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Recommendations for Target Setting, Performance Indicators and Research Activity for the National Council-ELWa

A Report Prepared for the National Council-ELWa
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CONTENTS

EXECUTIVE SUMMARY

Chapter One – Introduction

The broad aims of this research project were to:
- Develop suitable targets and performance indicators which will enable the National Council-ELWa's progress to be monitored;
- Establish existing data sources, and future data requirements for the performance indicators and targets;
- Identify areas for complementary research projects examining the National Council-ELWa's work in meeting its wider mission statements and developing further performance measures.

The remit and scope of this project is set out in section 10 of the National Council-ELWa draft corporate strategy, and made more explicit in the invitation to tender.

Chapter Two – Target Setting and Performance Indicators in Post-16 Education and Training

- Targets are based on a variety of models and purposes.
- Targets should be useful, relevant, enduring, part of wider reform, and accepted by their users.
- Targets must be both policy-relevant and policy-friendly (timely, comprehensive and few in number).
- A complementary/concurrent system of independent evaluation of the *processes* through which the targets are being achieved is required (i.e., not just a focus on end data).
- The established framework of education targets and performance indicators developed from international models such as OECD and UNESCO covers the three stages of educational inputs, processes and outcomes.
- Targets are both a powerful statement of policy and a means of monitoring education systems and fulfil different functions for different audiences, with clear economic, political, educational and social roles.
- It is acknowledged that 'high quality' targets must be (i) useful to policy-makers, (ii) have relevance and endurance, (iii) be positioned as part of wider educational reforms and (iv) be accepted and valued by practitioners. A capacity to consult is therefore essential if targets are to be acted upon by disparate actors who can feel a sense of common ownership

Chapter Three - Clarifying the National Council-ELWa's Roles, Responsibilities and Aspirations

- All targets must reflect the contribution of National Council-ELWa.
- Many of the targets used by the NAfW are largely irrelevant to the work of ELWa since they include the impact of changes in pre-16 education and training.
- Targets can be developed to measure changes in the sectors for which ELWa is responsible. However, it is unlikely that we could ever devise targets to measure the specific effect of ELWa activities,
- Targets should involve the role and activity of ELWa (e.g. funding guarantees, future priorities) as well as population outcomes. However, the role and activities of ELWa (other than marketing) are still unclear. The five 'key' areas for ELWa are themselves described differently in different situations.
- We cannot let targets define activities and objectives. We must build the information systems first to monitor the operations once these have been settled. Only then can targets be settled, and only where appropriate.
- We must face up to the fact that many desirable outcomes are not suitable for targets.
- In practice it is impossible to separate the role of HE and FE since institutions apparently dedicated to the one also involve activities relating to the other.

Chapter Four - Key Issues in Research on Targets

- Most targets are composed of four elements – a proportion, an indicator, a 'population' and time period. Our review has shown that all of these are problematic.
- We suggest that all targets have a common syntax as far as possible. For example they might all be positively phrased (not 'reduce those without…'), all proportionate (not increase by raw figures) and not based on ephemeral policies, programmes and initiatives unlikely to survive changes in administration.
- We recommend that targets are few in number.
- Each area must have some hard, measurable targets.
- There is a danger of privileging the visible, by making the easily measurable appear more important. Given that much of the work of ELWa and its evaluation is still being determined, there is the further danger that targets based on existing data could be allowed to determine these.
- We generally do not have data sources appropriate even for assessing the hard output form of targets.
- There are no good figures available for most desirable indicators and targets. Thus, there are no baseline figures and no ways of assessing projected targets. Only research, or time and a new set of data can overcome this. We are therefore generally able to suggest desirable indicators but not precise targets.

- Many existing data sources are useless for our purposes, being one-off, including pre-16 results, involving omissions and double-counting, or based on weak methods (e.g. Basic Skills Survey).
- The general limitations of targets stem from the lack of appropriate data.
- The current emphasis on readily measurable targets means that there is a danger that their attainment becomes an end in itself for policy-makers, rather than a way of measuring and encouraging progress towards actual improvements in society.
- All indicators and the measures based on them are prone to possible error at every stage (e.g. collection and aggregation)
- Even where steps to calculate indicators are explicit, some steps involve subjective judgements and estimates of unknown quantities. This is partly why different sources produce different figures even when using the same data.
- There is no clear comparability between supposedly equivalent qualifications over time, place, or mode of assessment.
- The assumptions made in calculating progress towards targets should be explicit, and once selected and generally agreed, they should remain the same over time to enable easier comparisons between years.
- Many potential data sources have technical problems, most commonly low response rates and lack of comparable repetition.
- There is no evidence of regional or local factors affecting levels of attainment or progress towards targets, once the characteristics of individuals are taken into account.
- These problems, including lack of reliability and comparability, are considerably worse when international comparisons are attempted. Therefore international benchmarking is inappropriate.
- The ideal requirement, for a data source, would be for an individualised record system of all post-16 residents of Wales, whether currently participating in ELWa-related learning or not. This record would contain details of all post-16 education and training so far, whether certified or not.

Chapter Five – National Council-ELWa Performance Indicators

- A set of 28 new ELWa-specific targets are proposed:

Essential Skills

- *The proportion of adults aged over 16 who successfully undertake a recognised basic IT training course to increase annually until 2010*
- *The proportion of businesses registering their satisfaction with the basic skills of their employees to increase annually until 2010*
- *The proportion of adults aged over 16 who are enrolled on any learning episode to increase annually until 2010*
- *The proportion of unemployed adults who have basic functional skills in literacy to increase annually until 2010*
- *The proportion of unemployed adults who have basic functional skills in numeracy to increase annually until 2010*

Lifelong Learning for Individuals

- *Of the number of adults aged over 16 who had left compulsory schooling without a qualification, the proportion who were awarded their first qualification in a given year to increase annually until 2010*
- *Of the number of adults aged over 16 who had left compulsory schooling without a NVQ level 2 or equivalent, the proportion who were awarded a NVQ level 2 or equivalent in a given year to increase annually until 2010*
- *Of the number of adults aged over 16 who had left compulsory schooling without a NVQ level 3 or equivalent, the proportion who were awarded their first NVQ level 3 or equivalent in a given year to increase annually until 2010*
- *The proportion of learners aged over 16 enrolled on any form of education and training who complete their course to increase annually until 2010*
- *The proportion of all available lifelong learning and training courses that are deemed of high quality to increase annually until 2010*
- *The proportion of learners leaving any form of lifelong learning and training course that were very satisfied with their course to increase annually until 2010*

Knowledge Generation and Application

- *The number of new patents to increase annually until 2010*
- *The proportion of unemployed learners who leave any form of lifelong learning and training for employment to increase annually until 2010*
- *The levels of research grants and contracts income to Further Education institutions to increase annually in real terms until 2010*
- *Collaboration between businesses and providers of learning to increase annually until 2010*
- *The number of employment opportunities that are generated directly from any forms of lifelong learning and training to increase annually until 2010*

Skills for Business

- *The proportion of adults aged over 16 years who are enrolled on any form of work-based training programme to increase annually until 2010*
- *The proportion of businesses, by size and type, which participate in any form of lifelong learning and training to increase annually until 2010*
- *The proportion of organisations employing less than 50 employees achieving the Investors in People Standard to increase annually until 2010*
- *The proportion of organisations with between 50 and 200 employees achieving the Investors in People Standard to increase annually until 2010*
- *The proportion of organisations with more than 200 employees achieving the Investors in People Standard to increase annually until 2010*
- *The proportion of employees' skills and needs identified by businesses being met by education and training programmes to increase annually until 2010*
- *Knowledge of informal work-based learning to increase by 2010*

Community Learning and Cultural Development

- *The participation rates of all adults aged over 16 in any form of lifelong learning and training from the poorest Wards in Wales to increase annually until 2010*
- *The number of community-led learning programmes to increase annually until 2010*
- *The proportion of adults aged over 16 enrolled on a course studying the cultural development of Wales in any form of lifelong learning to increase annually until 2010*
- *The number of all available lifelong learning and training courses on the cultural development of Wales to increase annually until 2010*
- *The participation of all members of society in all cultural activities to increase annually until 2010*

These 28 targets are constructed around the following principles:

- We suggest two alternative models – the disaggregated 'conveyor belt' estimate which adjusts the population figures for the impact of pre-16 activity, and the 'learning episode' estimate. Both have relative merits.
- The performance indicators must aim to measure the contribution of only the National Council-ELWa.
- The performance indicators should generally have common syntax, i.e.
  - they should be positively phrased
  - they should be proportionate
- The performance indicators should avoid being programme or institutionally specific
- The suite of performance indicators for each area of activity should
  - follow the input-process-outcome model
  - have a number of hard measurable targets
  - identify new or different forms of data collection required
  - propose where further or complementary research studies may be necessary
- Many potential areas are simply not suitable for targets. Informal learning, as defined here for example, is only susceptible to in-depth study. This does not make it less valuable. Although some future research may devise new targets, the job will be largely one of regular and one-off evaluation.
- We recommend that attainment levels in Welsh and participation in Welsh-medium education and training should be monitored and reported annually, but without the specification of targets.
- We recommend that commentary on wider patterns of adult learning should be included, as softer data, in consideration of the other targets.
- We recommend that, where appropriate, some Targets are expressed in terms of average qualification (or participation) per adult resident.
- We recommend that, where appropriate, some Targets are expressed in terms of all adult residents, and some in terms of the working-age population.
- We recommend that once agreed on, technical assumptions used in measuring progress are published and used exclusively in setting and monitoring targets.
- We recommend that the regression models illustrated in our previous work in this area be adopted to produce best estimates of future levels of qualifications and participation.
- In the short term, we suggest that the existing National Targets are used where possible, and with appropriate caveats, while the individualised record system (STIR) is being created. Once this is ready, it can be used to estimate baseline figures for the targets we recommend here, and so calculate appropriately graduated indicators of annual progress.

BetterWales Performance Indicators from targets for the post-16 sector

- Numbers accessing the telephone helpline 'LearnDirect' managed by Careers Wales
- Number of young people benefiting from Youth Gateway Scheme
- The numbers of 16-18 year olds without qualifications
- The proportion of adults of working age without qualifications
- The numbers of 19 year olds without an NVQ level 2 or equivalent
- The proportion of adults of working age with an NVQ level 2 or equivalent
- The proportion of adults of working age with an NVQ level 3 or equivalent
- The proportion of adults of working age with an NVQ level 4 or equivalent
- The proportion of adults with functional skills in literacy
- The proportion of adults with functional skills in numeracy
- Total number of young people in modern apprenticeship schemes
- Total number of Individual Learning Accounts in Wales
- Student in Higher and Further Education (FE and HE enrolments)
- The proportion of Further Education college courses and training which are assessed as reaching grade 1 (The highest standard) and the % reaching grade 1 or 2
- The proportion of organisations with more than 200 employees with a commitment to the Investors in People Standard

Others from The Learning Country (Chapter 8: Outcomes)

- The numbers of 19 year olds without an NVQ level 3 or equivalent
- At least 25% of 16-19 year olds to attain the Welsh Baccalaureate by 2010
- The Family Literacy and Numeracy Programmes to be expanded
- Organisations employing less than 50 people to achieve the Investors in People Standard
- The percentage of organisations with 50 or more employees achieving the Investors in People Standard
- The number of participants in post-16 education and training

Chapter One - INTRODUCTION

SUMMARY OF KEY POINTS

The broad aims of this research project were to:
- Develop suitable targets and performance indicators which will enable the National Council-ELWa's progress to be monitored;
- Establish existing data sources, and future data requirements for the performance indicators and targets;
- Identify areas for complementary research projects examining the National Council-ELWa's work in meeting its wider mission statements and developing further performance measures.

The remit and scope of this project is set out in section 10 of the National Council-ELWa draft corporate strategy, and made more explicit in the invitation to tender.

1.1 Background, aims & outline of report

The National Council for Education and Training for Wales (referred to hereafter as the National Council-ELWa) has been established by, and is accountable to, the National Assembly for Wales with an annual budget that will exceed £350 million. The National Council-ELWa will be responsible for the strategic direction, implementation, funding and evaluation of all post-16 education and training in Wales, with the exception of higher education. To this end a draft corporate strategy plan has been developed and is currently under consultation. At the core of the corporate strategy, and therefore the National Council-ELWa's activity, are the following five areas (or 'building blocks') of activity:

- Essential Skills
- Lifelong Learning for Individuals
- Knowledge Generation and Application
- Skills for Business
- Community Learning and Cultural Development

In turn these areas are complemented by the following four 'cross-cutting' themes:

- bilingualism
- equal opportunities
- social inclusion
- sustainability

As part of the draft corporate strategy the National Council-ELWa are committed to develop a set of robust targets and associated performance indicators covering their work across all of these areas and cross-cutting themes. At the moment a suite of targets has been produced from the Education and Training Action Plan, 'BetterWales.Com' and 'the Learning Country' policy documents originating from the National Assembly for Wales. However, it is acknowledged that there is scope for the refinement of these NAfW targets, many of which do not directly measure the contribution of ELWa, as well as for the creation of additional targets. A team from the Cardiff University School of Social Sciences were commissioned to undertake a consideration of how a set of robust targets and associated performance indicators covering the National Council-ELWa's work could be established, and then to draft initial targets for consultation. The broad aims of this research project were, therefore, to:

- Develop suitable targets and performance indicators which will enable the National Council-ELWa's progress to be monitored;

- Establish existing data sources, and future data requirements for the performance indicators and targets;
- Identify areas for complementary research projects examining the National Council-ELWa's work in meeting its wider mission statements and developing further performance measures.

The remit and scope of this project is set out in section 10 of the National Council-ELWa draft corporate strategy, and made more explicit in the invitation to tender. Here the National Council-ELWa highlight the need to:

> "develop targets and performance indicators to demonstrate what we are going to achieve, by when and how, and to measure progress towards our goals, ensuring that our resources are deployed efficiently and effectively to drive up standards" (para 10.1)

Within this overall aim the draft corporate strategy document also sets out a series of specific objectives that will be addressed during the consultation period:

- Validate the relevance of the existing post-16 education and training targets in Wales to the emerging National Council-ELWa corporate strategy;
- Size the task implied by the existing post-16 education and training targets, reviewing progress towards each one;
- Update relevant targets to 2010 [NB This has been subsequently addressed in the Learning Country paving document];
- Develop relevant targets where there are gaps;
- Develop international benchmarks;
- Design performance measures for each target to capture achievement and outcomes;
- Introduce regular market research to ascertain attitudes to learning and obtain feedback on learning experiences.

This report is intended to address all of these areas, although it is recognised that our recommendations and suggestions will need to be themselves party to further consultation and refinement by other concerned bodies and stakeholders as well as combined with other work that the National Council-ELWa are carrying out in this area.

Above all the recommendations for targets, performance indicators and research set out in this report are intended to reflect the National Council-ELWa's main aim of 'world class learning for all'. This means raising levels of participation and attainment across the whole post-16 adult population and fostering a culture of education and training amongst businesses and communities across Wales to contribute to a successful 'knowledge-based' economy. However, these broad, and sometimes abstract, aims need to be set against the practical realities and limitations of target setting in education and training. This report should be seen, therefore, as a significant step towards translating the ideals of the National Council-ELWa corporate strategy into a robust, practical and sustainable measurement strategy for the next ten years.

1.2 Research design

In order to provide a comprehensive overview of the coherence and feasibility of the target setting for the National Council-ELWa's corporate strategy, the Cardiff University research project was designed to take place in five complementary stages:

- a review of previous research and evaluation of target setting in education and training, providing a national and international context for the National Council-ELWa targets for Wales;

- an analysis of reaction to target setting in post-16 education and training from users, practitioners, academics and policy-makers, based both on existing sources and an additional consultation with user groups;

- a statistical analysis of the appropriateness and robustness of, and progress towards, the NAfW targets and a review of the technical limitations with regard to the collection and measurement of data;

- the setting of new targets and associated performance indicators with appropriate baseline figures set against a review of the technical limitations with regard to the collection and measurement of data;

- where more appropriate, the recommendation of research programmes needed to address areas of the National Council-ELWa's remit not best suited to the immediate setting of targets and performance indicators.

1.3 Structure of the report

The remainder of this report therefore takes the following form:

- An overview of target-setting in education and training in **Chapter Two**;
- A review and summary of the role and responsibility of the National Council-ELWa and the substance of the corporate strategy in **Chapter Three**;
- A review of the issues and challenges in constructing targets for in **Chapter Four**;
- Suggestions for new performance indicators and research programmes to be set in **Chapter Five**;
- **Appendices** of methodological considerations concerning participation rates;
- **References** used in this report.

Chapter Two - TARGET SETTING AND PERFORMANCE INDICATORS IN POST-16 EDUCATION AND TRAINING

SUMMARY OF KEY POINTS

- Targets are based on a variety of models and purposes.
- Targets should be useful, relevant, enduring, part of wider reform, and accepted by their users.
- Targets must be both policy-relevant and policy-friendly (timely, comprehensive and few in number).
- A complementary/concurrent system of independent evaluation of the *processes* through which the targets are being achieved is required (i.e., not just a focus on end data).
- The established framework of education targets and performance indicators developed from international models such as OECD and UNESCO covers the three stages of educational inputs, processes and outcomes.
- Targets are both a powerful statement of policy and a means of monitoring education systems and fulfil different functions for different audiences, with clear economic, political, educational and social roles.
- It is acknowledged that 'high quality' targets must be (i) useful to policy-makers, (ii) have relevance and endurance, (iii) be positioned as part of wider educational reforms and (iv) be accepted and valued by practitioners. A capacity to consult is therefore essential if targets are to be acted upon by disparate actors who can feel a sense of common ownership

2.1 Introduction

The prominence of accountability-based target setting has been rising steadily in post-compulsory education since the 1980s; most notably with the established trend in higher education systems towards performance-related budgeting (Cave *et al.* 1997, Layzell 1998). More recently, the use of attainment targets has spread into the broader area of lifelong learning, with a number of countries recognising the need for introducing targets for participation and achievement in vocational and non-vocational learning across adult populations.

