportunities (see for instance some of the new Foundation Degrees and also some Aimhigher partnerships) there is a lack of knowledge about them amongst potential students, employers and providers, and consequently a very uneven spread of students with vocational entry qualifications within the HE system.

The development of clear vocational pathways is only one component of the picture here in England. Since the demise of traditional apprenticeship schemes, several generations of employers have emerged who are less familiar with the concept of funding employee training, and who are also wary of doing so in case they 'lose' their newly-skilled staff. Furthermore, many directors of small businesses have not experienced higher education themselves, and are dubious of its relevance to them or their staff's needs. They are often ignorant of its new and broader provision. The range of routes to the Foundation Degree, for example, is deliberately wide, and many can be started without prior formal qualifications, and on a part-time basis. The accreditation arrangements which universities seek to apply to learning in the workplace however, can often be inhibitors to employers getting involved with them, as the recent CIHE report on workforce development shows.¹⁷ Many small/medium enterprises (SMEs) expect graduates to be 'oven-ready', perceiving them to be recruited to meet a specific business need and not requiring further investment in skill development. Professional bodies also have a role to play. They have been generally slow in taking interest in the development of Foundation Degrees or the use of National Vocational Qualifications (NVQs) or National Occupational Standards (NOS) in higher level

programmes, and this has held back the development of new progression routes to HE. As many SMEs often rely on their relevant professional body for information, this can influence employers' approach to the benefits of engaging with universities or colleges in workforce development.

4.1 California – is there a model to learn from?

The Californian approach to vocational education has three distinctive elements which have helped it to address some of the barriers to greater progression in education and training post-16, and higher education in particular. The first is a higher level of motivation on the part of Californians of all ages to obtain employment, and live 'the American Dream'. Whilst the levels of aspiration may differ slightly between cultures and families, in most communities the belief remains that hard work and determination can lead to a prosperous lifestyle. This is frequently associated with having a college education. Sufficient high-profile role models exist in most towns to make the Dream seem achievable, and the effect of this should not be under-estimated.

Secondly, successful employers are more engaged with the process of workforce development than seems evident here. This is largely based on "strategic philanthropy", in the sense that most can see that in a booming economy the profits will go to the company which is best able to respond to demand. This usually means the company is fully-staffed by well-trained workers at all levels in the chain of command. In order to achieve this state of play, employers will offer internships and work-experience to students in the hope of recruiting them back at the end of their studies if they prove suitable, and will sponsor education facilities (bricks and mortar). The flexibility of the ROCP schemes and community college program also suits employers who want to improve employee skills in particular areas of their operation. This is a win-win situation for both employer and employee, in that the company funds a short "chunk" of learning in a skill shortage area which the employee can accumulate as credit towards further higher-level courses should they wish to do so.

This leads to the third distinctive element, the Californian system of **local accreditation of jointly employer/education designed courses** and the greater flexibility of their credit system generally through local articulation agreements. This has a number of benefits in the local setting: it has enabled many companies to respond flexibly to demand whilst promoting the concept of lifelong learning to employees and their families; and it has helped to sustain the concept of self-development through hard work and application amongst successive generations. However, that same flexibility and localness can also be a weakness if the courses are of poor quality and not recognized beyond the county or state limits. Policy-makers are trying to resolve this without increasing the burden of bureaucracy on local WIBs and/or reducing the enthusiasm of local employers to work with education partners, but with mixed success to date. There also are some unanswered questions. For example, what happens when a recession hits? What impact will greater economic uncertainty and slower growth rates have?

We also heard about various benefits from the system of Career Technical Education (CTE) in California, because of its:

- High levels of learner motivation to get a job, and to get as highly paid a job as possible.
- Tradition of employer involvement in devising training programmes.
- Increasing state interest in the quality of vocational provision.
- Increasing state awareness of the need to be accountable to local communities for how their tax dollars are used through better data collection.

These same factors also serve as a useful summary of the distinctive elements of California's approach to workforce investment, and may be areas which English policy should consider, as the various bodies (DfES, HEFCE and LSC) begin to implement the new strategies set out in recent policy documents and White Papers.

4.2 The English Way Forward – what have we learned?

There are several important messages which we would wish to share.

One is that workforce development *is* economic development in California – there is little discussion about whether or not skill shortages and education levels have an impact on regional economies or link to economic strategy. Rather, the emphasis is on the importance of investing in workforce development as part of regional economic development and doing that efficiently (i.e. getting greater accountability). It means that regional and local economic reforms have workforce development elements built into them and that workforce development does not mean just job training/re-training. A wider definition is used which includes work preparation for entry level jobs as well as career progression. A more inclusive approach is being attempted such that the education system works more closely with employers and training providers to meet workforce development needs than has been the case in the past. To date, this has had more success in some places than others, and less so at state than at local level.

