

International Best Practice on Workforce Development

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For:

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ELW*a*
EDUCATION and LEARNING WALES

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Executive Summary

- Compared with Britain as a whole, the demand for skills in Wales is not only low, but is actually declining.

Based on evidence of international best practice:

- Workforce development cannot be left entirely to the vagaries of the market; rather the market must be '**shaped**' to some degree to deliver decent jobs for workers and profits for companies.
- There needs to be a **clear vision** of where Wales wants to be by 2010, based on a joined-up strategy and clear actions for driving up the demand for skilled work and moving business up the value chain.
- The most successful skill formation strategies depend on key stakeholders sharing a **common understanding of**, and commitment to the overall **strategy** for workforce development, supported with performance indicators.
- The vision should be linked to **clear priorities** for economic development based, this report argues, on the identification of business **clusters or networks**.
- Policies and actions relating to workforce development of both the WDA and the National Council - ELWA must be **complementary**, reinforcing each other in pursuit of their common goals.
- There is a need to **introduce the relevant mechanisms and programmes** necessary to up-grade, on a consistent basis, the skills of the existing labour force to meet the future needs of the economy.
- Wales should move away from a 'programme delivery' approach and towards a **more holistic approach** through changes in work organisation to improve business performance.

Aims

The aims of the research are:

- to develop recommendations for improving workforce development (WfD) in Wales, taking into account the UK Government's recommendations for England.
- to identify a range of key areas of good practice interventions from outside Wales to help National Council - ELWa staff and external policy makers and practitioners to develop an informed, strategic approach to workforce development.
- to identify other areas where further research may be required

Section 1: Background

This is a report commissioned by the National Council – ELWa to raise awareness of different approaches around the world of tackling workforce development, and to develop recommendations accordingly. It is NOT a statement of the National Council – ELWa’s views but is intended to stimulate debate from a range of interested parties.

As with any international comparative analysis, this report does not purport to provide answers which can be directly transplanted to Wales. Rather, it highlights examples of innovative approaches which have potential for adaptation to Wales’ own cultural and institutional context.

Policy Context

The background to this report lies in the **Skills and Employment Action Plan for Wales (SEAP) 2002**. It reiterates the recommendations of both Future Skills Wales research and the Wales Skills Task Force that:

“...much more needs to be done to improve the levels of skills in the Welsh workforce” (p. 3) - and calls for a *“report drawing lessons from good practice outside Wales in developing workforce skills”* (p. 10).

This Action Plan sits within the a broader 10-year economic development strategy, entitled **“A Winning Wales”**, which sets the priorities to inform the plans of key organisations such as the WDA and the National Council - ELWa. It includes as its objectives:

“increasing the skills of the workforce” and *“creating new opportunities for work-based learning”* to meet the constantly changing economic needs of Wales” (pp. 8-9).

Wales has worryingly low levels of both economic activity and skills in comparison with other parts of the UK - these dual problems need to be tackled together. Moreover, employers - predominantly SMEs - are not investing in the skills of their workforce.

Many employers in Wales find themselves in a low-skill/low Value-Added trap, whereby they adjust to skill shortages not by investing in skills but by creating goods and services that do not require them. In Wales this has produced a higher than average dependency on declining or low value-added industries - a point duly acknowledged by “A Winning Wales”.

This situation is corroborated in the 1998 research for Future Skills Wales which identified that:

“one in five employers did not give employees the opportunity to develop skills relevant to their present jobs, let alone higher skilled jobs” (SEAP, p.4).

Over the border in England, interest in workforce development has gathered pace over the last 18 months. In recognition of the continuing decline in the economic performance of the UK *vis-à-vis* its competitors, a number of reports have been published.

In line with the aims of this project, this research for Wales focuses on two linked reports by the UK government's Performance and Innovation Unit (PIU) – now called the Strategy Unit (SU). Entitled, "In Demand: Adult Skills in the 21st century", it was commissioned by the Prime Minister to set out proposals for a strategy and an action plan for adult workforce development.

The first report, published in November 2001, set out the role of workforce development in raising productivity and promoting social inclusion. It proposed a strategy for a demand-led system for workforce development, shifting the emphasis of policy making from increasing supply to **stimulating demand** from employers and individuals, albeit met by responsive provision. In the wake of the Government's Spending Review, a second report was produced (November 2002) which maps out an action plan for workforce development in England to 2010.

In light of the UK's poor comparative economic performance as a whole, this piece of research is based on the premiss that the demand-led approach proposed by the PIU reports for England should be equally applicable to Wales.

Benchmarking

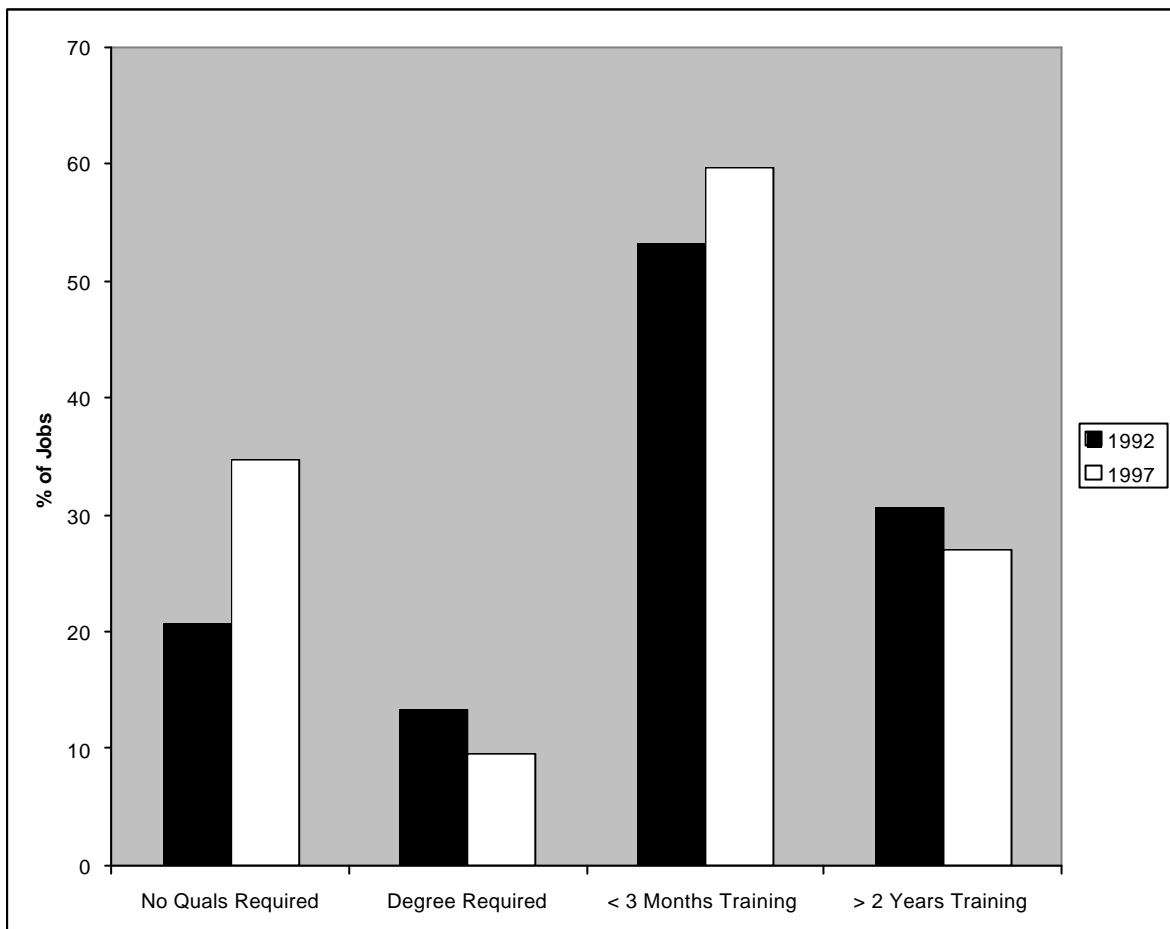
The exact implications of this situation for workforce development have not been established. Indeed, because workforce development is difficult to define, it is also difficult to measure and, hence, to make relevant comparisons for effective benchmarking across countries.