This present concern with measuring educational 'quality' can clearly be located within broader concerns with global economic and structural changes over the last three decades (Bagnall 1994, Smyth and Dow 1998). Thus, it is of little surprise that countries and regions are now beginning to devise targets specifically for lifelong learning, with education's renewed role as what the UK Prime Minister has described as 'the best economic policy we have'. Indeed, the burgeoning use of target setting in education and training has been a key feature of what Neave (1988) referred to as the 'rise of the Evaluative State', with performance indicators and 'accountability' a key feature in most public and private sector policy-making. Against this background, lifelong education and training now finds itself under increasing scrutiny and measurement.

2.2 What are educational targets and performance indicators?

The setting of education targets is generally seen as an aspect of the use of performance indicators in education. Although specific definitions vary, it is generally accepted that performance indicators are designed to provide information about the state of education systems, usually in comparison with one or more reference points (Nuttall 1994). Therefore, in setting targets, countries can adopt either diagnostic 'indicator systems' or reward-led 'accountability reporting systems' of education target setting (Sheldon 1994). Targets can be criterion-referenced (i.e., against an ideal system or planned system objective), norm-referenced or synchronic comparisons (for example, comparison with other education systems at the same point in time) or self-referenced or diachronic comparisons (for example, comparison with the same system at a different point in time).

Whilst the early development of educational indicators in Europe and the USA tended to focus on costs and enrolments as the most readily available data, later models developed during the 1990s began to include outcome data (such as educational achievement and employment levels), as well as process indicators (such as educational organisation and policies). For example, the OECD Indicator Model focuses on the causal progression from educational contexts to educational processes to education results (see Figure 2.1).

Figure 2.1 - OECD Indicator Model

Educational Contexts	Educational Processes	Results
National demographics, economics, Public opinion	*educational resources, participation, staffing*	*student achievement, graduation rates, youth employment, earnings*

(Walberg and Zhang 1998)

Indeed, the tripartite 'Input-Process-Output' model has since formed the basis for many suggested frameworks of educational indicators (see Figure 2.2). As an early CIPFA report on educational indicators summarised:

> Input and Process and Output all have qualitative aspects and some interdependence. For instance, indicators of 'input' alone are not appropriate as indicators of quality, but they contribute towards an overall view of [education], not least to a judgement about effectiveness and efficiency. 'Output', in what is learned and taken away, is the factor which matters most. Assessing it quantitatively and qualitatively, and its relation to the objectives and the qualities which people brought into the process, are the ultimate goals of work on performance indicators; we are only now at the very first stages of a long process. (CIPFA 1986, p.2)

The 'Input:Process:Output' model has been extended and modified by a variety of authors. Arveson (1998), for example, suggests a four-way focus on Input/Process/Output/Outcome, whilst other authors have also added a fifth stage of 'Impact'. In all cases the emphasis on targets covering all stages and levels of the education and training cycle is clear. Indeed, there is a very real danger when setting targets which are overly focused on output/outcome measures of 'privileging the visible' (Gorard *et al.*. 2002a) as well as actually redirecting educational attention and activity 'on the ground' towards easily quantifiable outputs (Grubb & Ryan 2000). Indeed, as we shall discuss in Chapters Three and Four, to solely concentrate on output measures would be to overlook much of what constitutes post-16 education and training and, it follows, the National Council-ELWa's remit.

Figure 2.2 - CIPFA, DES, FEU and HEFCE early proposals for frameworks of educational targets (1986-1999)

Inputs	Processes	Outputs
CIPFA (1986) - Performance Indicators in the Education Service		
Staff Finance Schools Equipment Students	policy-making staff training administrative practices involvement of parents	practical. social and intellectual skills attitudes to work readiness to be active as a citizen examination courses completed
DES (1990) - Performance Indicators in Higher Education		
Applications (numbers or ratios per place) Student entry profiles Staff profiles	quality of teaching and learning value added student feedback	completion and pass rates destination statistics employer satisfaction
FEU (1990) - Performance Indicators in the Education and Training of Adults		
Student socio-economic circumstances Student perceptions, roles and demands Teaching resources Competence levels of entry for students	length and content of course teaching methods and constraints student interaction on-course guidance	drop-outs examination pass-rates employment/ educational progression competence and confidence levels staff and student satisfaction levels
HEFCE (1999) - Performance Indicators in Higher Education		
Participation of young full-time students from Social Classes IIIm to V	Module completion for part-time undergraduate students	Qualifiers seeking employment

2.3 Rationales for systems of educational targets and performance indicators

Targets can act powerfully both as a statement of policy and as a means of monitoring education systems. In this way, targets provide a clear focus for marshalling the efforts of an education and training system and enabling a shared understanding amongst all educational actors. In doing so, education targets clearly set out explicit priorities and are likely to emphasise some forms of education and training over others. As Loveman (1997, p.8) reasons, this setting of targets 'clearly indicates Priorities [and] focuses interest on and motivates people towards the selected Objectives'.

Unlike many other areas of education policy-making, there has been little sustained opposition to the general notion of national educational target setting in the UK home countries. Indeed, the vast majority of the educational, business and political communities have consistently welcomed the clarification that national targets for education are perceived to bring to education. Nevertheless, the acknowledged rationales for setting educational targets vary across user groups.

Many commentators point towards the political stability that targets can bring to the provision of education, defining government's role in education and introducing an element of political accountability to educational outcomes. For example, as John Daniels of the Open University argues:

> Perhaps the greatest merit of declared targets is to bring some consistency, long-termism and even consensus to the government's role in education and training (Daniels 1994, p.23).

Governments around the world have been keen to emphasise the educational benefits of target setting, in terms of improving levels of both opportunity and outcome. For example, Dutch nation-wide attainment targets have the 'over-arching concern to safeguard and improve quality and to promote equal access to a common educational offering' (van der Brink 1993). Similarly, in the USA, the expressed purpose of the Bush (Snr.) administration in establishing the Goals 2000 system was twofold: 'first, to increase the achievement level of all students, and second, to provide equal opportunity education for all students' (Gronlund 1993).

Yet, it is the economic role of education target setting which underpins most countries' attempts to develop systems; as was indeed recognised early in the development of the UK National Education and Training Targets:

> Britain's trading position in a rapidly evolving world economy depends crucially on competitive skills. It is vital that we close the skills gap with our major competitors. Up-to-date skills are also essential to personal success at work. A quantum leap in foundation learning by young people and lifetime learning is needed. That is why National Targets have been set to raise attainment (National Training Taskforce 1992)

> Achieving the National Targets will be an empty victory unless we can obtain the right occupational mix of skills to support the development of the Welsh economy (Welsh Office 1993a, p.27).

As Loveman (1997) argues, the UK government were careful to avoid aligning themselves too closely to the NETTs, ensuring that they were seen as more credible employer-led targets. Thus, for many in business and industry, national targets for

lifelong learning are seen as being 'essential to our national prosperity and competitiveness' (for example, Ball 1995), reflecting the economic imperative for educational target setting.

Nevertheless, outside of the educational, economic and political functions of educational targets, there is also an obvious social dimension to target setting. As NACETT (1998) outline, the UK-wide National Education and Training Targets were primarily aimed at achieving international competitiveness, but coupled with the promotion of social cohesion: 'We judge it essential that the action plans for hitting the new national targets should promote equal opportunities and that progress in securing equal opportunities in education and training should be monitored closely' (NACETT 1998, p.13). One of the crucial issues which arises in the operationalisation of targets is the extent to which this sort of social objective can be combined with the economic ones.

2.4 Types of targets and performance indicators

As there are different rationales for constructing targets and performance indictors in education and training, so too are there different models, or frameworks, of target setting. The model of target setting that is chosen is closely linked with the intended purpose(s) of the targets. Thus, the extent to which targets are intended to be exhortative or aspirational, for internal or external consumption will dictate the eventual target framework.

One integral characteristic of the target framework is the time-frame of the stated targets. Whereas long term targets tend to be more aspirational in nature given their lack of immediate relevance to current educational activity, short term targets (as expressed in terms of months/one or two years) tend to be more exhortative although less indicative of a specific long term intention (and therefore less valuable in terms of external/public consumption). Of course a combination of short-term and long-term target setting can be achieved with an incremental model of targets where progress is expressed in terms of a succession of short intervals which, when taken together, result in a long-term projection of progress. Such an incremental model has been adopted by the National Assembly for Wales' current lifelong learning targets, as in the case of the following target for adult numeracy in Wales:

> "The proportion of working age adults with functional basic skills in numeracy to increase from over 5 in 10 in 1996; to 6 in 10 by 2002; and to above 6 in 10 by 2004; to 8 in 10 by 2007; and to 9 in 10 by 2010".

Here the exhortative qualities of short-term targets is maintained whilst also drawing upon the more aspirational long-term stated intention. Of course, the time-span of target setting is highly dependent of the nature of the activity for which targets are being set. In terms of information and communications technology, a three year timespan would be considered long-term, whilst in terms of a programme of, for example, building schools and colleges ten to fifteen years could be considered long-term.

Other integral framework characteristics include the size and 'visibility' of the targets and associated performance indicators. On the one hand is a framework based around

a number of 'headline', or 'leading', indicators (Arveson 1998). This approach is generally used to express longer-term goals and can be seen as generally aspirational and externally focused in nature. At the other extreme is a framework based around a large number (or 'basket') of more specific targets and performance indictors - usually diagnostic in nature and designed primarily for internal use rather than external consumption. Thus a large array of performance indicators can be used to provide timely internal feedback to an organisation or system in order to improve performance on a regular basis.

A combination of the headline indicator and the larger 'basket' approach can be found in the Performance Measurement and Management Approach (e.g. Fausz and Maynard 1997). Here a small 'balanced dashboard of indicators' is used for consumption both at the top of the organisation and externally, with a larger number of 'hidden' control and check indicators used within the organisation for on-going diagnostic and exhortative purposes. As Fausz and Maynard (1997) reason, this multi-layered approach to target setting allows different sections of the organisation to relate to their own specific targets whilst maintaining an external stability through the small set of 'dashboard' indicators:

> "For the best results, the selection of indicators should be hierarchical - starting at the top of the organisation and cascading down - with each level providing guidance and focus to subsequent levels. The process of passing down indicators from one level to the next and the cascading process, whereby indicators are elaborated on and refined at each level, provide a unified direction throughout the organisation and ensure hierarchical linkage to the organisation's highest level. The cascading process is very important for creating ownership. Because each level has been involved in the development of their own indicators, each level will be more likely to accept its contribution to the organisation's overall performance"

2.5 Criteria for high quality targets

As these varied examples and rationales illustrate, target setting in education and training is by no means an exact science. Nevertheless, from our review of academic and professional literature, the following recurring areas have been highlighted as principal ones for consideration in setting 'high quality' targets.

Usefulness to Policy-Makers: Targets must be of direct use to education policy and policy-makers. The principal quality of an indicator is its utility in a policy context. Indeed, in providing information to policy makers about educational systems, indicators and targets play a crucial role in framing the terms of policy discourse. It is therefore essential that educational targets retain a relevance to the policy context in which they operate.

Relevance and Endurance: Targets must be relevant to the present educational context, whilst retaining a relevance in years to come. In reviewing the rise and fall in popularity of US social indicators, Nuttall (1994) highlights the dual importance of constructing educational targets which are 'enduring' (and thereby not merely derived from political 'faddishness' or topics of the moment) as well as theoretically specific and justified. In developing targets which are both relevant and enduring, commentators such as Donald and Denison (1996) also argue for the use of broad

indicators of educational performance, rather than narrowly specific measures. They cannot, for example, be based on specific initiatives of unknown duration.

Positioning Targets as Part of Wider Educational Reform: Setting targets on their own cannot be expected to be effective. As Loveman (1997) suggests, setting education targets is only one initial element of raising educational and economic performance, since targets can only effectively function within a wider framework of delegating responsibility to accountable actors and agencies, producing work and time plans and monitoring and reporting on progress. All of these need to be set in place and managed and run alongside the targets themselves. Targets alone can only set a benchmark for measuring change, they do not, of themselves, produce any change (Gorard *et al..* 2002b).

Practitioner Acceptance: Targets must be accepted and valued by those expected to achieve them if they are to succeed. Research into the use of performance indicators in A-level provision has highlighted the need for such measures to be seen by practitioners as 'tools for the professional', to inform future provision rather than external, punitive means of public accountability, if they are to be accepted (Tymms 1995). As Williamson *et al.* (1992, p.186) conclude, 'empowerment rather than prescription must be the way forward.'

Although these diverse criteria highlight the complexity of educational target setting, it is nevertheless possible to draw together a framework for high-quality education targets. At a simple level, the DfEE's (1997) model of SMART targets (Specific, Measurable, Achievable, Realistic and Time-related) provides a broad guideline. However, more specifically, the following areas are suggested in previous literature (Nuttall 1994, Loveman 1997, Arveson 1998):

- targets must be both policy-relevant and policy-friendly (timely, comprehensive and few in number)
- the performance indicators underlying targets must be normalised, statistically reliable, unobtrusive and inexpensive to collect
- a capacity to consult is essential if targets are to be recognised and acted upon by disparate elements of the education system which can feel a sense of common ownership
- a complementary/concurrent system of independent evaluation of the *processes* through which the targets are being achieved is required (i.e., not just a focus on end data)

It remains to be seen, of course, how far these general criteria can be translated into the specific context of target setting with regard to the National Council-ELWa's corporate strategy. It is to this issue that we turn for the remainder of the report.

Chapter Three - CLARIFYING THE NATIONAL COUNCIL-ELWA'S ROLES, RESPONSIBILITIES AND ASPIRATIONS

SUMMARY OF KEY POINTS

- All targets must reflect the contribution of National Council-ELWa.
- Many of the targets used by the NAfW are largely irrelevant to the work of ELWa since they include the impact of changes in pre-16 education and training.
- Targets can be developed to measure changes in the sectors for which ELWa is responsible. However, it is unlikely that we could ever devise targets to measure the specific effect of ELWa activities,
- Targets should involve the role and activity of ELWa (e.g. funding guarantees, future priorities) as well as population outcomes. However, the role and activities of ELWa (other than marketing) are still unclear. The five 'key' areas for ELWa are themselves described differently in different situations.
- We cannot let targets define activities and objectives. We must build the information systems first to monitor the operations once these have been settled. Only then can targets be settled, and only where appropriate.
- We must face up to the fact that many desirable outcomes are not suitable for targets.
- In practice it is impossible to separate the role of HE and FE since institutions apparently dedicated to the one also involve activities relating to the other.

3.1 Introduction

From this background there are a variety of options when faced with setting targets and performance indicators for post-16 education and training in Wales but, above all, it is clear that any recommendations must be relevant and friendly to the National Council-ELWa. To reiterate the draft corporate strategy, the over-riding aim of this report is to develop targets and performance indicators to measure the impact of what the National Council-ELWa are setting out to achieve, and to measure progress towards their goals as stated in the draft corporate strategy.

With this in mind it is essential to be clear about the National Council-ELWa's roles, responsibilities, areas of activity, aspirations and plans for future work. In this way any targets, performance indicators and research which are to be recommended can be focused specifically on the National Council-ELWa, rather than post-16 education and training in general. This chapter provides a systematic evaluation of the National Council-ELWa's goals and, therefore, the context within which targets will be set.

Definition of the role and responsibility of the National Council-ELWa, as far as this has been agreed, is detailed in the original remit letter, the draft corporate strategy and the National Assembly for Wales' 'Learning Country' document. In essence the National Council-ELWa is responsible for the effective deployment and evaluation of

National Assembly funds for all post-16 education and training (excluding Higher Education). This includes school sixth forms, further education, adult education, work based training and informal/non credentialised learning in domestic, workplace and community settings. Although the National Council-ELWa has assumed responsibility for a range of on-going programmes, initiatives and funding commitments it is also developing a range of newly defined activities through consultation on its September 2001 draft corporate strategy. As the finalised details of this consultation process will not coincide with the production of this report, the remainder of this chapter will: first detail the inherited targets from the National Assembly; then go on to examine the five 'building blocks' of activity identified in the draft corporate strategy; and, in doing so, begin identifying possible priority areas for target setting.