A second key conclusion is the importance of being able to build up credits over time (and not necessarily in a linear way) to secure progression to HE. This is critical to the achievement of higher participation rates in post-16 education among lower socio-economic and certain ethnic groups, and in reducing school or college drop-out. In particular, the success of some Tech Prep programmes which provide opportunities for high school students to register concurrently at colleges and schools, and gain credit towards an Associate Degree or certificate programme from their college study has been taken up enthusiastically by college staff, (though we are aware, however, of the limited evidence about outcomes of Tech Prep and other CTE programs and how much they improve education participation or entry to work). Nonetheless, Community Colleges have demonstrated a significant role in developing vocational curriculum pathways from aged 14, and developing them further to 2+2+2 progression schemes on to university entry.

In England, the closest we come to this is in the 14-19 White Paper, which emphasises the benefits of the Increased Flexibilities Programme (IFP). This now attracts pupils from half of all secondary schools to nearly three-quarters of all FE Colleges in a move to offer a more vocational approach to the 14-16 curriculum. It has been praised in a recent independent review (by NFER) for its effect on improved exam results and greater retention rates post-16 as a result of rekindled enthusiasm for learning. IFP, and also the new vocational diplomas announced in the 14-19 White Paper earlier this year, offers a model of vocational education that has similarities to Tech Prep whilst providing access to nationally-recognized qualifications. The White Paper builds on existing programmes to offer a much more focused and clearer approach to vocational learning, whilst also recognising the importance of functional skills. However, the existing system for students in English schools and colleges (and the workplace) is predicated on the achievement of whole qualifications. In California, it is more usual to accumulate credits which could contribute towards admission to a higher-level course at some point in the future. This area of education policy is worthy of further consideration as policy makers review the success so far of measures to widen participation in HE. National Occupational Standards have existed for some time, and could be a component of a new approach to vocational progression routes for those at any given point in the education system. The work of the QCA and LSC in developing a Framework for Achievement will be crucial in clarifying and formalising the role of credit as a means of raising skill levels and widening participation in HE.

The need to address employer expectations of those leaving HE is a common theme on both sides of the Atlantic. Employers' views are based on the high costs of recruiting and keeping graduates and the expectation, in return, that they will contribute positively and rapidly to the receiving organisation without any further call on resources. There is a continuing need for HEIs and employers to work more closely together. We found little to learn from our visit on ways of encouraging more integration of career and personal planning, or the development of employability tools into the academic curriculum at universities. Employer involvement at this level was more about offering internships, taking part in careers services programmes and making financial contributions to the colleges and universities, in cash or kind. In contrast, it was the Community Colleges who were providing specific vocational

programs to recent graduates to help them gain entry to various occupations. Some of our colleges here already offer something similar though professional practice programmes, (e.g. accountancy and human resource management), but it may be possible to expand this approach to other subject areas.

Linked with the regional economic strategy remit of Community Colleges in California is their role in working with other local bodies as the 'engine of change' within their communities. This is a role which some of our FE Colleges might consider developing more, especially those heavily involved in Aimhigher Partnerships or those colleges which belong to the Mixed Economy Group (MEG). Membership of MEG is open to colleges where approaching 50% of their students are following degree-level courses, and where the vocational pathway to HE is well established. The expertise of this group, when aligned with proposals for Lifelong Learning Networks and the remit of the Regional Skills Partnerships (RSPs), could make a significant contribution to making widening participation in HE and the achievement of the Skills Strategy a reality. The remit of the RSPs, in particular, suggests that these organisations should play a key role in driving forward the development of vocational pathways to HE (see for example recent Concordat between the LSC and the Regional Development Agencies with regard to the operation of RSPs, which sets out the context for regional joint working. This should ultimately make a difference to a range of local education/employment issues, from staying on rates in schools, progression rates to HE and the availability of higher level skills in each region).

Similarly, Specialist Schools, Beacon Colleges, CoVEs, and Skills Academies could also work together at a more strategic level to address vocational progression in particular localities. Anecdotal evidence suggests that each institution could work on a wider canvas than at present, and that the RSPs have a potentially powerful role as catalysts for change. Whilst the fundamental issues above do need to be resolved, the advent of a new 14-19 strategy and a co-terminus Skills Strategy offers an opportunity for change. We need to enthuse learners by offering a more varied curriculum at 14-19, and promote a greater level of engagement between employers, learners and educators in order to ensure higher levels of mutual and national prosperity.