One of the most frequently used indicators is the **educational level of the labour force**. Wales, as part of the UK, is perceived to suffer from low levels of intermediate qualifications when compared with other European countries such as Germany and France. Indeed, within the UK, Wales has one of the lowest proportions of young people with level three qualifications (Felstead, 2002). However, there is now some indication that even these relatively low (albeit improving) levels of intermediate qualifications may be in excess of those currently demanded by employers in Wales (Green, Felstead and Gallie, 2002). This is shown in the diagram overleaf.

The most direct measure of workforce development currently available also stems from the work of Green and his colleagues, through the UK Skills Surveys. If national skills needs are based on employers' immediate skill needs, the low skills equilibrium will be perpetuated, leading inevitably to skills shortages. The data from the UK Skills Survey suggest that this is indeed what is happening currently in Wales.

The 2001 Skills Survey revealed that, in two out of three measures to assess what broad skills and qualifications employers require, Wales was located at the bottom end of the UK regions. Only the Eastern region and the East Midlands had lower scores than Wales. On the training time index (which measures the length of time it takes to train for the job), only the East Midlands had a lower score than Wales.

Diagram 1 The Decline in the Demand for Skills in Wales 1992-1997



Source: Felstead, "Work Skills in Britain" (2002)

The main findings¹ of the Felstead report are that, over the period 1992-97, skill levels in Britain as a whole have been rising whilst skills in Wales have declined on all measures:

- an increase in the proportion of jobs for which no qualifications were required
- a decline in the proportion for which graduate qualifications were required
- an increase in the proportion of jobs requiring less than three months training
- a decline in the proportion requiring more than two years training time

¹ These data are preliminary and should be treated with caution

A Strategic Approach

It is important to spell out the boundaries of this report. It adopts the definition of workforce development put forward by the PIU which distinguishes it as one element of lifelong learning specifically related to the needs of the economy and employers, and progression of individual in work:

“Workforce development consists of activities which increase the capacity of individuals to participate effectively in the workplace, thereby improving their productivity and employability.” (2001, p. 6)

It is important to note that workforce development is much broader than workbased learning, which can be seen as but one method for developing the workforce.

As the main focus of this research is on developing the skills of those already in employment, this examination of international best practice focuses particularly on the following two key areas of action recommended in the SEAP:

- | |
|---|
| <ul style="list-style-type: none">• improving the mechanisms of workforce development• working with employers/employees to improve the skills of the workforce |
|---|

As noted earlier in this section, we pay particular attention to the Performance and Innovation Unit (PIU) reports. The PIU reports for England provide an implicit backdrop against which recommendations for Wales are developed in this report. Indeed, the recommendations of these reports are in line with the overall approach adopted in Wales' SEAP (2002) albeit the former placed greater emphasis on the need for a “demand led system”, based on the premiss that for employers, training and development is a derived need:

“They do it to enable them to achieve other objectives, notably make a profit or deliver services. The best way to increase employer demand is by helping employers to rethink their business and organisational strategies around more ambitious goals.” (2001, p 6).

The PIU reports see the government's role as putting in place a demand-led system that is supported by appropriate incentives and safeguards. We have taken the successful establishment of such a **demand-led system** in Wales as our focus, whilst recognising that supply of and demand for skills are not mutually exclusive, and that improving supply can also lead to improvements in demand. Indeed, the SEAP report notes that action will need to be taken on both the supply side and the demand side:

“It is no use taking action only on one side; we would end up with people trained for jobs that do not exist or with skill shortages and gaps worse than they already are and jobs that cannot be filled” (p. 4).

This approach is also advocated in the National Council's Review of Services to usiness, which identifies the “*need to make business support services demand-led rather than supply-driven*”³.

³ CM International, Draft Report, “Services to Business Review”, December 2002.

Scope and Format of Report

Each of the sections consider arrange of approaches from various countries and conclude by drawing out lessons for Wales.

Section 2 is the largest section, focusing on the macro, structural and strategic level which, it is strongly argued, must be right before micro-level activities can be considered and adjusted. It explains how different governments have developed effective “demand-led” workforce development strategies.

In **Section 3** we focus on concrete actions which can be used by the employers themselves to identify and articulate their current and future skill needs.

Section 4 examines programmes and actions to improve the supply side – the value and flexibility of provision.

Section 5 pulls together a set of recommendations which have emerged from our analysis of the situation in Wales and farther afield.

Annex 1 provides a summary of success factors required for effective workforce development – the ‘7 Cs’.

The rationale for the choice of international examples selected is threefold: based on extensive personal research in the field of workforce development, the countries were selected on their:

- similarity to Wales in terms of size of labour force and economic problems faced (*viz.* moving from a low value-added to a higher value-added economy which generate more highly skilled and highly paid jobs);
- pioneering approach to workforce development;
- perceived success over a period of time in delivering increases in skill levels linked to the needs of employers whilst helping the economy move away from low skilled, low valued-added forms of production.

Foremost among these countries is Singapore but similar approaches can be found in other areas. We accept that other countries may also provide valuable lessons and should be considered in any further research.

Section 2: National Strategy for Workforce Development

A number of countries have developed effective demand-led strategies. They have delivered increases in skill levels and successfully linked this with the needs of employers. They have helped to move the economy away from low skilled, low value-added forms of production. We begin by looking at how **governments** have achieved this move to higher value-added forms of production. We then examine the lessons this has for the current situation in Wales.

Government Strategies

At the national level, governments have adopted very different policies in their attempts to move away from the low skills trap. These range from the exclusive reliance on the market – as evidenced in the USA, to a reliance on forms of regulation and control such as Singapore and, in certain aspects in Germany.