3.2 NAfW targets/Existing contexts of targets

Since the devolution of education target setting in Wales from the UK-wide 'National Advisory Council for Education and Training Targets' to the Welsh Office/National Assembly for Wales there has been a growing set of targets set for post-16 education and training in Wales. Indeed, since the Education and Training Action Plan (ETAG 1999) the National Assembly for Wales has worked on refining a set of Lifelong Learning targets culminating in the recent 'Learning Country' paving document (NafW 2001). The Learning Country document proposed a range of outcome targets for both pre- and post-16 education and training in Wales, building on previous sets of targets suggested in *A Bright Future: the way forward* (Welsh Office 1995), *A Bright Future: Beating the Previous Best* (Welsh Office 1997), *Learning is for Everyone* (Welsh Office 1998), the *Education and Training Plan for Wales* (1999) and *BetterWales.Com* (NAfW 2000). The following Lifelong Learning related targets were recommended in 'the Learning Country' which have direct bearing on the remit of the National Council-ELWa [suggested equivalents for each NVQ level are presented in Appendix A]:

Lifelong Learning

- The numbers of 16-18 year olds without qualifications to reduce from some 1 in 5 in 1996 to 1 in 10 by 2002; to 1 in 20 by 2004; 1 in 25 by 2007 and 1 in 50 by 2010
- The numbers of 19 year olds without an NVQ level 2 or equivalent to reduce from over 1 in 3 in 1996 to some 1 in 5 by 2002; to fewer than 1 in 5 by 2004; to 1 in 6 by 2007; and 1 in 7 by 2010
- The numbers of 19 year olds without an NVQ level 3 or equivalent to reduce from 3 in 5 in 2000 to less than 3 in 5 by 2004; to approaching 1 in 2 by 2007; and 1 in 2 by 2010
- At least 25 percent of 16-19 year olds to attain the Welsh Baccalaureate by 2010
- The proportion of adults of working age without qualifications to reduce from some 1 in 4 in 1996; to 1 in 7 by 2002; to fewer than 1 in 8 by 2004; 1 in 9 by 2007; and 1 in 10 by 2010

- The proportion of adults of working age with an NVQ level 2 or equivalent to increase from over 5 in 10 in 1996; to 7 in 10 by 2002; to over 7 in 10 by 2004; 8 in 10 by 2007; and over 8 in 10 by 2010
- The proportion of adults of working age with an NVQ level 3 or equivalent to increase from some 3 in 10 in 1996; to approaching 5 in 10 by 2002; to over 5 in 10 by 2004; to 6 in 10 by 2007; and over 6 in 10 by 2010
- The proportion of adults of working age with an NVQ level 4 or equivalent to increase from some 1 in 5 in 1996; to over 1 in 4 by 2002; approaching 3 in 10 by 2004; at least 3 in 10 by 2007; and over 3 in 10 by 2010
- The proportion of working age adults with functional basic skills in literacy to increase from some 8 in 10 in 1996; to at least 9 in 10 by 2002; and to above 9 in 10 by 2004 and to maintain this level thereafter
- The proportion of working age adults with functional basic skills in numeracy to increase from over 5 in 10 in 1996; to 6 in 10 by 2002; and to above 6 in 10 by 2004; to 8 in 10 by 2007; and to 9 in 10 by 2010
- The Family Literacy and Numeracy Programmes to be expanded so that 2300 parents and children are involved by 2003; 9000 by 2004; 12000 by 2007; and 15000 by 2010

Widening participation

- The number of participants in post-16 education and training to increase by at least 10000 annually from 1999 to 2004; and 12000 annually from 2004 to 2010
- By 2004, work-based learning programmes, including the Modern Apprenticeships and the Modern Skills Diploma for Adults will provide for over 14000 participants at NVQ level 3 and above
- The New Deal to help 30,000 under 25s leave benefit for work or training and also to target inactivity amongst older age groups, lone parents and disabled people by 2003
- By 2007 an additional 36,000 students to have been attracted into higher and further education helped by the substantial new provision for Access Funds
- 50,000 individual learning accounts to have been created by 2002; the National Council-ELWa to establish baselines for target setting discount ILAs by 2003
- 15 percent of further education courses to reach the highest standard (Grade 1); and 70 percent to reach Grade 1 and 2 by 2003; 18 percent to reach Grade 1 and 80 percent Grade 1 and 2 by 2007; and 20 percent to reach Grade 1 and 90 percent to reach Grade 1 and 2 by 2010

Employer participation

- For organisations employing less than 50 people, 825 to achieve the Investors in People Standard by 2002; 1100 by 2004; 1350 by 2007 and 1500 by 2010
- The percentage of organisations with 50 or more employees achieving the Investors in People standard to increase from 15 per cent in 1997; to 35 per

cent by 2002; to 40 per cent by 2004; to 50 percent by 2007; and to 58 percent by 2010

- The percentage of organisations employing 200 or more people achieving the Investors in People standard to increase from 27 per cent in 1997; to 48 per cent by 2002; to 58 per cent by 2004; to 70 percent by 2007; and to 80 percent by 2010

Moreover, in the remit letter to the National Council-ELWa from the National Assembly further commitments were made:

- Assist the management development of 4,500 SMEs per year until 2004

The National Assembly for Wales acknowledge in the Learning Country document that these targets "provides the *basis* for … the corporate planning with ELWa - both National Council and HEFCW, and for much else besides" (NafW 2001, p.61, emphasis added). That said, it is clear that these 'inherited targets' from the Learning Country and the National Assembly remit letter to ELWa should be approached as being negotiable in terms of the current task of developing a set of targets for the National Council-ELWa. They should therefore be seen at this stage as potentially useful, but not definite, targets. Ascertaining the suitability and robustness of these NAfW targets for the National Council-ELWa corporate strategy therefore forms a substantial part of Chapter Five of this study. However, it should be noted that any additional targets that are proposed will have to operationalised within this existing framework of National Assembly for Wales post-16 targets. There is a potential danger that, post-16 education and training in Wales will be swamped by a plethora of targets, set by different bodies and with the eventual result of a decreased overall ownership and reduced effectiveness over time. Our first recommendation is therefore that targets are few in number.

3.3 Reviewing the building blocks of the National Council-ELWa

Having set out the existing target context, the following sections examine each of the National Council-ELWa 'building blocks' of activity as set out in the draft corporate strategy - attempting to identify substantive definitions and existing examples of target setting on which to base our later recommendations.

3.3.1 - Essential Skills

Definition of Essential Skills

The ELWa corporate strategy defines essential skills as "skill needs that we all have, regardless of personal, social or economic circumstances" (p.11). In practice this definition is seen as encompassing:

- 'Basic skills' of literacy and numeracy
- 'Key skills' [distinction not clear in the draft corporate strategy but suggested to include basic IT skills]
- 'Generic, transferable skills' [not defined in the draft corporate strategy]
- 'Social Skills' such as self-confidence, the ability to take initiative, effective communication skills and team-work

National Council-ELWa Activity in the area of Essential Skills

In practice the draft corporate strategy details the National Council-ELWa's intention to raise learners' and employers' demand for essential skills through promotion and awareness raising of the importance of essential skills. This is seen to then motivate people to take action and improve their essential skills. One tangible plan of action will be to work with learning providers to ensure that all adults have access to effective guidance to inspire and motivate individuals to improve their essential skills. The draft corporate strategy also highlights the role of the National Council-ELWa in encouraging a wider range of learning opportunities open to adults to improve their skills. However, in essence, it appears that above and beyond the funding of such courses in numeracy, literacy and IT skills, the role of the National Council-ELWa will be primarily one of promoting and encouraging participation in learning which, in itself, will lead to the raising of individuals' essential skill levels.

Existing Target Setting/ Performance Indicators in the Area of Essential Skills

- The proportion of working age adults with functional basic skills in literacy to increase from some 8 in 10 in 1996; to at least 9 in 10 by 2002; and to above 9 in 10 by 2004 and to maintain this level thereafter
- The proportion of working age adults with functional basic skills in numeracy to increase from over 5 in 10 in 1996; to 6 in 10 by 2002; and to above 6 in 10 by 2004; to 8 in 10 by 2007; and to 9 in 10 by 2010
- The Family Literacy and Numeracy Programmes to be expanded so that 2300 parents and children are involved by 2003; 9000 by 2004; 12000 by 2007; and 15000 by 2010

The three inherited targets from the existing National Assembly for Wales set that cover the essential skills 'building block' are listed above. As such they can be classed as outcome targets in the realm of the 'basic skills' of numeracy and literacy. Any target setting should also be set against the context of the Basic Skills Agency's proposals for a Basic Skills Strategy for Wales (2001).

3.3.2 - Lifelong Learning for Individuals

Definition of Lifelong Learning for Individuals

The building block of lifelong learning for individuals is perhaps the most easily defined and quantifiable area of ELWa's remit. As such it builds upon the well-established UK government and European Commission conceptualisations of lifelong learning as "all purposeful learning activity, undertaken on an ongoing basis with the aim of improving knowledge, skills and competence" (p.16)

National Council-ELWa Activity in the area of Lifelong Learning for Individuals

As such the Lifelong Learning for Individuals building block encompasses the funding of learning that is not classed as work-based learning and training and falls outside the area of 'essential skills' (dealt with elsewhere). The most prominent remit of the National Council-ELWa is the funding of school sixth forms, FE colleges, adult learning courses, along with the increased promotion of such learning opportunities and the development of a 'culture of learning' in Wales.

As well as the funding of such learning the National Council-ELWa will also assume responsibility for ensuring the quality of lifelong learning. For example, the Learning Country document commits ELWa to set requirements of quality and performance for all learning providers and to determine the accreditation for informal learning and voluntary activity to support lifelong learning and outreach. This is seen to include appropriate inspection and quality assurance arrangements.

One of the key activities under this building block is therefore the widening of participation in learning. In this way the National Council-ELWa are keen to stress their commitment to 'lifewide' as well as lifelong learning and see raising learning demand and developing the supply base as two key areas of activity. In practice, this commitment includes work with Careers Wales and UfI/learndirect to attract individuals to learning as well as encouraging a diverse and flexible supply base of learning provision. To this end the Assembly have also committed the National Council-ELWa to a target of opening 50,000 Individual Learning Accounts by March 2002 - applying annual discounts of 20 percent for a wide range of eligible courses and up to 80 percent discounts for some IT and Welsh courses.

Existing Target Setting/ Performance Indicators in the Area of Lifelong Learning for Individuals

- The numbers of 16-18 year olds without qualifications to reduce from some 1 in 5 in 1996 to 1 in 10 by 2002; to 1 in 20 by 2004; 1 in 25 by 2007 and 1 in 50 by 2010
- The numbers of 19 year olds without an NVQ level 2 or equivalent to reduce from over 1 in 3 in 1996 to some 1 in 5 by 2002; to fewer than 1 in 5 by 2004; to 1 in 6 by 2007; and 1 in 7 by 2010
- The numbers of 19 year olds without an NVQ level 3 or equivalent to reduce from 3 in 5 in 2000 to less than 3 in 5 by 2004; to approaching 1 in 2 by 2007; and 1 in 2 by 2010

- At least 25 percent of 16-19 year olds to attain the Welsh Baccalaureate by 2010
- The proportion of adults of working age without qualifications to reduce from some 1 in 4 in 1996; to 1 in 7 by 2002; to fewer than 1 in 8 by 2004; 1 in 9 by 2007; and 1 in 10 by 2010
- The proportion of adults of working age with an NVQ level 2 or equivalent to increase from over 5 in 10 in 1996; to 7 in 10 by 2002; to over 7 in 10 by 2004; 8 in 10 by 2007; and over 8 in 10 by 2010
- The proportion of adults of working age with an NVQ level 3 or equivalent to increase from some 3 in 10 in 1996; to approaching 5 in 10 by 2002; to over 5 in 10 by 2004; to 6 in 10 by 2007; and over 6 in 10 by 2010
- The proportion of adults of working age with an NVQ level 4 or equivalent to increase from some 1 in 5 in 1996; to over 1 in 4 by 2002; approaching 3 in 10 by 2004; at least 3 in 10 by 2007; and over 3 in 10 by 2010
- The number of participants in post-16 education and training to increase by at least 10000 annually from 1999 to 2004; and 12000 annually from 2004 to 2010
- By 2007 an additional 36,000 students to have been attracted into higher and further education helped by the substantial new provision for Access Funds
- 50,000 individual learning accounts to have been created by 2002; the National Council-ELWa to establish baselines for target setting discount ILAs by 2003
- 15 percent of further education courses to reach the highest standard (Grade 1); and 70 percent to reach Grade 1 and 2 by 2003; 18 percent to reach Grade 1 and 80 percent Grade 1 and 2 by 2007; and 20 percent to reach Grade 1 and 90 percent to reach Grade 1 and 2 by 2010

As one of the most visible areas of the National Council-ELWa's current activity it is not surprising that target setting is already well established. The twelve NAfW targets that cover the lifelong learning for skills 'building block' are listed above. As can be seen these are largely measures of participation and credentials amongst the adult population.

With regard to targets measuring the participation of adults in learning the Labour Force Survey is a usual source of data, although not seen as wholly adequate. For example:

> "Existing measures of adult participation derive from the Labour Force Survey, which tracks individuals' responses, but does not enable these to be related back to data sources from training providers or qualification bodies, nor to data on employer's engagement in training and development. The existing National Learning Targets also have the disadvantage of being expressed as a negative (a reduction in non-learners)" (Learning Skills Council 2001, p.10)

Indeed, consultation responses to the English Learning Skills Council corporate strategy suggested that failure to develop better measures for adult participation could be construed as a lack of commitment and interest in extending adult access and engagement in learning (LSC 2001, LSDA 2001). Thus it is vital to also include learning which does not lead to formal qualifications when considering any working definition of lifelong learning. As Turner (2001) observes, around 67% of learners involved in adult and community learning are participating in non-accredited courses.

A focus on all forms of informal learning pervades the National Council-ELWa corporate strategy and should, therefore, be reflected in any target setting.

As can be seen above there is already an existing 'participation target' encompassing many forms of informal learning that has been inherited from 'the Learning Country' paving document, i.e. "The number of participants in post-16 education and training to increase by at least 10000 annually from 1999 to 2004; and 12000 annually from 2004 to 2010". The DfEE National Learning Targets have also attempted to cover these areas via the setting of a similar Learning Participation Target, developed for the DfEE's National Adult Learning Survey. This Learning Participation Target was based around the following definitions of 'taught learning' and 'non-taught learning':

Taught Learning

- Any taught courses that were meant to lead to qualifications
- Any taught courses designed to help you develop skills that you might use in a job
- Any courses, instruction or tuition in driving, in playing a musical instrument, in an art or craft, in a sport or in any practical skill
- Evening classes
- Learning which has involved working on your own from a package of materials provided by an employer, college, commercial organisation or other learning provider
- Any other taught course, instruction or tuition

Non-Taught Learning

- Studying for qualifications without taking part in a taught course
- Supervised training while you were actually doing a job (i.e. when a manager or experienced colleague has spent time helping you learn or develop skills as you do specific tasks at work)
- Time spent keeping up to date with developments in the type of work you do without taking part in a taught course - for example, by reading books, manuals or journals or attending seminars
- Deliberately trying to improve your knowledge about anything or teach yourself a skill without taking part in a taught course

(DfEE 2000)

Even with this broad definition of learning 26% of respondents to the National Adult Learning Survey (1997) - around 8 million people - *reported* having done no taught or non-taught learning in the previous three years, or since leaving full-time education if that was more recent. Our own work in South Wales also identified a third of the population engaging in no form of learning (either formal or informal) since leaving school (e.g. Gorard *et al.*. 1999a), since referred to as a hardcore of 'ineducable' [sic] young people and adults (Ecclestone 2001).

Above and beyond issues of participation and credentialism, existing 'softer' measures of lifelong learning are less in evidence but, nevertheless, should be seen as equally

important. The quality of lifelong learning in England is already measured by the independent inspectorate OFSTED and the new Adult Learning Inspectorate guided by the Common Inspection Framework, and it may be possible to construct targets relating to the quality of lifelong learning around such inspection data if available from Estyn.

3.3.3 - Skills for Business

Definition of Skills for Business

The building block of 'skills for business' is concerned with the creation of a skilled labour force and a supportive and responsive education and training infrastructure. As such it is identified in the draft corporate strategy as covering:

- stimulating the demand for work-related training from both employers and employees;
- raising skills levels in priority areas such as basic IT skills, 'soft' skills and business focused skills;
- developing the learning infrastructure to meet the needs of businesses (e.g. flexible, just-in-time provision);
- stimulating training in voluntary sector, SMEs and the public sector;
- develop a skills foresight and intelligence capacity to anticipate the needs of business.

It is also acknowledged that there are also a range of 'informal' employer supported training which is not certificated but leads to important skills development.

National Council-ELWa Activity in the area of Skills for Business

The National Council-ELWa are responsible for the funding of a variety of initiatives under the 'skills for business' area, such as the Investors in People programme, the Modern Apprenticeships, Modern Skills Diploma for Adults and New Deal. In partnership with the Welsh Development Agency, ELWa are also responsible for 'Business Connect' as a gateway for businesses wishing to access publicly funded support.

In terms of future activity, identifying and making 'more effective' informal work-based learning is also seen as a priority area for ELWa, although no substantial suggestions are offered as to what form such activity may take.

Existing Target Setting/ Performance Indicators in the Area of Skills for Business

- By 2004, work-based learning programmes, including the Modern Apprenticeships and the Modern Skills Diploma for Adults will provide for over 14000 participants at NVQ level 3 and above
- The New Deal to help 30,000 under 25s leave benefit for work or training and also to target inactivity amongst older age groups, lone parents and disabled people by 2003

- For organisations employing less than 50 people, 825 to achieve the Investors in People standard by 2002; 1100 by 2004; 1350 by 2007 and 1500 by 2010
- The percentage of organisations with 50 or more employees achieving the Investors in People standard to increase from 15 per cent in 1997; to 35 per cent by 2002; to 40 per cent by 2004; to 50 percent by 2007; and to 58 percent by 2010
- The percentage of organisations employing 200 or more people achieving the Investors in People standard to increase from 27 per cent in 1997; to 48 per cent by 2002; to 58 per cent by 2004; to 70 percent by 2007; and to 80 percent by 2010
- Assist the management development of 4,500 SMEs per year until 2004

The six NAfW targets that cover the skills for business 'building block' are listed above. As can be seen, they are mainly concerned with employer participation in the Investors in People programme and employee participation in the Modern Apprenticeships, Modern Skills Diploma for Adults and New Deal.

There is an obvious need for a measure of employer engagement in skills and workforce development. At the moment Investors in People is seen as the national standard in setting a level of good practice for improving an organisation's performance through it employees. It is argued to improve business performance by linking the training and development of employees to an organisation's business objectives. Figures are usually calculated in terms of employers gaining commitment to the Investors in People initiative - where commitment means the organisation have formally committed itself to Investors in People and has developed an action plan to work towards the Standard. However, as DfEE (2000) acknowledge, the transition from TECs - the main delivery agents for Investors in People until 2001 - to the Learning Skills Council in England and the National Council-ELWa in Wales means that the rate of progress for Investors in People is likely to be adversely affected in the short term.