Finally, our visit painted a picture for us of what could happen if "local solutions to local problems" became the norm, and no co-ordination was imposed on any set of activities. We were surprised, and a little disappointed, at the lack of coherence between CWIB and CPEC, and the extent of the cultural difficulties which staff encountered between the two departments. The lack of state involvement in local decision-making was also beginning to lead to a lack of accountability on all sides, although this was something that all parties recognised as a loss and were anxious to put right. Whilst we admired the energy and enthusiasm of the people that we met in colleges and Universities, we were left wondering what would happen if they moved on to other posts, or the economy went into a sustained decline or a piece of local legislation was repealed. There appeared to be few permanent landmarks in education and training, and a great deal of local inventiveness. The issue for us then became one of how to marry Californian entrepreneurship with English sustainability.

Thus we **recommend** that:

1. greater attention is given to developing vocational curriculum pathways from age 14 which are attractive to all young people and also credible as university entry or as work-based training (Apprenticeship/NVQ) routes. These would include the new vocational diplomas, IFP (see above), Apprenticeship/Foundation Degrees or some 2+2 type models with schools and colleges in partnership;
2. colleges are given a more central role in workforce and economic development within their localities. As part of this, they should lead in developing vocational pathways, be it through local partnerships or consortia of local bodies, higher apprenticeship/FD programmes involving Sector Skills Councils and employers, new vocational diploma pilots or other new initiatives. More funding must be directed via LLNs from HEFCE and LSC and the RDAs to achieve this;

3. consideration be given to piloting the development of the first four new vocational diplomas in a particular geographical area, working across a number of schools, colleges, HEIs, and employers so that they emerge as credible and relevant qualifications either for entry level work, career progression or entry to HE;
4. colleges, universities and RSPs work closer together and with SSCs to ensure that the content of apprenticeships and Foundation Degrees meet regional economic needs, and that transferability from one to the other can be achieved easily without the need for bridging courses;
5. more and better Careers Education and Guidance in schools and colleges for students of all ages is funded and promoted; and that the careers guidance given to young people is up to date, accurate and impartial about the vocational opportunities available to them;
6. staff in colleges and universities are equipped with the appropriate skills to work effectively with employers and with work-based learners, and are motivated to do so. We need to encourage the entrepreneurship/innovation seen in successful vocational programmes in California at local levels, including the recruitment of facilitators of learning/industrial advisers who may not be qualified teachers;
7. UCAS continues to work on the development of tariff points for Apprenticeship frameworks, and any barriers removed which might disadvantage vocationally qualified students in university admissions;
8. a credit based approach to learning at all levels is established, to ease the transfer of young people between levels and types of institution, and also so that employees can build up credit over time and progress more seamlessly to higher education/higher levels of study.
9. This would also be helped if academic and work-based awards were linked better to encourage more HEIs/FECs to recognise, for example, NVQs as work based components of an employer-based HE award, such as in Foundation Degrees, and so not continue with a confusing and distinct array of academic and work based awards.
10. We also support the recommendation in the recent Foster review for a streamlining of qualifications offered by FECs, and that some FECs should be allowed to award their own qualifications, perhaps on a consortium basis, as Community Colleges currently do (re Associate Degrees), a proposal supported by the CIHE in the past.
11. More action needs to be taken to improve data collection between the different education sectors, so that better tracking of people taking different routes through the system can be undertaken, leading to improvements in the basis for taking funding decisions.

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Appendix: Examples of Community College activities

1. Developing role of Community Colleges in workforce and economic development

The more strategic approach to workforce development in California, which is being generally advocated, requires a “seamless system” (as often heard here too). This is one that combines a number of components: careers counselling, basic literacy and mathematics attainment, entry level job skills training and work-based learning, more advanced training, general education at different levels, and also lifelong learning opportunities. Various organisations have a role to play in this, but it is apparent that the Community Colleges (CCs) are being encouraged to take on the more central role in local and regional systems, and many are well placed to do so. Most colleges already play an important role in meeting a diverse range of needs, and increasingly, CCs are helping to drive the career technical education (CTE) curricula as well as increasing the CTE opportunities for middle and high school students by offering classes at college. Many have been given new economic development priorities through the developing regional economic strategy.