- *Market Forces or Intervention?*

Reliance on **the market mechanism** was the approach adopted by Hong Kong and, more recently, Ireland. However, in both those cases there were fortuitous circumstances that provided market conditions favourable to a move into higher value-added forms of production.

In the case of **Hong Kong**, the opening up of the Chinese mainland market in the People's Republic of China created a number of opportunities for Hong Kong. It provided Hong Kong entrepreneurs with a source of cheap labour which encouraged them to move production into mainland China and concentrate the higher value-added managerial and financial functions in Hong Kong. It also acted as a spur to Multi-National Companies (MNCs) to site their head offices in Hong Kong, in order to secure access to the new Chinese market.

Similarly in **Ireland**, the accession to the European Union (EU) and adoption of the Euro acted as a spur to investment from the United States (US) in Ireland, regarded as a easy way of securing access to the EU market. Significantly, the situation was undoubtedly boosted by the existence in Ireland of **a highly educated (English speaking) labour force**.

The Irish government was also successful in bringing the employers and unions together to establish a strong social partnership which functioned to control wages. The combination of these circumstances acted as a magnet for substantial inward investment, which was then used to push the economy in the direction of higher value-added forms of production. It should be noted, however, that Ireland's success was built on decades of careful and consistent planning.

The second way in which governments have sought to escape the low skills trap is through the use of direct government action to **secure capital investment** and **co-ordinate the supply** with a rising **demand for skills**. This ensures that such capital was

effectively utilised to push the economy in the direction of higher value-added goods and services.

This was the path chosen by the governments of **Singapore, Taiwan and S. Korea**. They faced very competitive world markets and had few natural advantages or resources, apart from the precarious, short-lived advantage of cheap labour. The only option was for the government to utilise their resources and managerial capabilities to **shape the market** and actively **steer the economy** into higher value-added forms of production (Lauder, 2002; Ashton et al, 1999).

- *Vision*

What characterised the strategies of the Asian Tiger governments was that they all had a **clear vision** (similar to “Winning Wales”) with the aim of moving the country from a dependence on low value-added to high value-added forms of production which generate more highly skilled and highly paid jobs. **It is this process that is at the heart of driving up the demand for workforce development.**

This move to high value-added production requires great clarity of purpose and focus at the strategic level. The vision is crucial because it provides all those responsible for implementing policy with a **clear sense of direction**, ensuring that all policy measures are ultimately supporting this vision.

For example, the Singaporeans take a holistic approach, “building a vibrant ‘enterprise ecosystem’ – a total environment bringing together companies big and small, foreign and local, thriving in synergy and symbiosis (EDB Annual Report 2001/2 – Chairman’s Report). This, in turn, necessitates and stimulates a constant search for new ideas and business opportunities that pervades the administration (see the intelligence gathering role of the EDB later in this section).

Thus we see that, **in Singapore**, the government itself plays a proactive role - identifying and prioritising those particular industries which will deliver a move up the value-added chain. It sets up a ‘pact’ with a new MNC that, in return for a relaxation of the regulatory business environment, the company trains more workers than it needs as a means of broadening the pool of available skills.

Whilst an interventionist role of such a degree may be unrealistic for transfer to Wales, this report still argues for greater steer and prioritisation from the National Assembly for Wales. There is evidence that Wales is starting to develop, what we term an ‘all-pervasive culture’ or commitment which seeks to share future opportunities for Wales and around which a clear set of priorities can be formulated – however much more still needs to be done.

- *Leading-Edge Companies*

In **Wales** there is a pressing need to raise awareness on the global market of its potential as a country for business investment and development. This needs to go beyond the goal of the National Assembly for Wales, in “A Winning Wales”, “*to establish Wales in the world*”. This report argues that the role of the government in Wales should essentially be that of creating a business environment which is attractive to leading

edge, model companies (both foreign and indigenous, large and small) which can, in turn positively influence all businesses' performance in Wales. However, the report goes further by arguing for a clearer identification of leading industries.

This is not a question of “picking winners” but of identifying emergent technologies and growth sectors that Wales wishes to develop, based on its natural and other advantages, and then using those to develop **clusters** and **networks** of companies, large and small, up- and downstream, to spearhead the development of the economy.

Wales currently has a number of established sector fora such as the Automotive Forum and the Electronics Forum, which provide good coverage of their sectors. Their alignments with relevant Sector Skills Councils will provide a basis on which to forge ahead with such an approach.

Also encouraging is the recognition by the WDA and the National Council - ELWa of the benefits of greater co-ordination of priorities for industry sectors – both those with clear growth potential and others. This shies away, however, from a common agreement on key growth industries and clusters. Yet, to be effective, this report argues that such an agreement would need to be endorsed and championed by the government – the National Assembly for Wales. There is an indication that joint working between the WDA, National Council – ELWa and the National Assembly **will** result in a shared strategic approach to develop key sectors.

Success in establishing such clusters requires staff with the highest level of **knowledge and expertise**, as well as the existence of high calibre companies in the cluster able to attract foreign talent into Wales. These would include ex-patriots, a central feature of the success of the electronics industries in **Korea** and **Taiwan**. The purpose of such activity is twofold: firstly, to globally benchmark or learn about best practice for high performance working (HPW) systems from abroad. Secondly, to establish ‘emotional’ ties between Wales and key entrepreneurs, managers, engineers, scientists, academics, etc.

Once these clusters or networks have been identified and the message clearly disseminated this provides a base around which to prioritise all relevant actions and funds. Skills formation must be linked strategically with cluster development.

Implementing the Vision: Co-ordination and Integration

The PIU reports highlight the importance of a **joined-up government** approach. As noted above, a coherent set of mechanisms are needed which **co-ordinate** all the various activities, link the government departments and agencies involved, and ensure that they are all supporting change in the same direction. At the most general level, this means ensuring that all the resources of government, the trade and industry policy, job creation policy measures, the education system, the financing of vocational education and training, government sponsored training programmes and business support policies are all aligned behind the same well thought out and structured goals. To be effective it is crucial that staff are able to operate within broad project teams. Capacity building of this kind involves a holistic understanding and immersion in the culture of Workforce Development.

As some of these are outside the remit of this report we concentrate here on those more directly related to the task of driving up the skill levels of the labour force through workforce development.

- *Co-ordinating Policy*

Wales has the same problems of integration and coordination as other parts of Britain. At a policy development level, aspects of these problems are evident in Wales' economic development strategy, 'A Winning Wales'. In line with OECD thinking, the strategy notes four main drivers of economic growth: innovation, enterprise, people and new technologies – used as a basis for structuring its aims and objectives. This gives rise to a whole series of initiatives (71 areas of action) in the document. Although calls for a more focused approach to business and workforce development have been the subject of strategy in Wales over a number of years, it is difficult to discern how all these initiatives are **integrated**. In addition, the lines of responsibility and **coordination** are unclear.