Responses to previous consultations for the National Assembly and Welsh Office have also revealed an element of end user dis-satisfaction with Investors in People as a measure of business involvement in education and training. For example:

> We welcome the intention to establish IiP as the general standard for employers but suggest that the process for assessment is currently too bureaucratic, cumbersome and expensive for SMEs.
> (Employers' Organisation Response to the Learning is for Everyone document)

> With regards to IiP, the standards should not be set any higher. The current targets are already too high, with far too much bureaucracy.
> (Employers' Organisation Response to the 'Learning is for Everyone' document)

The move in the National Assembly for Wales targets to include the Modern Skills Diplomas and Modern Apprenticeships as well as stand-alone NVQ level training qualifications may be a signpost for further target setting. NVQ level training qualifications have been criticised for not being economically realistic. Robinson (1997), for example, criticised the old National Education & Training Targets' overt emphasis on formal training qualifications, questioning their relevance to the British labour market and the rapidly expanding lower service/ manual occupations. By

focusing on qualifications gained by those in employment, targets do not necessarily take account of the extent to which skills and competencies are actually being utilised. Moreover, as highlighted above, such targets are not necessarily an accurate indication of informal work-based learning and non-credentialised skills.

3.3.4 - Knowledge Generation and Application

Definition of Knowledge Generation and Application

The building block of knowledge generation and application is an attempt to respond to the changing economic conditions of the so-called 'knowledge economy'. As such it refers to:
- The creation of 'new' knowledge by Welsh companies and other research and development organisations;
- Developing the ability to adapt and utilise 'old' knowledge by both individuals and businesses;
- The exploitation of employees' knowledge by businesses.

National Council-ELWa Activity in the area of Knowledge Generation and Application

The draft corporate strategy refers to the National Council-ELWa 'developing the knowledge base through high quality research' by encouraging joint research work and collaboration between research organisations; encouraging and supporting entreprenuership; developing ICT skills and infrastructure; developing education and skills for the knowledge economy (such as ICT and other higher technical skills).

However, in practice many of these activities are not solely the concern of the National Council-ELWa - key partners include the National Assembly 'Cymru arlein' team, the WDA and Wales Information Society initiative and HEFCW among others as well as the private sector. From this perspective, tangible activities above and beyond the National Council-ELWa undertaking research to better understand the skills needs of emerging 'knowledge' industries would mainly appear to be the provision of 'high technology' education and training courses as well as the Assembly funded £34million 'Knowledge Exploitation Fund'.

Existing Target Setting/ Performance Indicators in the Area of Knowledge Generation and Application

There are no NAfW targets in the area of knowledge generation and application.

The corporate strategy highlights the 'Global Entrepreneurship Monitor' as a comparative measure of the proportion of the working age population involved in emerging or new firms. The Department of Trade and Industry's 'Connectivity Indicator' is another indicator designed to measure ICT use amongst small businesses. The ICT connectivity indicator is an index based on three components - (i) small companies' websites, (ii) frequent use of external email and (iii) frequent use of electronic data interchange.

Other than this DTI work the Westminster government have been active in setting targets relating to the 'Knowledge Economy' although at a broader governmental and compulsory education level. For example the key Treasury Public Service Agreement targets with regard to the Knowledge Economy are largely concerned with developing a public ICT infrastructure and use as well as concentrating on the skills of school leavers:

- The Cabinet Office PSA will have a high level target to ensure departments meet the Prime Minister's targets for electronic service delivery: 25 per cent capability by 2002 and 100 per cent capability by 2005.
- The PSAs for Customs & Excise and Inland Revenue will contain targets to ensure that by 2005 100 per cent of services are offered electronically, wherever possible through a common Government portal, and a take-up for these services of at least 50 per cent.
- The DfEE PSA includes a target subject to consultation that the percentage of 14 year olds at or above the standard of ICT skills for their age should increase so that, by 2007, 85 per cent will achieve level 5 in the Key Stage 3 test; as a milestone towards that target, 75 per cent should achieve that level by 2004.
(HM Treasury 2000)

Similarly, at a European level most focus on target-setting with regard to education and the 'knowledge economy' have been concerned with the knowledge economy skills and attitudes to be acquired by the minimum school leaving age (e.g. European Round Table of Industrialists 2001). However, one recent exception to this was the extraordinary meeting of the European Council held in Lisbon (2000) where a 10-year strategy for the European economy was agreed, including a framework for concrete targets in employment and training. At the moment these targets include:

- the number of 18- to 24-year-olds with lower-secondary level education only who are not in further education and training should be halved by 2010;
- the development of schools and training centres into multi-purpose local learning centres;
- the drawing up of a definition of appropriate basic new skills to be acquired through lifelong learning, including information technology skills, foreign languages, entrepreneurship and social skills. A European diploma for basic information technology (IT) skills should be established in order to promote increased mobility of IT specialists in Europe;
- improving employability and reducing skills gaps, by means such as creating a Europe-wide database on employment and learning opportunities and by promoting special skills attainment programmes;
- giving higher priority to lifelong learning, including the encouragement of agreements between the social partners on issues such as innovation and lifelong learning.

3.3.5 - Community Learning

Definition of Community Learning

Community is defined in the National Council-ELWa draft corporate strategy as 'voluntary networks, based on trust and respect, with shared norms, values and understanding that facilitate co-operation towards a common goal for their mutual benefit' (para 8.1). As such this definition refers both to geographical communities and dispersed communities of learners. The draft corporate strategy distinguishes between 'learning in the community' and the more abstract 'learning for the community' and 'learning through the community'; both apparently based on notions of social capital.

National Council-ELWa Activity in the area of Community Learning

Widening participation and increasing social inclusion, especially through informal learning, is seen an integral part of the community learning building block, especially via locally-led community and voluntary groups. Thus the theme of community learning encompasses the widening of participation via community-based, often non-credentialised learning opportunities. The National Council-ELWa's remit here encompasses the provision, take-up and promotion of community-based learning in community ICT learning centres and adult education in libraries.

Existing Target Setting/ Performance Indicators in the Area of Community Learning

There are no NAfW targets as such in the area of community learning.

The National Council-ELWa's remit in this area has obvious links with the NafW 'Communities First' initiative which itself is committed to the development of a "combination of high-level targets and community-level benchmarks, which will be comparable throughout Wales" (NafW 2001, para. 7.3). However, the Communities First document, and the consultation responses to it highlight the difficult nature of this task, with the following points particularly applicable to the Nation Council-ELWa target setting in this area:

- The unavailability of statistical evidence at appropriate spatial levels. Whilst the new Index of Multiple Deprivation will improve the situation, accurate sub-ward data remains elusive, although it is now being developed;
- The achievement of a balance between statistical evidence and more qualitative evidence. Successful intervention will make its mark on the headline statistics and clear evidence of that must be available, but in addition, much of the positive change will occur in the attitudes, values and beliefs of those who live in deprived communities and those who provide them with services. Measurements of improvement in matters such as stigma, low aspiration, self-esteem and community identity, and prejudice by service providers are necessarily subjective and require more qualitative evidence.
- The long-term nature of many of the processes of change involved in reversing disadvantage poses particular problems. Communities themselves

wish to see swift action and immediate results, and the political process requires short-term evidence both of value for money and of accuracy of policy design and targeting. This can conflict with assessment of the longer term, strategic intervention which is required in disadvantaged communities.

(NafW 2001, para. 7.3)

3.3.6 - Cultural Development

Definition of Cultural Development

Although coupled with 'Community Learning' in the draft corporate strategy the theme of cultural development is perhaps best approached separately for the purposes of this report, despite being the most vaguely defined broad 'building block' in the draft corporate strategy. As such examples given of cultural development are:

- Developing social and creative industries;
- Encouraging and enriching cultural tourism.

National Council-ELWa Activity in the area of Cultural Development

Again, very few tangible activities are specified in the draft corporate strategy. However, in terms of cultural enhancement and development, activities such as developing the skills and expertise required for the cultural sectors (e.g. the funding of cultural-related courses in further education and adult education, work-related training) and promoting cultural activities in Wales such as the Eisteddford.

Existing Target Setting/ Performance Indicators in the Area of Cultural Development

There are no NAfW targets as such in the area of community learning and given the vague nature of the draft corporate strategy target setting in relation to the National Council-ELWa's activity would appear problematic in the short term. However, looking at the arts and creative industries in Wales, for example, there are a number of quantifiable indicators that may be appropriate (Arts Council for Wales 1999):

- Number of jobs in arts and creative industries
- Number of students enrolled in post-16 courses in arts and creative subjects
- Export of arts and creative 'products' from Welsh companies
- Number of cultural tourists visiting Wales
- Spending on arts and creative products by local people and visitors to Wales
- Sponsorship on arts and cultural products by businesses

However, there are difficulties in quantifying activity in the arts and cultural sectors. For example, graduates from art and design courses tend to have different employment patterns from graduates of other disciplines - working in self-employment, taking longer to develop portfolios and setting up businesses - resulting in ostensibly relatively low rates of employment (HEFCE 2000)

3.3.7 - Cross Cutting Themes

The targets should also enable the National Council-ELWa to support and track progress towards the four wider 'cross cutting themes' - equal opportunities, bilingualism, sustainability and social inclusion; first highlighted in the betterwales.com document:

Equal opportunities
Defined as ensuring that everyone can benefit from National Council-ELWa support and the promotion of equality of opportunity in all activities. In practice the National Council-ELWa is remitted to work with post-16 education and training providers to meet the requirements of the SEN and Disability Acts (2001) and the Race Relations (Amendment) Act (2000). However, it has been suggested that the remit of equal opportunities reaches further than race, gender, ethnicity, sexuality and disability - as this consultation response to the present study argues:

> "Lack of opportunity is as much a function of economic and social circumstances such as poverty, rurality, language and attitudes within society as it is often a consequence of race, gender or disability. It is within the broader context that we would wish to see equal opportunities addressed" (Adult Learning Organisation 10/2001)

Bilingualism
The National Council-ELWa is committed to the National Assembly's commitment to "sustain an environment that celebrates diversity and makes genuine progress towards realising the benefits of bilingualism" (NafW 2001, p.8). From this perspective the National Council-ELWa funds the Welsh for Adults courses, enrolling more than 20000 students each year and the Assembly has also contributed to the cost of setting up the Welsh language Cyswlly Dysgy/learndirect website. In the 'Learning Country' the NAfW acknowledge the need to "initiate further research to assess the sustainable balance between demand and supply for Welsh medium provision" (p.40)

The inclusion of bilingualism as a cross-cutting theme goes some way to countering previous criticism of National Targets for Lifelong Learning omission of references to learning through the medium of Welsh. It has been previously contested that, as they stood, the Assembly's targets did not reflect any aspect of Welsh language development policy (WFC 1998). Thus the visibility of the National Council-ELWa's commitment to bilingualism, as with all the other cross cutting themes would appear an important factor to bear in mind when suggesting additional targets.

Sustainability
Sustainability is a complex concept, with a variety of meanings attached to it by different agencies. For example, the OECD has adopted a perspective which combines ideas of ecological sustainability with those of social inclusion as the basis for policy strategies which will be viable over the longer term. It is not clear as yet what the National Council-ELWa's approach to these issues entails. It is therefore difficult to build this cross-cutting theme into target setting.

Social Inclusion

Similar arguments apply to the concept of social inclusion, where again there is a wide variation in the ways in which it is defined. Hence, here too there is a need for the further clarification of the National Council-ELWa's perspective, before this cross-cutting theme can be incorporated meaningfully into the specification of targets.

Existing Target Setting/ Performance Indicators in these cross cutting themes

Again, there are no formal NAfW targets in relation to these cross cutting themes. The English Learning Skills Council also have a commitment to equality of opportunity, stating that 'we shall measure and track participation by all such groups' (identified as those with low educational attainment, earning low wages, under-achieving ethnic minority groups, those with disabilities and those with learning difficulties).

Chapter Four - KEY ISSUES IN RESEARCH ON TARGETS

SUMMARY OF KEY POINTS

- Most targets are composed of four elements – a proportion, an indicator, a 'population' and time period. Our review has shown that all of these are problematic.
- We suggest that all targets have a common syntax as far as possible. For example they might all be positively phrased (not 'reduce those without…'), all proportionate (not increase by raw figures) and not based on ephemeral policies, programmes and initiatives unlikely to survive changes in administration.
- We recommend that targets are few in number.
- Each area must have some hard, measurable targets.
- There is a danger of privileging the visible, by making the easily measurable appear more important. Given that much of the work of ELWa and its evaluation is still being determined, there is the further danger that targets based on existing data could be allowed to determine these.
- We generally do not have data sources appropriate even for assessing the hard output form of targets.
- There are no good figures available for most desirable indicators and targets. Thus, there are no baseline figures and no ways of assessing projected targets. Only research, or time and a new set of data can overcome this. We are therefore generally able to suggest desirable indicators but not precise targets.
- Many existing data sources are useless for our purposes, being one-off, including pre-16 results, involving omissions and double-counting, or based on weak methods (e.g. Basic Skills Survey).
- The general limitations of targets stem from the lack of appropriate data.
- The current emphasis on readily measurable targets means that there is a danger that their attainment becomes an end in itself for policy-makers, rather than a way of measuring and encouraging progress towards actual improvements in society.
- All indicators and the measures based on them are prone to possible error at every stage.
- Even where steps to calculate indicators are explicit, some steps involve subjective judgements and estimates of unknown quantities. This is partly why different sources produce different figures even when using the same data.
- There is no clear comparability between supposedly equivalent qualifications over time, place, or mode of assessment.
- The assumptions made in calculating progress towards targets should be explicit, and once selected and generally agreed, they should remain the same over time to enable easier comparisons between years.
- Many potential data sources have technical problems, most commonly low response rates and lack of comparable repetition.
- There is no evidence of regional or local factors affecting levels of attainment or progress towards targets, once the characteristics of individuals are taken into account.
- These problems, including lack of reliability and comparability, are considerably worse when international comparisons are attempted. Therefore international benchmarking is inappropriate.
- The ideal requirement, for a data source, would be for an individualised record system of all post-16 residents of Wales, whether currently participating in ELWA-related learning or not. This record would contain details of all post-16 education and training so far, whether certified or not.

4.1 Introduction

Given these broad building blocks and the emerging nature of the National Council-ELWa corporate plan of action it is clear that the construction of a set of targets, performance indicators and associated research agenda will be a lengthy task. Before we move onto the substantive phases of the report it is worth highlighting a series of key issues and challenges arising from the previous three chapters which will contextualise our own attempts to recommend targets and, indeed, should be borne in mind throughout the ensuing consultation and re-construction phases.

4.2 Distinguishing and measuring the National Council-ELWa's contribution to post-16 education and training

A primary aim of the target setting exercise is to demonstrate how successful and effective the National Council-ELWa have been in progressing towards their goals. Thus, an ideal outcome would be a set of targets capable of distinguishing and specifically measuring the National Council-ELWa's contribution to post-16 education and training.

We must be careful to avoid what we have previously referred to as the 'conveyor belt effect' (Gorard *et al.* 2002b) where at least some of the changes in the lifelong indicators can be traced back to changes in the foundation levels of compulsory schooling. It is important, therefore, when setting targets and assessing progress towards them that an estimate of this 'conveyor belt' effect is produced. Otherwise, for example, apparent progress towards the post-16 targets could be achieved without a single extra adult participating in education or training and gaining qualifications, simply as a consequence of adding qualified school-leavers to the adult population and losing unqualified older adults through natural 'dropout'. A related problem is the continued dependency of post-16 indicators even once these effects are separated. For example, as the proportion of school-leavers with a particular skill or qualification improves this reduces the number, and perhaps 'distils the essence', of those for whom ELWa could be most effective. Two possible solutions are presented in Chapter Five.

However, given the varied and emerging nature of the National Council-ELWa's remit and activities, distinguishing and measuring the specific contributions to post-16 education and training will be easier in some instances than in others. Indeed, in some cases this may well be an impossible task - especially in areas where many partner organisations are involved over a long period of time. This problem of multiplicity of agents and objectives is also the case with identifying and classifying certain learning activities to one area. Whilst the draft corporate strategy recognises the fact that the five building blocks are ultimately 'interdependent' there is inevitably a degree of overlap and repetition between different areas. Basic IT skills, for example, are classified under 'essential skills' and 'skills for business'; technological culture is also pertinent to both basic skills and knowledge generation and application; and there is a fair degree of latitude between 'lifelong learning for individuals' and 'community learning'. Any suggested targets should be seen with this caveat in mind.

A further problem is, of course, that none of the current or proposed targets are able actually to measure National Council-ELWa's contribution as distinct from progress that would have been made through retaining the pre-ELWa organisation. Identifying cause and effect is a complex scientific endeavour that could really only be achieved here via an experimental design in which matched parts of Wales were left alone as a control. This problem of identifying causal models is a general one. For the remainder of this report we interpret National Council-ELWa's contribution weakly to refer simply to changes in the post-16 (but confusingly not HE) sector.

4.3 Recognising the limitations of targets/performance indicators

It should also be recognised that some of the National Council-ELWa's areas of responsibility - and therefore areas covered by the targets - may not be best suited to the setting of targets underpinned by quantitative performance indictors. As the draft Corporate Strategy acknowledges, there are many areas where the National Council-ELWa is not in a position to formulate plans for activity without a better understanding of the problems faced. For example, the draft Corporate Strategy prefaces its commitment to bilingualism:

> "we will work with partners to understand patterns of demand for Welsh medium learning and how they can best to met, and to understand how we can respond to the increasing requirements for bilingualism in the public and private sectors" (para. 9.7)

Obviously, some of the these areas are more suited to quantitative performance indicators than others and there is a balance to be struck between 'hard' and 'soft', quantitative and qualitative measures. Areas of concern such as learner, provider and employer 'satisfaction' with education and training (and other similar attitudinal targets) are recognised as important areas in the draft corporate strategy but may not be best evaluated by quantifiable performance indicators. For example, the English Learning Skills Council suggest the need to develop longitudinal structured sample surveys to measure the levels of satisfaction by learners, employers, providers and other interested parties (LSC 2001). It is vital therefore that recommendations for research are given equal credence and importance with any recommendations for performance indicators.