Through Tech Prep consortia, many of the Community Colleges are already engaged in working with over 1,000 high schools and several Regional Occupation Centres and Programs (ROCP). In total, Tech-Prep consortia offer over 600 ‘2+2’ pathways in 15 broad career areas. The next stage planned is to encourage consortia of high schools and community colleges to develop existing models of 2+2 pathways into more targeted industry-driven programs, to help create new industry partnerships with schools, and also to create new articulation agreements between schools and community colleges and perhaps also 4 year institutions in 2+2+2 models. In this arrangement, the last 2 years of high school include some time being spent in a CC, followed by 2 years at the same CC followed by a relevant degree at a University, through an articulation agreement. This sets out to streamline the articulation between school and college courses, and between the various agencies delivering workforce development.

An example of a 2+2+2 model we saw at Glendale Community College is given below. Another example given is Ventura College’s role in regional economic development.

2. 2+2+2 career pathway in Culinary Arts

The Culinary Career Pathway is one of a number of such pathways being established where students at Glendale high school attend Glendale Community College for some classes in their final two years. Under the scheme, they can gain credit towards certificate programs in specific technical fields or towards an Associate Degrees. Articulation agreements have been agreed to enable transfer to take place easily.

Through successfully applying for special funding from a federal grant program for recruiting more Hispanic students to college, Glendale has recently designed a new career pathway program in the Culinary Arts, with some special features:

- A number of people working in industry were hired as instructors (chefs, restaurant managers) and to run the program, ensuring its high degree of relevance to the industry.
- Some classes are taught off campus (an increasing proportion, to 20% on work sites).
- Students have a range of needs – some want to get certificates for entry level jobs, some want to transfer to 4 year college.
- A strong industrial Advisory Board was established, to help with course design, sponsoring mentoring activities, guest speakers, on-site visits, etc.

- Articulation agreement enables students to transfer to Cal Poly Pomona (a CSU campus) to continue for a further 2 years and graduate with a BS in Hospitality Management. This is in the Collins School of Hospitality management, a prestigious institution (in the eyes of relevant employers).
- Action to overcome some 'perishability' problems, (Pomona has experienced a very high drop-out rate from its degree courses by Hispanic students which it is taking action to improve).
- Students can obtain credit hours towards degree from paid work experience.

3. Regional Economic Initiative

Within the State's CCC Economic and Workforce Development Program (EWDP), Community Colleges are being encouraged to provide a variety of solutions to meet local business development needs and workforce needs. The idea is to develop a new collaborative delivery system based on local needs and circumstances, and to improve the inter-connections between education, training and the workplace. This might include: delivering training in basic job skills to more advanced levels in new technological areas, environmental scanning to assess labour market needs or developing better career resources for use in schools and colleges. The overall aim is to stay ahead of the 'technology curve' and help successful businesses realise the value of education and enhancing employee skills.

Ten regional partnerships focused on likely growth sectors have been established across the State, each centred on a Community College. These can bid for State funds to develop local partnerships which 'maximise the delivery of employment, training and educational services' (see p.35 of California's Workforce Development policy framework document). In one of these, for example at the Biotechnology Initiative based at Ventura College near Los Angeles, the focus is the educational and learning needs of the operational biotechnology workforce. This comprises a substantial share (as much as 80% in places) of the total workforce of biotechnology businesses, and where there is expected to be high job growth. The Biotech initiative has six centres at Community Colleges, mainly in southern California and in the San Francisco Bay area. At Ventura (as in other CCs in the network) there are activities being developed which involve schools, colleges, local businesses, economic agencies and others, such as:

A new certificate program at Ventura College, developed with an industrial partner, aimed at meeting entry needs of technician level jobs in bio-pharmaceutical research. The programme attracts a range of students, from career changers (including PhD Chemists) and BA graduates to high school graduates, and is very popular (partly because of its high success rates, with some students being recruited by employers before they complete the course). The program includes internships in biotech companies. There are plans to run two new programmes of a similar type – one for bio energy and one on bio-agriculture – both areas where job growth expected in the future:

- **Bridge to Biotech** – a 'ramp' program to help people with poor maths and English (since started they have found they need to run an 'on to ramp' program!) to help them gain entry level jobs.
- Use of **Tech Prep** funds (from the district) by the colleges to pay for the time of the teachers to come into college to work out a Tech Prep program and improve their skills/keep up to date with equipment used by industry (also used funds to put together boxes of resource (lab) materials for use in schools, and maintain them, keepinh up to date).
- Improved **local labour market intelligence**, by tracking performance of local biotech companies, including their international agreements, patenting, new regulatory requirements,

etc, (also venture capitalists), in order to be aware of changes in skills/jobs, future demands, and so have a pool of people with skills businesses will need.