Moreover, issues of innovation and enterprise have little meaning in the abstract. The report suggests that a key indicator of innovation is expenditure on research and development (R&D). Whilst increasing the R&D spend is obviously important, it needs to be linked to those new and existing businesses within the proposed business clusters. Equally, workforce development depends on how innovation, enterprise, people, and technologies are to be linked together within a shared commitment to moving up the value chain. All performance indicators must be linked to this mission.

- *Co-ordinating Institutions*

Countries such as **Ireland, S. Africa and Mauritius** have taken the decision to establish an over-arching institution to ensure national co-ordination and guidance. Such an approach is also being favoured by international advisory bodies such as the International Labour Organisation (ILO).

The necessary functions of such a body(ies) necessary to achieve a joined-up strategy are:

- The co-ordination of this intelligence within a **system of sound data gathering** on current and future skill needs. Here, intermediate institutions such as the Chamber of Commerce in Germany, would pass information up to the macro planning agency(ies) and across from MNCs to the SME sector.
- The co-ordination of **information** about the demand and supply of skills at the highest level of government (including the transfer of intelligence about leading edge skills from MNCs, HEI's and progressive SMEs);
- The co-ordination of the **supply** of new skills with the **demands** for them;
- The co-ordination of **Human Resource practices** in line with the requirements of high performance or modern work practices.

In **Singapore**, co-ordination starts at the very highest of levels within the government, and is overseen by representatives of the Ministry for Trade and Industry who are responsible for implementing the vision. Similar mechanisms exist in S. Korea and Taiwan.

Overall co-ordination in Singapore is achieved through a “command and control” system driven by the Economic Development Board (EDB). Intelligence begins in the many outposts that the Economic Development Board has throughout the world. The purpose of these outposts is to identify changing technologies, skills and organisation practices required to compete in the chosen clusters and to feed them back into the system.

New Multi National Companies (MNCs) are recruited with higher skill demands than those existing in Singapore in order to raise skills levels as a whole. The skills required for inward investing companies and indigenous growth industries are added to those skills employers say they currently require and together these form the “national skill needs” (Ashton et al, 1999).

Ensuring supply meets demand in Singapore is the task of the Council for Professional Education and Training (CPTE), of which there is no comparable institution in Wales. The CPTE makes appropriate decisions on an ongoing basis about targets and resource allocation required to ensure that the supply matches the demand. This may mean reducing the education and training provision for low skilled workers and increasing that aimed at developing higher levels skills. It may involve targeting provision to increase skill levels in existing companies in the clusters identified for development. The CPTE also provide the targets and guidance for the Productivity, Standards and Innovations Board (now renamed SPRING) to guide the implementation of their training programmes and workforce development measures.

In **Germany**, the centralised curriculum system is regularly revised to meet the changing needs of industry. Because this happens centrally, up-to-date adjustments are able to be diffused consistently across the whole country (Brown et al, 2001). The international literature stresses the importance of the ability to identify cutting edge skills from MNCs, higher education institutions (HEIs) and progressive SMEs and then to diffuse knowledge of them through the relevant sectors/industries. **This diffusion of knowledge or intelligence can be seen as one of the key drivers of co-ordination throughout the system.**

- *Direction and Co-ordination for Wales*

The current framework in **Wales** does not provide this type of detailed **guidance** to either the WDA about the type of businesses to attract and support, or to the National Council - ELWa about the type of skills it should be seeking to support and develop through its programmes. Neither are there mechanisms for ensuring skill diffusion as in Germany.

In response to this the Future Skills Wales Partnership integrating with the emerging Sector Skills Councils is the strategic body responsible for developing knowledge of the country’s skill needs with which to inform decisions about the direction of resources and programmes for workforce development.

The work of the National Council-ELWa to specify demand for learning in Wales will also enable Wales to practically identify ways to capture and utilise this information in a more systematic way. The FSW's restructured website will also provide an improved vehicle for knowledge collection, and will rely on benchmark data from other sources. In addition, the FSW Partnership is working closely with the Sector Skills Councils (SSCs) to provide data relevant to Wales on vocational skills, as well as with the Assembly's Economic Research Unit.

There is some joint working between the National Assembly for Wales, the WDA and the National Council-ELWa on 'scenario setting' and the identification of future skills needs. There is also a recognition amongst all 3 bodies of the need to share this type of information on a wider basis and to agree a common way forward. However, this thinking is in its initial stages and its success will depend on the will and ability of individuals in each agency to take a strategic view.

Similarly, although the WDA and ELWa are described as the 'twin engines' of economic development in Wales, there have, until recently, been limited mechanisms in place to ensure that they play a complementary role in implementing the vision. This situation is changing with the establishment of agreements for high level, strategic co-ordination, most notably the Memorandum of Understanding (MoU) between the WDA and ELWa-National Council, and a Protocol between the National Council-ELWa and the Sector Skills Development Agency (SSDA). It is essential that these agreements go beyond a simple delineation of respective areas of responsibility, and set in place true co-ordinating mechanisms.

Mirroring the PIU's recommendations for England, there is a clear need in Wales for the functions enumerated earlier to be carried out as part of a 'joined-up' strategy, if not through an overarching body, then preferably through greater co-ordination between the WDA and the National Council - ELWa, closely overseen and steered by the National Assembly. It would also require the active engagement of other agencies and groups, for example, the Confederation of British Industry (CBI), leading Sector Fora, the Wales Management Council and the leading trades unions in Wales.

The following example from Singapore illustrates the potential benefits of more **co-ordinated action on the part of the government** in terms of the retention and 'embedding' of Multinational Companies (MNCs) and in the country's push to higher value-added forms of production.

National Semiconductor, Singapore - Using MNCs to Move Up the Value-Chain

National Semi-conductor has been in Singapore for over thirty years. Initially it was established to take advantage of cheap labour in Singapore for the production of electronic goods. After twenty years it became clear to both the management and the relevant government officials that the company could no longer compete on that basis and, unless it moved to higher value-added forms of production, head office would close the company and move production to China.

In response to this challenge the Ministry of Trade and Industry in association with the EDB offered grant aid for the development of an automated production system. A new, re-engineered and highly automated production system was developed by Singaporean engineers that virtually eliminated the use of unskilled and semi-skilled labour. At the same time the Productivity Board provided help with the introduction of high performance working practices and, in association with local colleges, the requisite upskilling of the existing labour force.

The result was a dramatic improvement in productivity, an enhanced stock of skills in the labour force, the retention of an important contributor to Singapore's export drive, and the creation of a company capable of competing at the leading edge of world markets. National Semi-conductor is now used as a model for other Singaporean companies to follow.

One of the reasons the Singaporean government was aware of the plight of National Semiconductor, was because of a the **constant interaction** between the Heads of the government departments involved in WfD as well as with the Chief Executives or Managing Directors of the MNCs. The latter are consulted on new ideas on which the government is working on, while the senior government officials also obtain feedback on the employers' current and future skill needs. Through co-ordinating this information, the Economic Development Board can provide help with the R&D of the company, while SPRING provides the measures required to upskill the labour force.