We have written elsewhere about the limitations of targets in general, the difficulties of getting appropriate data for desirable targets, the push for pseudo-precision and the consequent danger of privileging easily measured, but perhaps trivial, targets and allowing convenient proxies to dominate the policy process (Gorard *et al.*. 2002a).

4.4 Measuring informal and non-accredited learning

One major area of the National Council-ELWa's remit that may well fall outside the scope of formal, quantifiable target setting is informal and non-accredited learning in the education institutes, the community and workplace. Here the need for 'softer', qualitative measurement would perhaps seem an appropriate alternative:

> "Of equal importance in the issue of how the achievement of outcomes can be demonstrated. Quantitative data will clearly be a key component of the evidence base, but it is important to note the major role that qualitative information will play in this context" (Turner 2001, p.6)

Work carried out for the European Social Fund Objective 3 programme has examined the development of 'soft indicators' which can be used to indicate acquisition or progress towards an outcome (Dewson *et al.* 2000). One emerging measure is that of 'distance travelled' - i.e. the progress that an individual makes towards employability or harder outcomes as a result of engagement in learning. Thus for some types of informal, non-credentialised learning, collecting data to identify 'distance' travelled may be appropriate - for example longer non-credentialised courses in the workplace and community, basic skills programmes and programmes for adult with special educational needs (see Greenwood *et al.* 2001). Yet, applying formal systems of measurement such as 'distance travelled' may not be appropriate for all forms of learning and may indeed have an altering and detrimental affect on the learning activities that it sets out to objectively measure. As Turner (2001, p.9) concludes:

> "However, the wider use [of formal measurement] would be contentious and inappropriate for some forms of provision and some groups of learners. We lack assessment instruments that would suit the diversity of learners and learner purposes. More importantly, it would be anathema to many people who have chosen to participate in non-accredited learning and particular in shorter programmes" (Turner 2001, p.9)

> "It is neither practicable nor desirable to try to measure achievement in all types of learning and it is not feasible to do so in relation to non-accredited learning under current circumstances" (Turner 2001, p.9)

That said, developing measures of 'distance travelled' and 'value added' to informal, non-credentialised learning could form the basis of an emerging target underpinned by ongoing research.

The great danger here is that the scale of informal learning remains largely unrecognised (Gorard *et al.* 1999b). Some commentators refer to participatory but non-certified courses, of less-formal community sessions, as though they were informal. We prefer to reserve the term for tacit learning at work and personal learning at home, which is actually the most prevalent, and perhaps valuable, form of learning going on in Wales. It is after all how most people learn most things in fact. We hypothesise that any attempt to audit and certify it officially, making it 'necessary' learning, would further damage it. Commentators preferring to use the term informal to refer to less formal (than FE and schools presumably) learning then often seek to fund/certify/accredit it in a way that simply makes it more formal, as though only measurable formal learning is of consequence. This is one area where target-setting often redefines the thing it is ostensibly simply measuring.

There has been little empirical research into learning which does not take the form of institutionalised, accredited participation in formal education or training (but see for example Livingstone 1998). There are sound methodological and philosophical reasons why the sociology of education tradition usually emphasises an individual's formal rather than 'real' level of education (Girod 1990). Thus informal learning cannot be measured by readily accessible information on qualifications or participation rates and it is difficult to find an operational definition of learning on the

continuum leading to the trivial and the commonplace (Coffield 1997). 'In its liberal form, education is about establishing a boundary.... between itself as a "serious" activity and other less serious or non-serious activities such as leisure' (Edwards and Usher 1998, p. 86). With learning replacing education, the boundaries around education as a field of study are breached since almost any activity can be seen to involve learning. Nevertheless, by effectively ignoring informal learning writers may become confused over historical trends in skill formation (in Gallie 1988), and there is little evidence that indicators such as participation and qualifications are good predictors of a person's value for employers or to society (Eraut 1997). This lacuna is even more marked in policy terms, where official writing about learning rarely even acknowledges the existence of informal learning (the very brief discussion of family learning in Welsh Office, 1998 being a welcome exception). There is therefore a danger of discourse concerning the Learning Society being dominated by the providers, and becoming the empire of the 'schoolers' (Gorard *et al.*. 1998a), with the emphasis being as much on compulsion as opportunity (Tight 1998, Thring 1998).

Eraut (1997) has further argued that if learning is defined as a 'change in person's capability or understanding', then it can encompass informal 'background' learning at work without also including all changes in behaviour. Although it is probably true that much learning is 'caught not taught' even in formal episodes (Davies 1998), the definition used here does not include learning taking place in any episodes which could be categorised as participation in education and training even where these are of a relatively 'informal' nature (where 'informal' refers to the structure and setting rather than the style of learning, Jarvis, 1993). Therefore, for example, this paper is not generally referring to non-formal episodes using the definition given by Fordham *et al.*. (1983, p.246), or to 'experiential' or 'constructivist' learning within formal episodes (Sutherland 1997), or andragogical style (Knowles 1990), but to 'all forms of learning not included in formal and non-formal education' (Tight 1996, p. 69) which are self-directed.

As used here, 'informal learning' is very similar to non-taught learning as defined by Beinart and Smith (1998) as 'deliberately trying to improve your knowledge about anything or teach yourself a skill without taking part in a taught course' (p. 200). This includes non-certified episodes, and those leading to tacit knowledge. More crucially it encompasses learning both at work and at leisure. In this sense, talking to maintenance personnel at work about the operation of the photocopier, or reading a weekly magazine at home about growing fruit in your garden, would be examples of informal learning. On the other hand, attending a lecture on health and safety, or learning to dance at an adult evening class would both be formal episodes. It is likely that much of the learning that goes on in work is unnoticed by researchers and even by employers, who may nevertheless, unwittingly depend on their employees learning informally. In some cases the acquisition of this learning may help the individuals concerned to take satisfaction in their work. Such proactive individuals engage in a variety of methods in order to do their jobs and sometimes their informal learning allows them to transform those jobs. The most active informal learners are engaged in an authentic form of development of their own potential and of their work situation (cf. the story of a man who read on the subway for 20,000 hours in Jarvis, 1983, p.11). Informal learning provides both the very basic learning without which the organisation could not function and instances of employees significant contributions to changes in work organisation and technology.

Some of the evidence emerging from our earlier study of patterns of participation over time would support and even amplify this view of informal learning in many important respects. Our study also suggests that looking at those individuals who actively set about picking up all sorts of knowledge and competencies may help us to understand the determinants of lifelong learning and the learning society. If informal learning is accepted as a useful and valid contribution to the construction of a learning society, such a society can become more inclusive at a stroke since informal learners may not be participants in formal structures. On the other hand, if informal learning is ignored, as it often appears to be, then the 'learning age' may be in danger of becoming a sterile pursuit of National Training Targets or their revamped successors, and the learning society may become simply a 'certified society' (Ainley 1998).

If leisure learning is a characteristic of later-life learners surely it is a characteristic that creators of a learning society should seek to enhance? But this self-reliance may be out of favour in 'the audit society' (Power 1997 cf. Ecclestone 1998). The hobbyists are informal learners, learning at home in their spare time, not seeking certification and not linking learning to their work and they may be disappearing in association with the growth in formal participation. Although South Wales is associated with relatively low levels of training and qualification (Gorard *et al.*. 1998a), there is a tradition of 'autodidacts' and hobbyists outside work who are not yet included in the supposedly 'inclusive' learning society of today (although they may have been picked up to some extent by the findings of the National Adult Learning Survey 1997 that while the frequency of vocational learning in Wales was very low compared to regions of England, the frequency of non-vocational learning was high, Beinhart and Smith 1998). Do such learners have to certify their activities, or start to pay an external provider simply to gain recognition?

Reports have consistently suggested that an inclusive Learning Society can not be encouraged simply by more pressure to conform to existing arrangements. It may be necessary to overcome real barriers to participation, to make people more aware of opportunities available (i.e. widen their subjective opportunity structures), but other changes are also, and perhaps more clearly, needed. Changes are needed in the nature of opportunities available, since even in a system which is seen as heavily bounded by socio-economic constraints, it seems that there many people do not want to take part in the courses that *are* available to them. Progress is necessary towards economic and societal justice other than through increased education (as advocated by the Smith Report). Wider inclusion in a learning society may come more easily from greater recognition of tacit knowledge than from more participation. Unfortunately this recognition of the value of informal learning and of individual autonomy (Strain 1998), with its tradition of self-reliance, does not fit well with the economic imperative and its human capital approach to systems of education and training. It is therefore less than surprising that the recent green papers on lifelong learning do not address any of these issues (DfEE 1998, Welsh Office 1998), any more than they address the clear decline in substantive training financed by employers. They do not start from the premise that informal learners are involved in a lifelong process. Their simple answer is to leave society as it is, and to encourage learning chiefly through publicly or individually financed episodes of certified formal learning. Consideration of these issues reveals how difficult is the task facing the National Council ELWa.

Many of the mechanisms underlying lifelong learning – not just the HE sector – are not under ELWa influence.

4.5 A need for 'realisticness' when target setting

It is clear that given the broad nature of the five 'building blocks' and the cross-cutting themes, allied with the existence of the 22 inherited targets from the National Assembly that the Performance Measurement and Management Approach of a small 'balanced dashboard of indicators' backed up with a larger number of 'hidden' control and check indicators may be unrealistic in this instance. Instead a suite of no more than five 'headline' targets or research priorities per 'building block' could be adopted - thereby resulting in a collection of no more than 25 targets reflecting the breath and depth of the National Council-ELWa's remit whilst avoiding the disadvantages involved with an overly lengthy 'basket' of performance indicators.

That said any suggested suites of targets must cover all areas of education and training as defined in the National Council-ELWa's remit - not just output measures covering taught courses in institutions. Grubb and Ryan (1999) identify four distinctive phases of post-16 formal and informal education and training - all of which the National Council-ELWa's remit covers:

- Pre-employment education and training (school sixth form, FE and HE courses)
- Upgrade training education and training (additional training for the already employed)
- Retraining education and training (developing the competencies necessary for other employment)
- Remedial education and training (education and training for individuals who are in some ways marginal from the mainstream workforce)

It is also clear any recommendations for targets will be tempered by the availability of quality and robust data. The Learning Skills Council in England, for example, have been quick in recognising the limitations of existing data sets and the subsequent choice faced by organisations such as the National Council-ELWa to either compromise in the nature of the set targets or commit itself to collect new data to operationalise 'ideal' targets:

> "a benchmarking and value-added approach, which can stimulate progress on the basis of like-for-like comparisons … will require access to better data in order to track individual learners' progress, particularly progress below the threshold of a full qualification" (Learning Skills Council 2001, p.9)

We shall pay particular attention to this point with regard to the specifically stated intention of the National Council-ELWa draft corporate strategy of the desire to 'use international benchmarking as a measure of the performance required'. Yet it is important not to be too cautious when recommending the targets to be set. Another recurring theme throughout previous consultations in Wales regarding Lifelong Learning targets has concerned the scope and coverage of the standards set by the Targets. Firstly, there is clearly a long held concern over the lack of coverage at the 'lower' end of the spectrum and the subsequent challenging nature of the Targets as at

present. For some providers in less affluent areas, the Targets could appear unachievable:

> The targets are very ambitious and I cannot say whether they are achievable on a national basis. However, on a regional basis, they are in my opinion impossible to secure for the valleys. The work-based learning targets are particularly problematic given the SMEs in our area, and the notorious difficulties in getting these employers interested in education … It is worthwhile having ambitious national targets, but I would welcome some regional indications which recognise local challenges and difficulties.
>
> (Provider Organisation 9/99).

Conversely, others – notably users in industry – have often voiced the concern that education and training targets do not cater for the higher end of the credential spectrum, perhaps especially at Level 5. As these industrial respondents argued in relation to consultations in 1998 and 1999:

> Targets should reflect that successful learners must learn more. Would like to see at least one measure at Level 5
>
> (Business Organisation life)

> At the top end of the qualifications spectrum, I would also welcome postgraduate and research degrees for industry – 'NVQs or equivalent' does not do justice to this concern.
>
> (Provider Organisation 9/99).

Thus any recommended targets should take these issues of scope and realisticness into consideration.

4.6 Deciding on desired levels of specificity

In doing so, a compromise may have to reached with regard to the complexity of the set of targets and the level of specificity at which measurement can be achieved at. In theory, given adequate data sets, targets can be 'cascaded' down to a variety of sub-levels. The English Learning Skills Council targets, for example, are designed to be measurable not only at the national level but also at the level of local area, skill and employment sector, by mode of delivery and by groups of learners (e.g. older learners, those with special educational needs). One the one hand, it is argued that locally-specific targets can engage people and organisations at all levels, engender a sense of ownership and therefore increase the chances of the targets being met. Yet, as the LSC (2001, p.8) assert, locally focused targets can also be used to steer the 47 local councils in England towards the national goals:

> "Different national targets, to a different timescale, may be needed to deliver the aggregate of the local strategic plans, matched against national needs. It would be wrong to lose this historic opportunity for bottom-up planning by tying our hands rigidly for a long period ahead"

Given the regional and local basis of the National Council-ELWa this may be a desirable approach, as would the desegregation of data to the level of specific employment and education sector, mode of learning delivery and group of learner.

One task of the statistical analysis will therefore be to ascertain to what extend such specificity can be achieved given the available data sets and size of the overall set of targets.

4.7 Ownership of system-wide targets

It is important to foster a sense of ownership of the targets throughout all sections of the National Council-ELWa and develop a culture conducive to the setting and achieving of a national set of targets. It is acknowledged, for example, that the previous TEC system of evaluation prior to the creation of the National Council-ELWa was based more around a culture of discrete evaluation of individual programmes rather than system-wide measurement and evaluation. Yet the creation of the National Council-ELWa certainly calls for a system-wide approach to target setting and performance indictors (Grubb and Ryan 1999). To this end the setting of targets relating to specific programmes or initiatives may not be desirable, especially from a long-term perspective.

Indeed, a crucial point in terms of maintaining the longevity and long-term relevance of any targets is the avoidance of any temptation to pander to current educational trends or short-term policy fads. At the moment, for example, ICT-based learning programmes such as the UfI, Coleg Digidol etc. are intended to play an increasing role in adult learning delivery. However, as yet, the ideological significance of initiatives such as UfI over-shadow its practical impact (LDSA 2001). There is, therefore, an danger of setting overly ambitious, short-termist targets in areas such as 'e-learning' which may not retain significance over the next decade

Also in terms of fostering an ownership of the targets within the National Council-ELWa and other stakeholders, it is vital to incorporate any feedback from the wider consultation on the draft corporate strategy to the suggested target and performance indicators from this report.

4.8 Privileging the visible

There has been a shift over time in Britain towards models of target-setting in education which are based almost entirely on measurable outputs. The original 'headline' targets proposed by NCET were of a very different nature, as are those of many other developed nations. It is suggested that the main reason these more 'qualitative' targets have disappeared from British policy-making is that they are not considered to be directly measurable. This is contrasted, at least in some accounts, with the more visible output indicators. However, the substantive purpose of this section is show how weak the claim is that we can ever adequately measure even these privileged targets. We therefore argue that if a policy of target-setting is to be pursued, then more sophisticated models than those in current vogue may be required. The expense involved in setting up such an extension to our already heavily audited society may be unjustified - for it is surely better to spend money on improving lifelong learning even if we cannot measure that improvement definitively, than to have an accurate metric revealing a picture of stagnation or worse.

Although previous targets and those suggested in other countries have been radically different, the National Targets take an almost standard form. For the most part, each Target consists of a relationship between four main elements: an indicator; a population; a year; and a proportion or percentage. Thus, a typical Target requires w per cent of x people to have y indicator by z year. Each of these elements raises issues related to measurement and assessment; and these are considered in turn in what follows.

Sources for Target Indicators

The Welsh Joint Education Committee (WJEC) and the National Assembly maintain national records of school-based composition, participation and qualification. Therefore, sources for the school-based Target indicators are as reliable as official statistics can ever be. Although there is no database of equivalent quality for adult learning, at first sight it seems that many different sources are available which give an estimate of the frequency of lifelong learning indicators in the population. Potential sources include the Labour Force Survey, the Youth Cohort Study, the GNVQ Student Database, the Welsh Employer Survey, Future Skills Wales, TEC labour market surveys, the Modern Apprenticeship Scheme (MAS) Database (plus Training for Work and Youth Training records, held by DfEE), the Basic Skills Agency, the Individualised Student Records (ISRs) for Further Education (FE), regular NIACE surveys (for example, Tuckett and Sargant (1999) surveyed 5,054 individuals, including 483 resident in Wales), the National Adult Learning Survey, the National Information System on Vocational Qualifications (NISVQ, held by DfEE), NCVQ returns, the Census of Population, Eurostat and academic studies (for example, the ESRC Learning Society Programme, and the National Child Development Study). However, on more detailed consideration, all such sources suffer from defects, which is why a complete, cross-sectoral, and lifelong individual learner record is required, and being developed by National Council-ELWa .