- **Careers information** – design of posters and other resources for schools about what kinds of careers in biotech exist, with up-to-date information on pay levels, experience required and educational routes to them (e.g. from HS, AA, BA, masters, PhD etc); outreach programmes into school, campus tours.
- Improving the **articulation and collaboration** of educational programs in different types of institutions (UC, USC, CC) in an area through, for example, joint work on mapping of all the relevant provision in a CC district area (such as San Diego) to help inform people about educational opportunities in biotechnology.
- Encouraging employers to offer **internship programs**, and publicising them to students.
- Financial assistance to students from minority groups to encourage interest in science (**MESA** program).

Many of these types of activities are not particularly new or innovative to us here, but the 'joined up' organisation of them, and the fact that a college is acting as the focal point, could be said to be new also. The enthusiasm of the individuals involved at local level and their ability (through entrepreneurial abilities) to tap into various funding streams from different state and federal budgets to meet their purposes, plus their considerable industrial experience and high technical knowledge, was impressive.

4. Training for business

Another example of Community Colleges' roles in meeting community skill needs was seen in Glendale's Professional Development Centre. This is an off-campus facility providing state-funded customised training to business, and is one of the largest such providers in the State (other Community Colleges have these, also some at CSU campuses).

The unique funding source for the Centre is the 0.1 of 1% of the unemployment insurance fund that all 'for profit' businesses in California pay into. The training is provided at no cost to the students and participating companies usually pay between \$100-150 per student per class. Programs at the PDC at Glendale are performance based, with no exams or tests. Attendance is monitored and the PDC does not receive any money until students complete all of the training and then remain employed for a 90 day period. As a result, students are carefully recruited on to the programme, with commitment from them and their employer. Examples of training provided in the Summer 2005 schedule include Microsoft Office level; Leadership and management, Auto CAD, and Hazardous materials. The training for all of these programs was scheduled from 4-9pm, one day a week for between 10 and 16 weeks. Alternatively, the college can design a customised curriculum for the company.

We also found that staff at Glendale College generally were very active in marketing the college to the business community, to help ensure that the certificates they offer match up to student and employer needs. They have a senior manager with responsibility for workforce development (at Dean level in the college); they ensure that employers are not only represented but take an active part in advisory boards for courses; and they have begun to take college classes out to business premises, to make them more accessible (e.g. they recently set up a classroom work-site at a large bakery in order to help workers develop their literacy and technical skills, and enable them to attain credits to progress on to certificate or AD programs (at the College).

CIHE PUBLICATIONS

Ethics Matters: Managing Ethical Issues in Higher Education

Co-produced with the Institute of Business Ethics (IBE), this is a practical guide designed to help UK universities and colleges address ethical issues across their organisations. It sets out to raise questions, encourage debate and make suggestions on how higher education institutions might develop their own approach to ethical matters. (CIHE & IBE) (£25) (October 2005) ISBN 1 874223 51 3

Workforce Development and Higher Education

This report summarises responses to our February consultation on Work Based Learning and identifies a number of issues that need to be taken forward.

Helen Connor (CIHE) (£5) (September 2005) ISBN 1 874223 53 X

International Competitiveness: Setting the Scene

Introductory paper to the CIHE's extensive project investigating the international competitiveness of UK higher education institutions. This report summaries the May 2005 Council meeting that detailed the need and agenda for this project. (CIHE) (£5) (July 2005) ISBN 1 874223 52 1

Fishing for Talent from a Wider Pool

The CIHE and IES have together produced this report that investigates trends and dilemmas in corporate graduate recruitment. The executive summary and the report of the web audit are available for download from our website, but the full report can be ordered from the IES website at £35. (£35) (March 2005) ISBN 1 851843 50 7

Student Employability Profiles: An Employer's Guide

THE CIHE with Graduate Prospects has commissioned this guide to raise awareness amongst employers of the employability skills that are developed through the study of a wide range of academic subjects. We hope this information will help employers better to understand the skills that should be developed during the learning process in specific disciplines and in turn help recruit from a wider range of academic backgrounds.

Bianca Kubler & Peter Forbes (CIHE & Graduate Prospects) (£3) (March 2005) ISBN 1 874223 49 1

The Value of Higher Education

A guide for students and their advisers on the value of higher education and what businesses look for in the graduates they recruit. This document was written with support from CIHE and UCAS, in association with Prospects. Available electronically from UCAS and CIHE websites and in hard copy from UCAS.

Vikki Pickering (Free – website) (CIHE & UCAS) (March 2005)

Higher Education: More Than a Degree

This consultation at St George's House in January 2005 follows on from our successful consultation in March 2004 and focused on the student experience of higher education.

(£5) (CIHE March 2005) ISBN 1 874223 50 5

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