In comparison, **Wales** appears to provide fragmented support for such companies. Encouragingly, the WDA and the National Council – ELWa are working on inward investment agreements and generally improved co-ordination of contact with companies, for example, through a gateway for information and advice and possibly a shared 'field force'.

Lessons for Wales

- Raise the profile of Wales in the global market
- Be clear in purpose and direction
- A vision is necessary but ultimate success lies in concerted implementation
- Ensure institutional structures are co-ordinated
- Build the capacity of all staff to understand WfD needs of Wales and to work laterally across teams and with other key organisations in pursuit of a common aim;
- Gain 'buy-in' to a national Workforce Development (WfD) strategy for Wales
- Prioritise sectors and develop clusters of related industries
- Develop appropriate targets and performance indicators linked to the vision
- Recruit Multi National or 'beacon' companies with higher skills demands and commitment to workforce development to shape and steer the market
- Develop activities and channel resources to realise the strategy
- Ensure the institutional structures and the mechanisms are in place to co-ordinate and disseminate information on skills demand and supply on which supporting complementary actions can be based, programmes tailored and resources channelled.

Section 3: Tools to Identify and Address Skills Needs

Having explored in the previous section the importance of institutional and strategic co-ordination at the national level to identify and address skills needs of businesses, this section moves on to consider concrete tools or mechanisms to identify and address these needs. The first part of this section focuses on two main tools used to articulate employer skill needs: the use of regular **surveys** and the establishment of **Centres of Excellence**. The second part considers mechanisms to drive up employers' performance through a range of initiatives.

Identifying Employers' Skills Needs

- *Surveys*

One way of identifying employers' **current and future training needs** is through the use of tools such as surveys which, if used regularly at the industry/sector/local level, enable provision to be adjusted in accordance with demand.

In **Hong Kong** this has been used for over twenty years as the main means of articulating employers' needs and linking them to the delivery of appropriate programmes. The Hong Kong Vocational Training Council (VTC), a centralised, publicly funded institution responsible for the delivery of vocational and technical education, has established a series of Industry and Occupational Boards. Each of these Boards is responsible for identifying the present and future needs of employers in its industry/occupational remit.

These Boards are composed of employers and representatives of the VTC. They produce an annual survey of employers' skill needs. This is used to identify the skills required to be delivered through their courses, as well as to determine the number and type of courses to be delivered. This enables a systematic bank of knowledge to be built up of businesses needs. This is a fairly crude mechanism but it does ensure that the delivery of courses and their content responds to the demands of employers.

The advantage of the Hong Kong system is that it does enable the (public) providers of training courses to respond directly to the requirements of employers. At the moment there is no such comprehensive knowledge available in Wales. If used correctly it can provide systematic knowledge of their needs. Nevertheless, the Review of Services to Business report does recognise this issue and calls for the greater involvement of employers and employees in the process to make the system more demand-led.

The disadvantage is that associated with all such surveys, namely that it only delivers information on employers' short term needs and is not an effective mechanism for driving up employers' skills requirement or for ensuring the delivery of skills required for incoming/new industries. As discussed in Section 3, Future Skills Wales still has the attributes of an on-going research project rather than those of an institutional resource centre which carries out regular and comprehensive assessment of employers current skill needs and provides a repository of knowledge on the employers in Wales or the Welsh labour market.

Also highlighted in Section 2 of this report, there is a need, acknowledged by Future Skills Wales, to obtain **more benchmark data** that will provide knowledge of how the Welsh labour market and employers in Wales differ from those in the rest of the UK. At the moment there is no central focal point.

A similar role to the Hong Kong VTC will be carried out in the UK by Sector Skills Councils, supported in Wales by the National Council ELWa. The emerging SSC network promises to address the future skills needs of its respective sectors, through data collection to inform their Workforce Development Plans. Whilst it is too early to evaluate the effectiveness of this sector-based structure for WfD in Wales their existence is crucial in addressing this weakness in Wales.

In summary, both the work of the Future Skills Wales partnership and the SSCs can be seen as positive steps forward.

- *Centres of Excellence*

The idea behind Centres of Excellence (as illustrated in the case study below) is to forge links between education and training and economic development. Knowledge about both product development and industry specific skills are able to be accumulated in one institution and used to spearhead change in that industry. For example, colleges should enlist the help of employers in the design and operation of courses, by providing information and knowledge on the skills required to ensure that the needs of industry are met and that employers see the college as a source of expertise for training their workforce.

National Council - ELWa is developing a similar concept, "Networks of Excellence" (albeit piloting is only in FE colleges at the moment) to provide a focal point for innovative development and excellence in such areas as multimedia and agriculture, which can be shared with other providers. The existence of these networks of excellence will also be informed by the work of the SSCs. Colleges chosen as pilots were selected according to their ability to provide high quality vocational education and training in key traditional sectors for the Welsh economy in line with regional statements of needs and priorities. These institutions are expected to act as 'demonstration colleges', providing a mentoring role for other colleges looking to raise their standards. These centres should be strengthened by linking with workbased learning, and also ensuring linkages with other clusters, SSCs, sector groups and employer fora.

The following case study has important lessons for the work of the National Council – ELWa on its Knowledge Exploitation Fund and Network of Excellence activities.

The Mauritius Sugar Cane Industry – Centre of Excellence

What started as a research group for the industry developed expertise in developments in the world sugar cane industry: these included not just products but also management systems and approaches, as well as the associated workforce development strategies. This group (now known as the Robert Antoine Sugar Industry Training Centre or RASITC) made this knowledge available to local employers.

After initial scepticism some employers introduced high performance working practices and skills training. They developed new products to create a niche in higher value-added markets and the appropriate management systems and workforce strategies.

As a result those companies sustained a place in world markets and set an example for other companies. The industry now has, in effect, its own consultancy organisation which acts as a catalyst in developing new products and the latest management and training practices. It is helping transform sugar cane production into a knowledge-based industry.

Mechanisms to Drive Up Performance

Whereas individuals and employers may be exhorted to upgrade their skills, there is inadequate support and incentive for employers to re-organise their workforce and increase labour productivity. The result is that, without the promise of appropriate jobs within which to use those upgraded skills, there remains little incentive.

As stated in Section 1 of this report, recent research strongly suggests that the key to driving up the demand for skills in businesses is to drive up the overall business performance of the organisation.

This represents a significant shift in thinking on business support and calls for programmes to be used as a set of tools with which to realise business goals (identified from strategies) rather than to be seen as an end in themselves.

There are a number of measures used to try and persuade employers to increase their investment in skills development. These include the use of a training levy/tax, national awards, government programmes, and help in establishing high performance work organisations.

Training Taxes and Levies

Many countries such as **France, S. Africa and S. Korea** use a training tax or levy to drive up the demand for training and WfD. In the Welsh context the National Assembly does not currently have the political authority to impose a levy/tax. However, as there is talk in UK government policy circles of the future use of compulsion if employers fail to raise their current level of investment in training, it is appropriate to draw attention to what existing systems have achieved.