One-off surveys such as Future Skills Wales, the Basic Skills survey (2,000 residents in Wales aged 16-64), and the National Adult Learning Survey (5,653 interviewees aged 16-69 in England and Wales) can be used to try and calibrate other sources, but are of little use in either predicting or measuring trends over time. Some sources, such as the records of MAS, NVQs or even FE participation via ISRs, provide only a small part of the required picture, and cumulating from these involves the obvious dangers of bias through omission and double-counting. In some cases, the keeping of quality records on recent initiatives, such as NVQ or CSI, is so new that they are also only useful as 'snapshots' at present and cannot be used to detect trends. In some cases, there may be a process of 'Chinese whispers', with some sources, such as Eurostat (1995, 1998), citing other primary sources, such as the EU Labour Force Survey, which might therefore be better used instead. The GNVQ database holds registrations but not outcomes; the NISVQ and NCVQ databases hold records of qualifications awarded but not of individuals; and the OFSTED databases are too detailed for easy analysis.

In other cases, survey responses need to be treated carefully for technical reasons. For example, the Future Skills Wales (1998) study reported a response rate for employers of 45 per cent. This is itself a low figure, but the true response rate is probably much

lower. The study drew a sample of 29,951 employers, but only 5,790 (or 19 per cent) of these were interviewed, with the remainder being unobtainable, refusing to participate or excluded because of quota restrictions. In calculating the response rate of 45 per cent, the study was unable to collect data from the 1,866 employers whose telephone number was unobtainable, engaged or not recognised; and the 1,222 who did not keep appointments, for example. All of these omissions may introduce bias into the sample, and given these circumstances, any conclusions drawn must be treated with caution. In interpreting the data, it must be borne in mind that the survey may over-represent larger, more successful employers (who are less likely to move, or be cut off by BT, or who employ several telephonists, for example), and these are more likely to report training. Other surveys exhibit limitations of different kinds. The survey in Wales for the ESRC Learning Society Programme only covered industrial South Wales (Rees *et al.*. 2000). The Youth Cohort Study has only one or two useful cohorts, according to Schagen *et al.* (1997).

Despite its own shortcomings as a measure of targets (see below), the LFS is therefore, at present, the major source of data. It is preferred since it involves households rather than institutions or employers; and it is face-to-face rather than postal (Welsh Office, 1993b). It uses a rolling sample (80 per cent repeated) of around 150,000 in 60,000 homes every quarter. A repeated survey of this size gives a reasonably reliable estimate of changes in the qualifications rates of the population, and it is of a size that allows analysis by sub-groups in terms of characteristics such as gender, ethnicity, age and occupation. In the absence of a tailor-made survey just for target indicators, Schagen *et al.* (1997) conclude in their appraisal of sources in England that there is no reason to reject the findings from the LFS, and they use it as their recommended source.

However, using indirect sources such as the LFS may lead to 'fractional measurement', where variables are not measured in the way required (that is, incompletely) and this can reduce internal validity (Johnstone, 1981). As with any survey, once the figures are broken down into regions (for example, Wales) or certainly by local labour market areas, the level of reliability drops. For this reason, it has been helpful to have intermittent boosted LFSs which probably give the best estimates available at a local level. For example, in 1995 the standard LFS contacted 3,130 households in Wales and the boosted survey contacted a further 3,870, giving around 1,000 households per labour market area (based on the former TEC boundaries) and 16,216 interviews in all (Welsh Office, 1994a, 1995b). Similarly, because the LFS was too small to provide reliable data by the seven 1981 TEC areas in Wales, the Office for National Statistics ran a boosted survey in each TEC area of progress towards Lifetime Targets 1 and 2 (Education and Training Statistics, 1997).

From Spring 1993, the LFS used an expanded version of the variable covering an individual's highest qualification. More vocational options were added, the NVQ level 2 criterion was changed from four GCSEs A-C to five GCSEs A*-C, and those with A levels were asked whether they had two or more, as a criterion for NVQ level 3 (National Targets Brief, 1994). In 1995, there was a slight adjustment (upwards) of figures following re-weighting from OPCS (NACETT, 1995). Changes in Spring 1996 mean that the figures for level 2 are now a little lower than they would have been (NACETT, 1998). As a consequence, previous figures are no longer directly

comparable with more recent ones, restricting the length of time for which trends can be assessed with any hope of accuracy.

Indicators

Much of the research on the reliability and comparability of indicators of qualification have been conducted in terms of initial education. Nevertheless this work is relevant here because the findings and the caveats they involve apply at least as much to the post-16 sector with it wider variety of awards and awarding bodies, and the greater range of current and historical awards that need to be declared 'equivalent'.

Indicators with the same title: Doubts have always existed over the reliability of examinations leading to qualifications with the same title, and whether these can be considered comparable over time. Britain is probably unique among OECD countries in using different regional authorities (local examination boards) to examine what are meant to be national assessments at 16+ and 18+ (Noah and Eckstein, 1992). This raises an issue of whether the same qualification is equivalent between the boards in terms of difficulty (and it should be noted that the UK currently has around 17,500 publicly funded qualifications from 250 awarding bodies). It is already clear that even qualifications with the same title are not equivalent in terms of subject content, as each board sets its own syllabus. Nor are they equivalent in the form of assessment, or the weighting between components such as coursework and multiple-choice tests. Similarly, there is no evidence that the different subjects added together to form aggregate benchmarks are equivalent in difficulty to each other (and there are many reports that some subjects are easier than others; for example, Foxman 1997); yet the standard GCSE benchmark (passes at A*-C grades) gives the same value to an A* in Music, a B in Physics, and a C grade in Sociology.

Nor is there evidence that qualifications with the same name are equally difficult from year to year. In fact, comparability can be considered between boards in any subject, the years in a subject/board combination, the subjects in one board, and the alternative syllabuses in any board and subject. All of these are very difficult to determine, especially as exams may be neither accurate nor particularly reliable in what they measure (Nuttall, 1979). Pencil-and-paper tests have little generalisable validity (that is, in predicting the performance of other tasks), and their link to other measures, such as those of occupational competence, is also very small (Nuttall, 1987).

Evidence has recently been presented that the mathematical skills of candidates achieving the same grade at mathematics A level has declined (Kitchen, 1999). It has also been claimed that the level of attainment required to gain Level 4 at KS2 has fallen. Whereas students needed 52 per cent to gain Level 4 English in 1997, the corresponding figures for 1998 and 1999 were 51 per cent and 47 per cent respectively (Cassidy, 1999a). The response from the Qualifications and Curriculum Authority (QCA) has been that such percentages are bound to change over time, as the difficulty of the tests vary year-on-year, but that these differences are not educationally significant. More generally, in some comparisons of standards of attainment over time, there has been no firm evidence of change, and in others there have been improvements. For example, an analysis of successive GCSE cohorts from 1994 to 1996 found a significant improvement in performance over time, although it

is possible to question the reality of this improvement in strict criterion-referenced terms (Schagen and Morrison, 1998). This debate, therefore, encapsulates the problems of discussing changes in assessments over time.

Some school headteachers have condemned the marking system for national tests after it was claimed that scripts had been lost and test scores added up incorrectly. It is reported that one school checked the results after return to them and found nine errors in adding up the marks in 60 KS3 mathematics scripts (Cassidy, 1999b). According to some English teachers, students taking the 1999 tests in English for 13/14-year-olds would have needed a reading age of 16 (Cassidy, 1999c). Since teachers are under pressure to produce results 'no matter what it takes', there is always the possibility of systematic school-approved cheating (Ellison, 1999) just like the 'sharp-pencilling' by employers trying to meet the Investors in People requirements (Chambers *et al.*. 1998); and most indicators currently used for targets are similarly 'corruptible' (Fitz-Gibbon, 1996). Of course, claims such as these have not been substantiated by rigorous data analysis, but the fact that they are even possibilities does help to question the reliability of national assessments. Even the narrow version of propositional knowledge tested by examinations is very difficult to assess. There is general confusion between the use of examinations for formative, summative, and target purposes (Holt, 1981; Daugherty, 1995). In a letter to *The Times* in 1976, Nuttall summarised the situation succinctly: 'The message is clear: examination standards do not necessarily tell us anything about educational standards.'

Indicators with different titles: The large-scale use of vocational qualifications is relatively recent, and before 1997 many published figures of target indicators do not include them at all. Thus, vocational qualifications have either been ignored as too few to be included or else assumptions of their prevalence were made on the basis of very scanty evidence (NACETT, 1995). Despite this, there has always been a very large range of such qualifications. This range makes comparison and aggregation difficult. Moreover, where vocational qualifications are being recorded by different bodies to those for academic qualifications, there is also a danger of 'double-counting'. The equivalence between different qualifications, such as is used to define the 'levels' for targets, requires considerable judgement and some guesswork. Robinson (1997) described some of the ensuing decisions as 'arbitrary' and having little meaning in many cases, being based on a supposed level of desirability or prestige, rather than utility or labour market returns. Examples of the equivalence decisions facing an analyst using the LFS (and many other sources as well) are given below.

As in any survey, some respondents to the LFS, the chief source of data on progress in indicators of lifelong learning, reply 'don't know' or 'no answer' when faced with a question about their highest qualification. If, for analysis, these responses are assumed to come equally from all possible responses, and are divided proportionately between the remaining categories, the likely outcome is a bias towards higher qualifications. This is because it may be assumed that those with PhDs, or postgraduate certificates, are more likely to respond and more likely to know what their qualifications are than those with level 1 or no recognised qualifications. For the same reason, if these 'null' responses are simply ignored, then the same effect of emphasising higher qualifications results, since, if they *had* answered, the 'don't knows' might have been more common among the lower-level qualifications. If, on the other hand, the assumption is made that 'no response' is equivalent to 'no qualification', the overall

population estimates will be biased towards the lower level of qualification, since at least some of the 'no responses' will actually have qualifications. There is no clear basis on which to partition the null responses between these three alternatives. Perhaps the safest assumption is that null responses all represent qualifications below level 2, and should be partitioned between none and level 1 in proportion to the existing frequency of those categories. Official sources have previously allocated them proportionately to all other categories (so that at least some of those who 'do not know' are 'awarded' a PhD).

Similar comments can be made about the much larger group classified in the LFS as 'other qualifications' (that is, not one of the other named 46 qualifications). The DfEE and Welsh Office assumption has been that 10 per cent of these qualifications are at NVQ level 3, 35 per cent are at level 2, and the remainder at level 1. Since this group is so large (8 per cent of the base in 1998), this decision makes a significant difference to higher-level Targets compared to assuming that most 'other qualifications' are at level 1. In fact, it is hard to imagine many qualifications, other than those from overseas (which are anyway at least partly covered by 'A level *or equivalent*', etc.), which would be of 2 A-level standard. The official assumptions date from an earlier period when the survey named far fewer qualifications. Scottish CSYS and Scottish Highers or equivalent are both explicitly covered in the questionnaire, and an assumption is generally made that two-thirds of these are at level 3, and the other third at level 1. Trade apprenticeships are generally divided into half level 2 and half level 3. As can be imagined, there is very little direct empirical justification for any of these assumptions, and yet their importance cannot be overestimated, since they affect two of the most common responses. If the individuals with A levels are divided into those with 2 or more and the others, and those with O levels are divided into those with 5 or more and others, then the impact of these assumptions can be tested.

Table 4.1 Testing the Impact of Assumptions on Targets

	1996	1997	1998	1999
Level 2a	54.1	55.9	58.9	59.9
Level 2b	48.2	52.0	55.4	56.1
Level 3a	32.0	33.1	36.7	36.4
Level 3b	29.8	32.1	35.8	35.5

For example, Table 4.1 shows the proportion of the working-age population with level 2 and 3 qualifications according to the LFS. In each case, the first row (a) uses all operational governmental assumptions about non-response, other qualifications, trade apprenticeships, and Scottish qualifications. The second row (b) treats 'other' qualifications as level 1, and non-response as level 1 at best. As can be seen, the differences are significant. Progress towards the achievement of National Targets (which have already been down-sized more than once) is currently weak, but may be even less than shown in the official figures because of the retention of obsolete analytical assumptions.

Population
The Welsh Office (1993b) specified that calculation of the achievement of any population was based on an individual's place of work or study, rather than their home

location. A majority of students at Cardiff University, for example, have their 'permanent residence' in England or further afield and return there on completion of their course, yet they are included in the measurement of indicators for Wales. If Cardiff University were to expand and take a larger proportion of undergraduates from England, then progress towards the Target for Level 3 qualifications would be boosted without necessarily adding a single qualification to the actual residents of Wales.

However their population is defined, local targets, by their nature, take no account of the increasing geographic mobility of labour, which is most marked among those with the highest qualifications (for example, Gorard *et al.*. 1999a). Perhaps one indication of this consideration is that 'local' and regional targets are themselves problematic by their very nature in an era of mobility and perceived globalisation.

Some of the Targets for individuals specify a precise age, such as 19-years-old, while others specify an age range, such as working age (16-59 or 16-64). Previous Targets have used vaguer terms such as 'adults' or 'young people', which are not always comparable. Some have used those in employment, or those available for work, and, more recently, those of working-age, as their population. Adults have been variously defined as being over 16, over 19, or over 21. Clearly, the nature of the Target and progress towards it, is dependent upon the precise nature of the population specified. For example, the current Target for adults with no qualification is:

• The proportion of adults of working age without qualifications to reduce from some 1 in 4 in 1996 to 1 in 7 by 2002 and to fewer than 1 in 8 by 2004 (ETAG, 1999, p.32).

This is an extension to 2004 of the previous Target for 2002, but with the alteration of the definition of adults from those aged 19 years or over to those of working-age.

• Reduce the proportion of adults (aged 19 years or over) without qualifications from some 1 in 4 to 1 in 5 by 2002 (*Learning is for Everyone*, April 1998).

This change has the effect of bringing the Target for adults closer to attainment, since the revised version excludes those adults past working-age, who are generally less well-qualified than average; and includes those aged 16-18 who are generally better qualified than average. Changing the population for this Target (and others) makes comparisons over time complex, while leading to an appearance of greater progress than has actually been achieved.

Time
The clearest single issue relating to time is the consequence of changes in the definition of data, and the problems that result for reliability (Johnstone, 1981). Changes in the completeness of data can lead to apparent changes in performance (FEFCW, 1998). Even apparently minor inconsistencies, such as varying the day of an annual census, can have profound impacts. There are large seasonal variations in indicators such as participation in education or training, so the time in the year when a sample is taken could make a big difference to the population estimate (National Targets Brief, 1994). From 1993, the LFS became seasonal rather than annual (NACETT, 1995), and the consequent changes over each quarterly season have large

sampling errors, and should be treated with caution. According to NACETT (1994), until 1994, the Spring figures from the LFS were used to assess progress, but from 1994 the Autumn figures were used (at the same time as the questions on qualifications were changed). Some targets, while retained and ostensibly similar, have in fact changed over time. In 1993, the Target for Level 2 qualifications was changed from a requirement of 4 GCSEs grade A-C (NACETT, 1993) to 5 GCSEs grade A*-C (National Targets Brief, 1994). This made the target harder to attain, but also made comparisons over time more difficult.

Proportion

The steps involved in calculating the current value of an indicator are given in Welsh Office (1993b). For each indicator, measurement involves adding six figures together. The steps for the calculation in 1994/95 are given by the Welsh Office as:

Step 1:   Count the number of 16-year-olds gaining 5 or more GCSEs at grades A-C in schools. Add the number of people achieving the standard at 17, 18 and 19.

Step 2:   Add in non GCSE NVQ 2 equivalents from schools by 16-19 year olds.

Step 3:   Add NVQ2 equivalents gained in colleges.

Step 4:   Add NVQ2 qualifications gained at YT from TEC records (subtract those qualifications received at college to avoid double counting).

Step 5:   Add any other employer training which does not use FE or YT.

Step 6:   Add any other sources for NVQs, such as the armed forces or approved schools.

Step 7:   Multiply by 100 and divide by the denominator figure of the total number of 16- year-olds in the population.

Step 8:   Take into account double counting (that is, those gaining the standard through both academic and vocational routes).

The Youth Cohort Study suggests that 9 per cent of the age cohort are double-counted (taking NVQ and academic qualifications), but 2 per cent of students have qualifications split between years or institutions (and so avoid being counted at all). These need to be taken into account before a final proportion is settled on for publication. Despite the detailed nature of the steps and the suggestions for information sources, there are many ambiguities unresolved in the calculation. For example, on one interpretation, by adding scores involving 16- to 19-year-olds and then dividing by the number of 16-year-olds, it is theoretically possible to obtain more than 100 per cent.

The original Targets in 1991 included the following:

• By 1997, 80 per cent of young people to reach NVQ level 2 equivalent (The National Education and Training Targets 1991 - quoted in NIACE, 1993, p.8).

and despite this figure not being reached, the proportion component of this Target was increased in 1995 to:

- By 2000, by age 19, 85 per cent of young people to achieve 5 GCSEs at grade C or above, an intermediate GNVQ or an NVQ level 2

(*A Bright Future: the way forward* - December 1995; *A Bright Future: Beating the Previous Best* - February 1997).

By 1999, it was clear that none of these versions of the Target were possible, so the revised version reduced the proportion to that of the original in 1991, but allowed until 2004 to achieve it.

- The numbers of 19 year olds without an NVQ level 2 or equivalent to reduce from over 1 in 3 in 1996 to some 1 in 5 by 2002 and to fewer than 1 in 5 by 2004 (ETAG, 1999, p.32).

Changes in proportion, therefore, as with changes in time, sources, and population, and the use of official assumptions, have been used to bring Targets more nearly within reach without the need for any actual improvement in qualification rates. What appear to be narrow technical changes have important political consequences.

4.8.1 Discussion

The first, perhaps the major, conclusion to be drawn from this analysis is that the current, quantitative targets for education and training are not directly measurable. Nor are the indicators they use comparable over time. Calibration of data sources consists of using estimates of the same quantity from two or more datasets in order to judge their consistency. However, as can be seen from the above limitations, unless all available figures also carry in publication a list of underlying assumptions (for example, how are 'adults' defined? what is 'low level literacy'? how do nursing qualifications and trade apprenticeships compare? is a baccalaureate at level 3?), calibration is extremely difficult. 'There are serious difficulties in attempting to assess the reliability of one dataset by comparing its results with those of others' (Schagen *et al.*, 1997, p.16).