The advantages of the training tax/levy are that:

- it forces companies to address the question of their training needs if they wish to secure a rebate or a return from the levy;
- the use of the levy usually drives up the demand for WfD at least in the initial stages; and
- levies are more appropriate in some industries than others.

The drawbacks are as follows:

- they are difficult to administer without involving the imposition of bureaucracy that tends to become divorced from the workplace;
- it is difficult (but not impossible) to fund informal learning; and,
- training levies/taxes do not always successfully address the needs of SMEs which see them as simply another tax to pay but which they rarely claim back.

National Awards and Programmes

Investors in People (IiP) is one of the key tools that the National Council-ELWa has for promoting workforce development strategies within companies in Wales. First and foremost, a HRD-focused, minimum standard, IiP UK is extending and enhancing IiP in recognition of the need for broader, non-people development and in response to calls for a progression route. It is hoped that these improvements will adequately address the need, as evidenced by recent research, for a focus on changes in **working practices** and **work design** rather than upskilling alone. ISO standards are also widely utilised in Wales, particularly in the manufacturing sector. Whilst it is the intention to integrate the different standards into one overarching framework, their international nature, requiring international approval, means that progress has been slow.

In the **USA** extensive use has been made by private companies of awards to drive organisation and business change and improve performance. This has the advantage of helping drive up skill levels in companies, rather than merely certifying that existing skill needs are being met.

In **Singapore** they have sought to take lessons from the use of these and other Quality Awards in the USA to develop a programme which goes well beyond IiP. The programme consists of the Business Excellence Award which is supported by a series of training programmes. 1,000 leading organisations have been targeted with the aim of using these as role models to trigger change in other organisations.

Essentially, the business excellence model (on which the Singapore Award is based) is broader than (but mapped against) the IiP standard; it is a framework which encompasses all aspects of **business performance** in terms of leadership, strategic

planning, effective information, engaging people, improving processes, customer focus and sustaining results.

This model (also known as EFQM) is promoted in Wales by the Wales Quality Centre, and has been used by both businesses and training providers. It is used by both the WDA and the National Council – ELWa as a framework within which to set business objectives and then identify skills needs. There is an acknowledged need, nevertheless, for greater complementarity and transparency between different business standards and the Business Excellence model.

In Singapore existing WfD programmes are then used to help companies (especially those in the designated clusters) on this road to world class excellence. For example, improvements in productivity are supported by the 'Work Re-Design' programme which provides subsidised consultancy advice to help companies improve productivity.

Support for the labour force to acquire the "soft" skills required to implement these practices, e.g. the communication, team-working and problem-solving skills, is delivered through the 'Critical Enabling Skills Training Programme Skills' (CREST).

More recently, they have introduced the Overseas Manpower Programme with the aim of supporting the development of executives to acquire more in-depth market knowledge and to hone their international business acumen.

What is important about these and other similar programmes is that they are designed to **complement** each other in the task of driving up the capabilities of organisations that operate in Singapore. Each programme targets a different facet of workforce development, delivered within an overall framework with clear objectives.

This approach means that government officials in Singapore have now dispensed with the use of training programmes *per se*. Training still has a part to play but much of the thrust of their recent initiatives has been to provide consultancy help in improving business performance and then using training as a means of implementing change and achieving those objectives.

Other countries such as **Finland** and **Ireland**, have developed bespoke programmes specifically geared to the introduction of high performance working practices. The Finnish system, operated through the use of consultants, has to involve the workers (unions) in a partnership approach to achieve improvements in productivity.

The Finnish programme also has attached to it a research and knowledge management component which provides a central repository of knowledge about innovation which can be used to inform future project developments. This helps to establish a body of expertise that can be shared among organisations seeking performance improvement.

Numerous other countries have a simpler form of support programmes which also trigger workforce development, for example the DTI's Partnership Fund in the UK, and the European Partnership Programme – which bring together trade unions and employers to look at ways such as upgrading skills to improve productivity in businesses. There is a wealth of experimentation and experience here from which lessons could be drawn.

Management Training

This is an area where national cultural differences are very important. For example the **Germans** have a very different way of training managers to that prevalent in the Anglo-Saxon world which have experimented with competence-based forms of provision. In part this was a reaction to the dominance of the type of formal academic courses delivered through universities in the form of MBAs.

More recently these competence-based approaches have been found to be lacking in terms of the under-pinning knowledge they provide. As a result, we are now witnessing new forms of provision which combine elements of competence-based learning with a rigorous intellectual input to provide the requisite theoretical knowledge and to inform reflection on practice. At the moment there are limited evaluations of these new approaches.

In countries such as **Singapore** there have been moves to differentiate management development. As mentioned above, the Singaporean government is now delivering provision aimed at enhancing the capability of senior management to operate effectively in global markets. They are also researching the changing nature of modern management, where the traditional manager responsible for controlling and motivating subordinates is being replaced by a person with the capabilities of managing relationships in a variety of settings, for example sub-contractors and networks of collaborators. The lesson here is one of staying **abreast of the changing realities of management** to ensure that the delivery of publicly funded programmes remains effective.

The National Council-ELWa has the remit to invest public money in improving management competencies. Yet there is a history of the TECs' and the National Council-ELWa's Business Skills Development programmes addressing specific topics in an *ad hoc*, low intensity approach over a short period of time. It is also acknowledged that Work Based Learning in Wales predominantly meets the needs of individuals rather than of businesses – it needs to become more flexible and business orientated. Its Review of Services to Business report argues for a prioritisation of this field through collaboration with the Wales Management Council, an increase in and targeting of resources. The National Council-ELWa and the Wales Management Council are developing a substantive programme to promote High Performance Working (HPW) in **Wales**. The SSCs will also have a pivotal role in supporting HPW in their own sectors.

The pilots run for the Company Learning Accounts will provide a limited sum of money which can be used to deliver business advice to entrepreneurs and to deliver the skills necessary to implement that advice. This is a move away from the now discredited attempts to throw training courses at business problems. It provides a more direct, longer term and practical offer of help to achieve business objectives and drive up the demand for skills. However, at the moment this is the only such programme on offer and directed primarily at growth SMEs. Nevertheless, it may provide the basis for a broader programme to support a range of companies in a supply-chain. Its refinement is also called for in the National Council - ELWa commissioned Review of Services to Business.

Lessons for Wales

There are a number lessons to be drawn from this overseas experience:

- Regular and coherent collection and dissemination of information about employer skill needs to inform the design and delivery of education and training courses, thus making it more responsive. Currently this process is fragmented and somewhat reactive.
- Wales should consider boosting the role of FSW and SSCs to undertake regular surveys to systematically track changes in the demand for, and supply of, skills.
- The SSCs should build capacity to benchmark Wales' position *vis-à-vis* achievement and developments in workforce development across the globe. It is also vital that they secure credibility with the outside world as high quality, strategic and truly representative fora.
- Although Wales currently prefers a voluntarist approach to encouraging investment by employers in WfD, training taxes and levies should not be ruled out as a 'coercive' tool. An eye should be kept on the debate in Whitehall on this issue. The Networks of Excellence in Wales should continue to be developed and broadened to embrace the lessons learned from centres of excellence in England (CoVE) and farther afield.
- National Awards are useful as a one-off mechanism for improving the quality of existing training but have limited usefulness as a means of driving up the level of workforce development. Models such as the Business Excellence Model, however, are more effective as they link directly to raising business performance and should be introduced more widely across Wales.
- Recent research has proven that effective schemes for driving up the demand for skills are those that introduce changes in work organisation necessitated by productivity improvements.
- There has been a shift away from the use of training programmes *per se* towards an emphasis on models and supporting programmes to drive up performance.
- Agencies involved in workforce development need to keep abreast of the changing the needs of management, and adapt programmes to ensure continued effectiveness.