As has been suggested above, if there is a consistent pattern, it is that decisions made about the technicalities of constructing the National Targets have tended to improve the appearance of progress towards their attainment. Certainly, for example, official publications in Wales generally present higher rates of progress than the results from the reanalysis of the same dataset (for example, LFS figures supplied by the National Assembly), which are themselves higher than those from the LFS data supplied by the National Online Manpower Information Service (NOMIS). While focused on the National Lifelong Learning Targets in Wales, these findings have a clear relevance for policies for the setting of the National Learning Targets more generally, both with respect to the compulsory phase of education and to the other countries of the UK.

The move towards reliance solely on quantitative output targets has reduced the extent to which they meet our four criteria. The compensation for this has been their presumed greater 'accuracy' in measurement than the headline, exhortative, and qualitative targets. As we have suggested, this presumption is not warranted. We should therefore return to a more complex set of targets, using, for example, the OECD input-process-output model.

The National Targets miss out a great deal of the learning which actually occurs amongst the adult population, in consequence of their focus upon certificated education and training. In part, of course, this reflects the paucity of data; only the National Adult Learning Survey 1997 (Beinart and Smith 1998) provides systematic data at the national level on wider patterns of educational participation amongst adults and this provides only a snap-shot. However, it is also a consequence of the Targets themselves, which by their current nature privilege the apparently measurable.

Many of the changes that have taken place in the definition of the Targets since their inception have made it difficult to assess progress over time accurately, but have had the effect of bringing the achievement of the publicised Targets closer without necessarily improving qualifications or participation among adults. More complex analyses have shown that the qualification of adults *as adults* has remained almost constant since 1991, and that the only real growth stems from the arrival among the working-age population of 16-year-olds with higher levels of qualification than those aged 60-65 who are leaving it (Gorard *et al.*. 2000). Added to this, actual growth in the indicators set for the Targets was actually marginally greater in Wales before the policy of Targets was implemented (Welsh Office 1999a, 1999b).

All of these findings may be not very surprising, since in the end, of course, 'you cannot grow a cow by weighing it' (Firestone, 2000). But they do suggest that, faced with the weaknesses in measuring the existing Targets, it might be more practical and certainly cheaper simply to abandon the use of targets altogether, rather than to build the more complex kind of indicator system outlined above. Certainly, our findings suggest a rather stark disjuncture between the appearance and reality of target-setting in current British educational policy. On the one hand, the seeming strength of the Targets as a policy instrument derives precisely from the 'scientific' certainties expressed in their exclusively quantified form (van Herten and Gunning-Schepers 2000). On the other, their 'scientific' basis is much more flexible than appears at first sight, leaving considerable scope for debate about the 'true' measures of progress towards improved educational standards (and indeed in other areas of public policy, e.g. Coutinho *et al.*. 2000). This, in turn, begs important questions as to why target-setting of this kind has become such an integral feature of educational policy in the UK (and elsewhere) in recent decades, especially as those policy-makers responsible for constructing and utilising the Targets are presumably all too well aware of their actual limitations.

A full answer to this question lies well beyond the scope of this analysis. However, it is clear that professionals in education and training feel somewhat pressurised by the imposition of seemingly hard-and-fast, quantified objectives, against which the effectiveness of their efforts may be 'measured' (for some limited direct evidence, see Gorard *et al.*. 1999c). In this respect, therefore, the adoption of the National Targets may be interpreted in the context of the wider ambitions of successive administrations – both Conservative and, more recently (and rather differently) Labour – to restructure the public sector through a fundamental renegotiation of the roles of professionals. Equally, it may be that the greatest impact of adopting the National Targets has been in the *presentation within the public sphere* of changes in the educational system, rather than any direct measurement of them. Again successive administrations have therefore been able to use the National Targets as an apparently unambiguous

(because quantified) vehicle for presenting a generally (but by no means exclusively) positive picture of rising levels of educational attainment, although the measures embodied in the Targets are in fact only partially rooted in the reality of actual educational change. Ironically, some commentators also see them as a strategy for passing the blame for educational problems from central government to schools and individuals (Vulliamy and Webb 2000). And these considerations begin to indicate that the abandonment of target-setting or even its radical restructuring are unlikely options in future education policy.

4.9 International benchmarking

Despite long-held recognition of their value, quantified post-16 education and training targets are not, in practice, in widespread *use* outside of the UK. Indeed, in expressing progress towards declared targets within a time-frame, the UK National Education Targets are considerably more demanding than the few other countries which have formally-stated aims and objectives for their education and training. Nevertheless, brief consideration of the most comparable international sets of lifelong learning targets provides a valuable context for the setting of Welsh targets (Jaguar *et al.* 1996, Loveman 1997).

Australia: probably boasts the most comprehensive set of national education and training targets outside of the UK, although they stop short of NVQ level 4 equivalent. By 1997, two national foundation targets had been adopted:

- By 2001, 95 per cent of 19-year-olds are participating in/or will have completed some formally recognised education and training beyond Years 10 or 11
- By 2001, 60 per cent of 22-year-olds are expected to have AVC level 3 or higher, or be proceeding to a higher qualification

Moreover, Loveman (1997) reports that work was also underway to develop a set of key national performance measures, including employer satisfaction with graduates from different training routes and the outcomes for learners who have achieved qualifications (i.e., gaining employment, going on to further study).

France: After dropping a number of attainment targets in the late 1980s, a further series of targets have been introduced through legislation. These include:

- 74 per cent of 18-year-olds to reach baccalaureate level by 2000 (reduced from an original target of 80 per cent in 1987)
- 100 per cent of young people should achieve at least French Level V (equivalent to international level I - the first level of professional qualification)
- Double the number of apprentices by 2000 (from a base of 215,000 in 1993/94)

Singapore: There is a long history of development plans and goals in all areas of Singaporean society. For example, in 1991 a goal was announced to match the Swiss standard of living by 2020. As far as educational target setting is concerned, specific targets are set for universities, polytechnics and Institutes of Technical (Vocational) Education. Currently, these goals state that, by 2000, 25 per cent of the age cohort

will be in university education, 40 per cent in polytechnics, 25 per cent in Institutes of Technical Education and 10 per cent pursuing other career destinations.

Romania, **Poland** and **Hungary:** These countries have also recently introduced targets for vocational education and training as part of on-going educational reforms, although without discernible target dates. These are a combination of broad goals (such as the Romanian 'organising compensatory education intended for those adults who could not benefit from a proper basic education') and progress towards declared targets (such as the Polish 'increase the size of the student population to 33-35 per cent of people aged 20-24 compared to the current 20-22 per cent').

Other countries, such as **Korea**, **Taiwan**, **USA**, **Germany** and **Japan**, despite often detailed plans for educational development, follow the trend of avoiding explicit attainment targets. At best, goals are expressed in very generalised terms, as, for example, in the US National Education Goals (for instance, 'By the Year 2000, every American adult will be literate and will possess the knowledge and skills necessary to compete in a global economy and exercise the rights and responsibilities of citizenship').

A series of international comparisons over 20 years, some based on examination outcomes and some on purpose-designed tests, have confirmed relatively poor figures from British (primarily English) learners. The comparisons tend to concentrate on the subjects of mathematics and science in which it is seen as easier to overcome the difficulties of 'common currencies' since of all school subjects they have the fewest cultural influences, according to Reynolds and Farrell (1996) and others. Comparisons also tend to focus on initial schooling, but the lessons for international benchmarking that have arisen from these studies apply also post-16 learning. In a review of these international comparisons, Reynolds and Farrell claim that the use of standardised attainment tests in all participating countries solves the 'common currency' problem. Of course, any differences could have non-educational reasons and the difficulty for any research in this area lies chiefly in separating out the impact of educational and socio-economic determinants of academic performance (see below). Nevertheless, Reynolds and Farrell claim that as there are no *known* non-educational causes of differential attainment in mathematics and science, 'it is clear, then, that the educational systems of different societies are key factors in determining their educational attainment' (p.52).

The issue of judging standards is a difficult one to investigate without having a close definition of the term 'standard'. As an illustration of how elastic the term can be, consider the very real situation in which an educational attainment indicator such as an A-level becomes more common over a period of ten years. One group of politicians may claim that standards have therefore improved, demonstrably as more students now attain the A-level standard. Their opponents may claim that standards have fallen, since the A-level is now demonstrably easier to obtain and also worth less in exchange. A similar example was outlined above where the mathematical ability of university students, who had achieved the same grade at A-level, was seen to have declined (Kitchen 1999). However, on closer inspection the changes could be interpreted as related to concurrent changes in the policy of university recruitment, and changes in the relative popularity of courses.

The point to be made here is that knowledge is not a static commodity, and comparisons of changes over time and place have to try and take these historical and cultural differences into account. One analogy for the complaint by the National Commission on Education (1993) that number skills have deteriorated for 11-15 year olds, would be the clear drop over the last millennium in archery standards among the general population. Nuttall used the example of the word 'mannequin' to make the same point. If the number of children knowing the meaning of this word drops from 1950s to the 1970s is this evidence of some kind of decline in schooling? Perhaps it is simply evidence that words and number skills have changed in their everyday relevance. Similar points can be made about differences in knowledge between countries and cultures. On the other hand, if the items in any test are changed to reflect these changes in and between society, then how do we know that the test is of the same level of difficulty as its predecessor? In public examinations, by and large, we have until now relied on norm-referencing. That is, two tests are declared equivalent in difficulty if the same proportion of matched candidates obtain each graded result on both tests. The assumption is made that actual standards of each annual cohort are equivalent, and it is these that are used to benchmark the assessment. How then can we measure changes in standards over time? But, if the test is not norm-referenced how can we tell that apparent changes over time are not simply evidence of differentially demanding tests? This apparently insuperable problem have not been adequately addressed.

The problems faced by researchers in this field include the comparability of different assessments, the comparability of the same assessments over time, using examinations or tests as indicators of performance at all, the different curricula in different countries, the different standards of record-keeping in different countries, and the competitiveness (especially) of developing countries (see O'Malley 1998). Yet what international comparisons seek to do is solve not one but *all*, and more of these problems at once. An observer who claims that on the basis of a standard test, one country has performed better than another, is also saying that the test involved similar children (it would not be fair to compare boys in one country with girls in another), who had followed a similar curriculum (it would not be fair to test people in a subject they had not studied), that the test was a useful indicator of educational progress, and that it was administered in the same way in both countries. To use an extreme example to make the point, one would expect 16-year-old boys in Wales to have a better knowledge of the laws of the game of Rugby than 11-year-old girls in Japan. Such a result would not make a useful international comparison. Yet, in fact, most studies reported make precisely these types of 'unfair' comparison, although in less extreme (or perhaps more disguised) forms (see Appendix B).

4.9.1 OECD

Perhaps the most sustained efforts to produce data-sets which permit valid comparisons between the education and training systems of different countries have been made by the OECD. Even here, however, the technical difficulties of such comparisons (as reported above) are carefully acknowledged (see, for example, the annual *Education at a Glance* series). These technical difficulties are, of course, compounded when analysis moves from the reporting of data to their interpretation.

It should also be emphasised that in its standard data-sets, the OECD uses the UK or England and Wales as its areal unit. To our knowledge, there is no separate reporting of the situation in Wales. Moreover, for reasons of consistency if nothing else, there are no plans currently to alter this situation.

4.9.2 Conclusion

If the argument thus far is accepted there remains very little solid evidence to create an evidence-base for international benchmarking. The issues of the reliability and validity of assessments over time and place within one country propagate when test scores from more than one country are to be compared. And this is so even for the best kind of comparisons, such as TIMSS. The growing use of international comparisons, a fascinating area in its own right, does therefore lead to two potential problems. First: the difficulty of comparing complex systems seems to encourage a concentration on the 'lowest common denominator' of assessment, and therefore furthers 'credentialism'. Second: the lack of consistency in what is being measured even in these limited terms means that naïve observers may be tempted to draw unwarranted conclusions about the relative merits of entire national systems.

Chapter Five – NATIONAL COUNCIL-ELWA PERFORMANCE INDICATORS

SUMMARY OF KEY POINTS

- A set of 28 new ELWa-specific targets are proposed
- We suggest two alternative models – the disaggregated 'conveyor belt' estimate which adjusts the population figures for the impact of pre-16 activity, and the 'learning episode' estimate. Both have relative merits.
- The performance indicators must aim to measure the contribution of only the National Council-ELWa.
- The performance indicators should generally have common syntax, i.e.
    - they should be positively phrased
    - they should be proportionate
- The performance indicators should avoid being programme or institutionally specific
- The suite of performance indicators for each area of activity should
    follow the input-process-outcome model
    have a number of hard measurable targets
    identify new or different forms of data collection required
    propose where further or complementary research studies may be necessary
- Many potential areas are simply not suitable for targets. Informal learning, as defined here for example, is only susceptible to in-depth study. This does not make it less valuable. Although some future research may devise new targets, the job will be largely one of regular and one-off evaluation.
- We recommend that attainment levels in Welsh and participation in Welsh-medium education and training should be monitored and reported annually, but without the specification of targets.
- We recommend that commentary on wider patterns of adult learning should be included, as softer data, in consideration of the other targets.
- We recommend that, where appropriate, some Targets are expressed in terms of average qualification (or participation) per adult resident.
- We recommend that, where appropriate, some Targets are expressed in terms of all adult residents, and some in terms of the working-age population.
- We recommend that once agreed on, technical assumptions used in measuring progress are published and used exclusively in setting and monitoring targets.
- We recommend that the regression models illustrated in our previous work in this area be adopted to produce best estimates of future levels of qualifications and participation.
- In the short term, we suggest that the existing National Targets are used where possible, and with appropriate caveats, while the individualised record system (STIR) is being created. Once this is ready, it can be used to estimate baseline figures for the targets we recommend here, and so calculate appropriately graduated indicators of annual progress.

5.1 Introduction

This Chapter proposes a suite of performance indicators for each of the National Council-ELWa's five main areas of activity:

- Essential Skills
- Lifelong Learning for Individuals
- Knowledge Generation and Application
- Skills for Business
- Community Learning and Cultural Development

The following performance indicators for the National Council-ELWa are based on a number of criteria. These are summarised as follows:

- The performance indicators must aim to measure the contribution of only the National Council-ELWa.
- The performance indicators should generally have common syntax, i.e.
     they should be positively phrased
     they should be proportionate
- The performance indicators should avoid being programme or institutionally specific
- The suite of performance indicators for each area of activity should
    (i)   follow the input-process-outcome model
    (ii)   have a number of hard measurable targets
    (iii) identify new or different forms of data collection required
    (iv)   propose where further or complementary research studies may be necessary

For the majority of these new performance indicators a 'population' group and a 'target' group are used in their definitions. For clarification the 'population' is intended to refer to those individuals and organisations located in Wales. Similarly the target group should only include individuals and organisations located in Wales. There may be a number of occasions where there are some implications of this for the calculation of the targets. For example, it is feasible that there are a number of English-domiciled learners attending a Welsh learning institution. Similarly there will be a number of Welsh-domiciled learners attending English learning institutions. Where this may significantly affect the base-line figures it may be necessary to adjust for this problem.

A similar problem may exist in the distinction between the activities of the National Council-ELWa and the HE sector. For example, a number of learners studying a FE course attend HE institutions, and HE learners attend FE institutions. This problem can be avoided by sharing the FE and HE databases and removing/including the relevant individual learners so that only all those learners who are the responsibility of the National Council-ELWa are included.

The discussion begins, however, by reviewing the relevant performance indicators and targets set out by the National Assembly for Wales (NafW). These come from

two sources: BetterWales.Com and The Learning Country (see Box 5.1). It is argued that these 'inherited' NAfW targets do not meet the criteria outlined above. In particular it is argued that as they are currently defined they do not measure the contribution of only the National Council-ELWa. Consequently the proposed performance indicators for the National Council-ELWa are a significant departure from the earlier NafW targets.

Box 5.1 Existing National Assembly for Wales targets

BetterWales Performance Indicators from targets for the post-16 sector

- Numbers accessing the telephone helpline 'LearnDirect' managed by Careers Wales
- Number of young people benefiting from Youth Gateway Scheme
- The numbers of 16-18 year olds without qualifications
- The proportion of adults of working age without qualifications
- The numbers of 19 year olds without an NVQ level 2 or equivalent
- The proportion of adults of working age with an NVQ level 2 or equivalent
- The proportion of adults of working age with an NVQ level 3 or equivalent
- The proportion of adults of working age with an NVQ level 4 or equivalent
- The proportion of adults with functional skills in literacy
- The proportion of adults with functional skills in numeracy
- Total number of young people in modern apprenticeship schemes
- Total number of Individual Learning Accounts in Wales
- Student in Higher and Further Education (FE and HE enrolments)
- The proportion of Further Education college courses and training which are assessed as reaching grade 1 (The highest standard) and the % reaching grade 1 or 2
- The proportion of organisations with more than 200 employees with a commitment to the Investors in People Standard

Others from The Learning Country (Chapter 8: Outcomes)

- The numbers of 19 year olds without an NVQ level 3 or equivalent
- At least 25% of 16-19 year olds to attain the Welsh Baccalaureate by 2010
- The Family Literacy and Numeracy Programmes to be expanded
- Organisations employing less than 50 people to achieve the Investors in People Standard
- The percentage of organisations with 50 or more employees achieving the Investors in People Standard
- The number of participants in post-16 education and training

However, this has a number of implications, particularly in the new forms of data collection and analysis required to (a) calculate base-line figures, and (b) establish real targets. Rather than compromise the proposed performance indicators of the National Council-ELWa it is proposed, therefore, that the use of the use of the National Assembly for Wales (NAfW) targets continue to be included, where appropriate, for the short-term. The new performance indicators should then replace

these at such a time when they can become fully operational. Given their shortcomings the use and interpretation of the existing NafW targets will still require great caution. The new performance indicators should then replace the NafW targets where indicated. It is hoped that this resolution be sensitive to the need for immediate and measurable targets.