Section 4: Improving Provision

This section provides an indication of the range of alternative programmes and practices that have been developed in other countries to **improve the value and flexibility of provision**. Firstly we deal with the approaches designed to make the delivery of workplace learning to medium and larger employers more flexible (those with more than 250 employees). We then deal with Small and Micro Employers (small between 11-50 and micro with less than 10 employees) but, given their predominance in the Welsh economy, we make them the major focus of this section. It is crucial that both large companies and SMEs are given the support to drive forward the economy in Wales.

The National Council-ELWa Draft Report on the “Services to Business Review” notes that, to date, it has treated Welsh businesses as a homogenous group with little differentiation made between client groups”. It argues that “provision is poorly targeted and resourced and not wholly appropriate”. The result is fragmentation and confusion, along with a failure to address the needs of different sizes and type of firm. In particular, it calls for the development of “*a coherent approach to ensure that businesses with the potential for growth have access to the training they need to develop*”. In addition, it is widely acknowledged that resources outside the tightly defined “work-based learning” umbrella are inadequate.

Medium-sized and Larger Employers

In **Denmark** the trade unions play a very significant role in helping to identify the skill needs of the individual employee and the company. Unions and employers agree an annual plan for developing the skill needs of every employee. Those requiring outside help in the form of courses are agreed with the sector association and the unions then work with employers translating those needs into appropriate programmes which are then delivered through local colleges.

In **Germany** the central apprentice curriculum authority (BIBB), is experimenting with leading employers to develop new techniques for delivering more effective workforce learning. One such technique is the use of “Learning Islands”. These are areas in the factory, adjacent to the main production line, where apprentices can work in a sheltered environment, to learn both the technical skills and new soft skills required for the job. They work in teams to resolve real production problems, but are under the guidance of a trained teacher. This reduces the amount of classroom training (and hence the cost of training), brings the learning closer to the realities of the workplace so there is less loss of skill in the process of transfer, and enables the apprentices to acquire the new soft skills of teamworking, problem solving and communication.

Small and Micro Enterprises

According to the “Review of Services to Business” report, micro-businesses in **Wales** are not being offered suitable support and resources are inappropriate to meet the potential scale of need.

Although there is a widespread belief that these firms under-invest in training, recent research has revealed that fairly extensive use of informal learning amongst these firms - an approach more suited to their diverse nature and requirements. Until very recently, this has not been sufficiently recognised in the design of government support programmes (Ashton, Sung and Raddon, forthcoming).

One of the important lessons to be learnt from existing programmes with regard to small and micro enterprises is the need to tailor provision to their distinctive needs and not to treat them as smaller versions of large companies.

Corroborating the findings in Section 3, the latest pilot schemes in the **UK** for liP, as well as innovative schemes in the East Midlands, recognise that what micro-enterprises require is **business advice**, which has to be related to the immediate and short-term needs of the business. Once this advice has been delivered then resources can be introduced to deliver the appropriate skills. This is very much a demand-led approach to the problem.

One area where governments have sought to target help is with the training of **entrepreneurs** and **managers in SMEs**. In general, courses directed at entrepreneurs in micro enterprises have not been very successful, who prefer to learn through experience. In the East Midlands, owners of SMEs have designed a programme (the BITE programme) which aims to raise awareness among entrepreneurs of their learning and business development needs. The next step is to signpost such entrepreneurs to areas where these learning needs can be met.

Similarly, the training/learning needs of such managers differ across sectors and especially in terms of the size of the organisation they manage. Thus, for managers in micro enterprises, most of the management they engage in is through informal relationships in workplace. They face very different problems as the organisation grows beyond about 50 employees, when they have to start implementing management systems about which many of them are likely to have very little knowledge or experience. Here again it is a question of carefully targeting any provision.

Finally, there are lessons to be drawn from both the UK and overseas experience concerning the administration of help for SMEs. In the **UK, USA, South Africa** and many other countries, there has been a tendency for different government agencies to become involved in the delivery of services to SMEs, for example with the Trade and Industry Ministry delivering financial and business help, while the Ministry of Labour provides help with training and management programmes. The result is the emergence of a confusing array of support for businesses.

The US has responded by introducing “**One-Stop Shops**” which provide information sharing systems at the local level to facilitate the operation of the market (Pantazis 1999). These bring together under one roof a choice of education, training and employment programmes. They aim to be business led, with the ability to empower the customer through better information and individual training accounts (vouchers) and to provide universal access to a range of employment opportunities and government programmes.

It is encouraging to note that a similar network has recently been launched in Wales. The development between the WDA and ELWa on proposals for a Gateway for Services to Business offers the prospect of providing a single clear 'gateway' to a full range of services for all businesses.

Apprenticeships

In the field of apprentice training, while the Modern Apprenticeship is being reviewed and may be improved, there are a number of problems which recent research has revealed (Ryan and Unwin, 2001):

The first is that it has very **poor completion rates** when compared with the German apprenticeship system. This may reflect major variations in the quality of the programmes which is a major issue.

The second is the fact that the scheme has its origins in the old Youth Training Scheme (YTS), in that it attempts to provide a route into work for all young people yet suffers from the **low status** accorded to government school-to-work programmes by modern youth.

The third is that there is **limited buy-in** to the programme by parents who often see this as a second class option for their child.

Lessons for Wales

- Customise support for micro and small enterprises, e.g. adapt and expand the Company Learning Accounts scheme and experiment with IT for flexible delivery;
- Place such schemes within a broad framework that encourages the management of risk-taking in the delivery of such programmes;
- Develop **performance indicators** that measure the outputs and outcomes of interventions in terms of the quality of the jobs created and the level of skill enhancement throughout the enterprise;
- Address the need for management training tailored to the needs of SMEs - explore the effectiveness of the East Midlands' BITE programme.

Section 5: Conclusions and Recommendations

Given the limited time resources available to this project we have not covered all the relevant areas; neither have we been able to cover all the programmes and approaches mentioned in any detail. There remain important areas that we have not had the opportunity to include but are worthy of further investigation, such as the use of the **supply chain** and the building of capacity in the government machinery to lead workforce development.

Vision, Strategy and Co-ordination

This report has sought to draw on international best practice to highlight key issues for Workforce Development (WfD) in Wales. We have concentrated on the importance of developing a 'demand led' system. This is not because 'supply side' issues are unimportant but because our comparative investigations reveal that the key drivers of WfD stems from improvements in productivity and the measures to encourage companies to move up the value chain.

If workforce development in Wales is to be improved then change needs to take place in a number of areas. Perhaps the most important is the **need for a culture change**, with political leadership setting high aspirations, sending out a crystal clear message and establishing a consensus around the need to make Wales a world class player in global markets.

This will mean identifying the markets and industries where Wales can generate business excellence in its employers, with the capability of competing as leaders in world markets. This could be achieved through either the development of effective **clusters** of related industries, or through identifying those **sectors with growth potential**.

To support such achievements will require the over-arching **institutional structures and mechanisms to co-ordinate** and harness necessary actions and resources to implement a nationally agreed Workforce Development strategy. Whilst there are already encouraging signs of closer collaboration between the 'twin engines' of economic development, the WDA and ELWA, gains will be limited in the absence of a **coherent strategy** implemented at the highest levels of government.

Identifying and Addressing Employers' Skill Needs

Identifying Employer Skill Needs

Such information is essential if employers are to be used to help drive up levels of workforce development. Further work needs to be done to identify how a better system of information gathering and exchange of ideas with employers (and unions) can be established.

Successful implementation of a Workforce Development strategy is highly dependent on robust, coherent and consistent collation, analysis and dissemination of labour market information. This would involve **matching** both the **existing demand** for skills and the

demand for the emergent skills for the new high value-added companies with the **supply** of skills from the education and training system.

The existing arrangements in Wales for identifying employers' skill needs are weak but improvements are expected, most notably through the establishment of the Sector Skills Councils. Currently, there is no central source of data and information on employers in Wales and there is no regular and systematic means of obtaining information from employers. Further research and development would be required to identify how existing bodies such as ELWa – a strategic planning and funding body - could carry out this role more effectively.

Mechanisms to Drive Up Performance

We have identified this as another area of weakness in the Welsh system. At the moment there is very little provision apart from liP. This weakness could be tackled in a number of ways:

- The drive to develop world class companies in Wales could be achieved through the WDA building on the superior expertise possessed by the **MNCs**, coupled with some of the National Council - ELWa's resources targeted at transferring the relevant skills and expertise to other Welsh employers in Wales through the various programmes and approaches discussed above.
- There are a number of mechanisms through which best practice in workforce development could be **cascaded from leading-edge** (often but not always multi-national or large) **companies** to other, local firms. These include the wider use of the Business Excellence Model in Wales, as utilised in Singapore, together with support programmes to deliver appropriate skills or the use of stand-alone programmes to introduce high performance work practices.
- Provision of **targeted management development** programmes for SMEs

Improving the Flexibility of Provision

At the moment provision is through an institutional structure designed for the UK, e.g. Modern Apprenticeships. This is rigid in form and operates through a system of **targets** which leads to inappropriate provision. However, recent changes specific to Wales in this area should produce more flexible and responsive provision. This provision must form part of a broader strategy to build clusters of world class companies.

Innovations such as Company Learning Accounts have been introduced but at present are very limited in scale and only directed at very small businesses. **This scheme should be expanded**, following evaluation and further work done on identifying how such a scheme might be modified to cater for larger companies.

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List of Acronyms

CPTe	Council for Professional and Technical Education (Singapore)
CREST	Critical Enabling Skills Training Programme Skills (Singapore)
EDB	Economic Development Board (Singapore)
GDP	Gross Domestic Production
HEI	Higher Education Institutions
HPW	High Performance Working
HRD	Human Resource Development
liP	Investors in People
MNC	Multi-National Company
MAs	Modern Apprenticeships
MoU	Memorandum of Understanding
OECD	Organisation for Economic Cooperation and Development
PIU	Performance and Innovation Unit (UK Cabinet Office) – now called the Strategy Unit
R&D	Research and Development
SETA	Sector Education and Training Association
SPRING	Singapore Productivity, Standards and Innovation Board
SSC	Sector Skills Council
SSDA	Sector Skills Development Agency
VTC	Vocational Training Council (Hong Kong)
WfD	Workforce Development

Appendix One

The 7 C's of Workforce Development⁴

1) Consensus

Consensus is the extent to which the major stakeholders, government, employers and trade unions are signed up to a commitment to upgrade the skills of the workforce.

2) Competitive Capacity

Competitive Capacity refers to the competitive capacity for productive innovation and change. A high skills economy depends on a high level of entrepreneurial and risk-taking activities, whether in terms of new business ventures or through innovation within existing enterprises, linked to new technologies, R&D and the upgrading of skills. This is best achieved in a context of 'value added' rivalry between companies rather than its 'zero-sum' variety that leads to cost cutting, down sizing and loss of competitive innovation.

3) Capability

Capability refers to the dominant model of human capability that informs the way people think about their abilities and those of others. In Western nations this has been premised on a scepticism towards intelligence that assumes that only a minority are capable of high skilled work and that the education system must be organised in order to identify and cultivate this limited pool of talent.

An alternative view is that the development of a high skills economy clearly depends on a model of human capability based on an assertion that all have the potential to benefit from skills upgrading and lifelong learning. It depends on an inclusive system of education and training that achieves comparatively high standards for all social groups irrespective of social class, gender, race or ethnicity. It also depends on teaching generic skills to all.

4) Coordination

This refers to the coordination of the supply and demand for labour. It recognises that there is often an over-emphasis on supply-side issues of education, training and employability. This ignores the need to foster the demand for skilled employment that cannot be left solely to market forces. A key issue here is how national governments try to tailor their education and training systems to the perceived 'needs' of the economy, and how they seek to incorporate the expanding numbers in higher education into high skilled jobs.

⁴ Derived from Brown, P., Green, A. and Lauder, H. (2001) *High Skills*, Oxford University Press.

5) Circulation

Circulation focuses our attention on the way nations, regions and industrial clusters diffuse skills upgrading beyond 'beacon' companies, R&D institutes, research centres and universities. In a high skills society we would expect to find a high level of circulation or diffusion of knowledge and skills throughout the workforce.

6) Cooperation

Cooperation is a feature of all forms of economic organisation on a large scale. The more productivity depends on 'brains' rather than 'brawn', the more important cooperation based on high trust becomes. The extent to which high trust relations are woven into the fabric of society will tell us a great deal about the degree of individual discretion and individual empowerment as well as collective commitment to skills upgrading.

7) Closure

Closure addresses social inclusion and exclusion in education, training and the labour market. In a high skills society we would expect to find inclusive skill formation policies aimed at reducing the social exclusion? e that has traditionally confronted women, ethnic minorities and those from lower socio-economic backgrounds. It highlights the problem of developing policies for a high skills society that are socially inclusive as it is relatively easy for all of the advanced nations to develop a elite of high skills workers.

Derived from: P.Brown, A.Green and H.Lauder (2001) High Skills: Globalization, Competitiveness and Skill Formation, Oxford University Press.