5.2 Problems associated with NAfW targets

As they are currently defined and calculated many of the NAfW targets do not produce indicators and targets that specifically measure the contribution of the National Council-ELWa, as opposed to the contribution made during, say, compulsory schooling. This is known as the conveyor-belt effect (see Box 5.2)

This does not necessarily mean that these performance indicators are redundant to the National Council-ELWa's work. As criteria to measure the work programme of the National Council-ELWa they can still be used. However, to make them relevant to the National Council-ELWa they would need to be redefined and, therefore, recalculated.

Box 5.2 The conveyor-belt problem

For example, the number of 16 to 19 year olds without qualifications is set as 1 in 5 (1999), with the future targets as 1 in 10 (by 2002), and 1 in 20 (by 2004). As this target is currently defined by BetterWales it does not distinguish between those who leave compulsory schooling with qualifications and those who do not. Therefore, if the number of 16 to 19 years olds without a qualification falls over time it will not be clear whether they leave compulsory education with qualifications or they obtain qualifications during post-compulsory education. Only the latter group could reflect the performance of the National Council-ELWa.

There are generally two contrasting approaches in which to redefine these NAfW targets (a third model, for assessing local participation rates is presented in Appendix C). One way is to incorporate the performance of the compulsory sector or the work of other agencies outside the control of the National Council-ELWa in to the new performance indicators. This would produce an 'adjusted' measure of performance (see Box 5.3). The second method would be to redefine the population group used in the performance indicator and, most importantly, in the data collection. This would produce a measure of performance based solely on a particular 'learning episode' (see Box 5.4).

Box 5.3 'Adjusted' performance indicators

This is a relatively crude way of attempting to measure the relative performance of the National Council-ELWa. Using data already published this would try and account for some of the conveyor-belt effect.

For example, to produce a National Council-ELWa performance indicator for the proportion of adults of working age without qualifications it would be necessary to distinguish between those adults leaving compulsory education with qualifications and those who obtain qualifications post-16. A relative performance indicator could begin to accommodate this distinction by including in the calculation the number of adults annually leaving compulsory education without a qualification.

Simple Hypothetical Example
Year 1 = 25% of working age adults without a qualification (1 million adults) **[A]**
Year 2 = 20% of working age adults without a qualification (800,000 adults) **[B]**
Number of 15 year olds between Year 1 and Year 2 leaving compulsory education
          with a qualification = 100,000 **[C]**

ELWa's contribution = **A** – **B** – **C**
1,000,000 – 800,000 – 100,000 = 100,000

Clearly a more accurate 'adjusted' performance indicator would also need to account for all those *leaving* the population group – due to migration, ageing or death.

Advantages:
Uses pre-existing datasets.
Begins to account for changes to the population group defined in the performance indicator.

Disadvantages:
Does not account for annual changes to the base-line population (i.e. death and migration).
No real targets can be set for more than one year in advance.

Box 5.4 'Learning episode' performance indicators

A 'learning episode' performance indicator differs from the adjusted performance indicator as this is only interested in a particular group. Hence for any performance indicator a sub-group of the population has to be clearly defined based on a particular learning episode. This could be defined in two ways:

i.   By the particular characteristics of each individual of the population (e.g. age) – for example, 'the proportion of adults of working age with an NVQ level 2 or equivalent' would need to be redefined as 'the proportion of adults of working age to *gain* an NVQ level 2 or equivalent *after the age of 18*';

ii.   Or be defined only for a particular agency with direct responsibility to ELWa (e.g. FE sector) – for example, 'the proportion adults of working age to *gain* an NVQ level 2 or equivalent *from the FE sector*'

Advantages:
Relates only to the work of the National Council-ELWa and not external agencies.
Could produce real targets over as many years as desired.

Disadvantages:
See (i) above – may require new forms of data collection. Only figures available at present relate to ii.
See (ii) above – links the measure of performance to a particular agency within the National Council-ELWa rather than an overall measure of performance for the National Council-ELWa.

There are advantages and disadvantages in both approaches. The greatest distinction between them, however, is that the 'adjusted' performance indicators have to estimate the contribution of the National Council-ELWa, while the 'learning episode' performance indicators would generally require new forms of data collection. Although the 'learning episode' performance indicators would be the most accurate way of producing relative measures of success for the National Council-ELWa, few base-line figures can be calculated until changes to the data collection have been made. Although the National Council-ELWa has assumed that it will be able to develop a new student and trainee individual record system (STIR) which will provide the data necessary for PIs and targets, it is currently unable to address these questions. The data base simply does not contain the figures. Even when the records are complete for all school-leavers in Wales, conclusions can only be drawn about very young adults for the foreseeable future, for while older participants can be 'tagged' this will not provide information on the complete cohorts and populations from which they are drawn. It would take 50 years for STIR to contain lifelong records for the working-age (and even this ignores learners of the third-age). The limits of this approach are further compounded by the lack of historic figures to accurately identify trends that can themselves be used to calculate targets over the medium and long-term. However, such problems must be seen in the context of the limits to the 'adjusted' performance indicators approach, which could require

complex calculations on an annual or periodic basis, to only still provide relatively crude targets.

In general the second approach, the 'learning episode' performance indicator, would be achievable with the introduction of computerised individual learner record – an account of every individuals learning and training throughout their entire lifelong learning (including compulsory schooling).

However, a second issue emerges from the 'learning episode' performance indicators. In the two examples presented in Box 5.4 the definitions used the term 'gain'. The use of 'gain' implies that the individuals must have been awarded an NVQ level 2 or equivalent for a particular 'learning episode' – i.e. after a particular age or from a particular source of learning and training. This would not distinguish between those individuals who had already gained an NVQ level 2 prior to this particular 'learning episode'. Consequently, a distinction can be made in these modified targets between 'outcome-based' performance indicators and 'process-based' performance indicators (Box 5.5).

Box 5.5 Process-based and outcome-based 'learning episode' performance indicators

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Outcome-based 'learning episode' performance indicators
These indicators would reflect the ability of the National Council-ELWa to increase the skills and qualifications base of the population. These would, therefore, fill the desire for social inclusion as they would focus on those individuals who previously did not have any such skills or qualifications.

Example:
'The proportion of adults of working age to *be awarded their first* NVQ level 2 or equivalent after the age of 18'

Process-based 'learning episode' performance indicators
These indicators would differ slightly from those above by measuring the ability of the National Council-ELWa to increase the skills and qualifications of the entire population – whether they already had such skills and qualifications previous to the particular 'learning episode' being measured.

Example:
'The proportion of adults of working age to *be awarded an* NVQ level 2 or equivalent after the age of 18'

Disadvantage:
Sensitive to changes in pre-16 qualification anyway, which affect both the size and character of the group without a specific level.

The remainder of the Chapter presents the proposed performance indicators under each of the five areas of activity of the National Council-ELWa. Where appropriate the existing NafW targets are also listed. However, as indicated earlier, these should only be used until a time where the proposed performance indicators are operational.

5.3 Proposed performance indicators for essential skills

5.3.1 National Assembly for Wales targets

- The proportion of working age adults with functional basic skills in literacy to increase from some 8 in 10 in 1996; to at least 9 in 10 by 2002; and to above 9 in 10 by 2004 and to maintain this level thereafter
- The proportion of working age adults with functional basic skills in numeracy to increase from over 5 in 10 in 1996; to 6 in 10 by 2002; and to above 6 in 10 by 2004; to 8 in 10 by 2007; and to 9 in 10 by 2010
- The Family Literacy and Numeracy Programmes to be expanded so that 2300 parents and children are involved by 2003; 9000 by 2004; 12000 by 2007; and 15000 by 2010

These targets can still be used in the short-term until a time when the proposed new performance indicators are fully operational. As discussed in the previous chapter these targets do not necessarily measure the contribution of the National Council-ELWa alone. The first two targets have been redefined in accordance with the criteria outlined for the new performance indicators at the beginning of the Chapter. The third target is programme specific and has therefore not been utilised in the new suite of performance indicators.

5.3.2 New performance indicators

- *The proportion of adults aged over 16 who successfully undertake a recognised basic IT training course to increase annually until 2010*

This performance indicator is an attempt to extend the forms of essential skills previously considered by the National Assembly for Wales. The use of information technology is now seen as a new medium for knowledge acquisition. Having the ability to use IT gives individuals the opportunity to access knowledge in all aspects of life, including employment.

"Successfully undertake" tries to differentiate those who undertook such training and those that completed the training, but does not mean that they had to be certified in completing the training. "Recognised" refers to formal learning and can, therefore, be undertaken in all post-compulsory learning institutions: sixth forms, FE Colleges, adult learning centres, work-based training, etc.. "A basic IT training course" can be any course or learning episode that enables learners to use computers for basic word-processing, accessing the internet, and learning to use emails.

Baseline figures need to be calculated before real targets can be defined for the future.

Data can be collated from National Council-ELWa databases of registered learners. This target is affected by the proportion of adults who undertake recognised basic IT training in Higher Education. If a greater proportion of adults obtain their basic IT

skills from HE then it may appear that the levels of basic IT skills are increasing in Wales without the influence of the National Council-ELWa.

Further research alongside this target is recommended in the way learners, both formal and informal, may be developing their basic IT skills. There is still a lack of understanding of the importance of such skills and in the distribution of such skills across different sections of society. For example, it is not known how socio-economic status may affect the acquisition of basic IT skills. This is important if IT continues to provide a growing medium for knowledge generation.

> • *The proportion of businesses registering their satisfaction with the basic skills of their employees to increase annually until 2010*

This can be seen as an outcome performance indicator that will identify whether basic skills training is effective in the workplace. Since the definition of basic skills is problematic, as this is a relative measure and cannot accurately be compared with prior definitions of basic skills, it is important to accept the fluidity of the concept and seek a way of allowing the performance indicators to define the terms. This performance indicator allows the definition of basic skills to change, but based on the employers' perception of basic skills within the economic realms of society. Therefore, it should be accepted that it may *not* be necessary to see that a greater proportion of businesses are satisfied with the basic skills of their workforce. Instead this performance indicator should be seen as a target that has to be *maintained* rather than *improved*.

"Businesses" may refer to any size organisation located in Wales. "Satisfaction" and "basic skills" should be defined by the employers themselves. Although their perceptions of satisfaction and basic skills may vary it is important that this performance indicator is, therefore, complemented by further research that investigates employers' notions of these terms. Only with such detailed study can the National Council-ELWa and other policy-makers establish the differing perceptions in order to identify at what level and type, relative to other years, these basic skills are.

This performance indicator also complements the earlier target that focused on the basic skills of those unemployed. Together these performance indicators should give an indication as to the levels of essential skills for the majority of the population.

> • *The proportion of adults aged over 16 who are enrolled on any learning episode to increase annually until 2010*

This final performance indicator measures the levels of 'initiative' and 'motivation' of the adult population in undertaking some form of learning after compulsory education. This performance indicator is not targeted at any particular group or section of society, and nor does it recognise whether this is their first learning episode or not after compulsory schooling. This is deliberate as this indicator is measuring the overall levels of initiative and motivation that adults in Wales have. It is also clearly influenced by the way the National Council-ELWa can contribute in encouraging adults to undertake further learning of any sort. This performance indicator is, therefore, closely related to other areas of the National Council-ELWa's activities.

The 'learning episodes' referred to in this performance indicator include all forms of learning and training that can be recorded by the National Council-ELWa. Again, this may mean that more informal modes of learning are not included but since, by definition, recording of such modes would make them formal it is difficult to see how this can be avoided in a performance indicator.

It is important in calculating the baseline and target figures that duplication is avoided. For example, an individual should only be calculated once even if they are enrolled on more than one 'learning episode'. It is essential, therefore, that a unique learner identifier be incorporated in to all data collection.

- ***The proportion of unemployed adults who have basic functional skills in literacy to increase annually until 2010***

- ***The proportion of unemployed adults who have basic functional skills in numeracy to increase annually until 2010***

These two indicators are 'learning episode' performance indicators for unemployed adults. This particular group of adults has been chosen for three reasons. First, they are likely to include those who are the most likely to lack such basic skills. Second, in terms of data collection they are already assessed for their basic skills when identifying their needs as part of the New Deal programme. Thirdly, the use of unemployed adults is likely to reduce the conveyor belt effect, since those leaving compulsory education with basic skills in numeracy and literacy are the most likely to continue with further education or obtain formal employment. By only focusing upon the unemployed, this performance indicator is less likely to be affected by systematic changes in the proportion of 16 year olds with basic skills.

It should be noted, however, that these performance indicators can be affected by changes to the economy – beyond the control of the National Council-ELWa. Since the population base for these targets, the unemployed, can change according to the general strength of the economy the proportion with these basic skills may change, irrespective of the activities of the National Council-ELWa.

Base-line figures will need to be calculated so that real targets can be set.

Further research would be required to complement these targets since there are problems with the way adults are formally defined as unemployed. It is likely that a significant group of the population who lack such basic skills will not be included in formal counts of unemployment. The most obvious example would be those engaged in informal employment – not necessarily seeking work and, more importantly, be in informal employment because they do not have basic literacy and numeracy skills.

5.4 Proposed performance indicators for lifelong learning for individuals

5.4.1 National Assembly for Wales targets

- The numbers of 16-18 year olds without qualifications to reduce from some 1 in 5 in 1996 to 1 in 10 by 2002; to 1 in 20 by 2004; 1 in 25 by 2007 and 1 in 50 by 2010
- The numbers of 19 year olds without an NVQ level 2 or equivalent to reduce from over 1 in 3 in 1996 to some 1 in 5 by 2002; to fewer than 1 in 5 by 2004; to 1 in 6 by 2007; and 1 in 7 by 2010
- The numbers of 19 year olds without an NVQ level 3 or equivalent to reduce from 3 in 5 in 2000 to less than 3 in 5 by 2004; to approaching 1 in 2 by 2007; and 1 in 2 by 2010
- At least 25 percent of 16-19 year olds to attain the Welsh Baccalaureate by 2010
- The proportion of adults of working age without qualifications to reduce from some 1 in 4 in 1996; to 1 in 7 by 2002; to fewer than 1 in 8 by 2004; 1 in 9 by 2007; and 1 in 10 by 2010
- The proportion of adults of working age with an NVQ level 2 or equivalent to increase from over 5 in 10 in 1996; to 7 in 10 by 2002; to over 7 in 10 by 2004; 8 in 10 by 2007; and over 8 in 10 by 2010
- The proportion of adults of working age with an NVQ level 3 or equivalent to increase from some 3 in 10 in 1996; to approaching 5 in 10 by 2002; to over 5 in 10 by 2004; to 6 in 10 by 2007; and over 6 in 10 by 2010
- The proportion of adults of working age with an NVQ level 4 or equivalent to increase from some 1 in 5 in 1996; to over 1 in 4 by 2002; approaching 3 in 10 by 2004; at least 3 in 10 by 2007; and over 3 in 10 by 2010
- The number of participants in post-16 education and training to increase by at least 10000 annually from 1999 to 2004; and 12000 annually from 2004 to 2010
- By 2007 an additional 36,000 students to have been attracted into higher and further education helped by the substantial new provision for Access Funds
- 50,000 individual learning accounts to have been created by 2002; the National Council-ELWa to establish baselines for target setting discount ILAs by 2003
- 15 percent of further education courses to reach the highest standard (Grade 1); and 70 percent to reach Grade 1 and 2 by 2003; 18 percent to reach Grade 1 and 80 percent Grade 1 and 2 by 2007; and 20 percent to reach Grade 1 and 90 percent to reach Grade 1 and 2 by 2010

These targets can still be used in the short-term until a time when the proposed new performance indicators are fully operational. As discussed in the previous chapter these targets do not necessarily measure the contribution of the National Council-ELWa alone. Therefore these targets should not be used beyond the short-term. They also lack common syntax and some are not positively phrased.

Similarly, a number of responses to our consultation with stakeholders argued that "the targets should not be caste in NVQ speak" (HEI representative), arguing that high-level NVQs have not appealed to learners and that low-level NVQs stress employment values. It has also been reported that the National Assembly for Wales' commitment to a credit-based qualifications framework should override the use NVQ levels terminology.

5.4.2 New performance indicators

- ***Of the number of adults aged over 16 who had left compulsory schooling without a qualification the proportion who were awarded their first qualification in a given year to increase annually until 2010***

This is an 'outcome-based' learner episode performance indicator. In other words this measures the National Council-ELWa's contribution to increasing the skills and qualifications of the entire population. This performance indicator can therefore be used to give some indication as to how effective the National Council-ELWa has been at expanding 'horizontally' the education and learning of the Welsh population. In taking this approach this indicator is also measuring the National Council-ELWa's ability to be socially inclusive.

- ***Of the number of adults aged over 16 who had left compulsory schooling without a NVQ level 2 or equivalent the proportion who were awarded a NVQ level 2 or equivalent in a given year to increase annually until 2010***

This is a 'process-based' learner episode performance indicator. In other words this measures the National Council-ELWa's ability to increase the skills and qualifications of the entire population whether they had already obtained such a qualification or not. Therefore, this performance indicator gives an indication as to how effective the National Council-ELWa has been in increasing the overall levels of education and learning 'vertically' within society.

- ***Of the number of adults aged over 16 who had left compulsory schooling without a NVQ level 3 or equivalent the proportion who were awarded their first NVQ level 3 or equivalent in a given year to increase annually until 2010***

This is an 'outcome-based' learner episode performance indicators. In other words this measures the National Council-ELWa's contribution to increasing the skills and qualifications of the entire population. This performance indicator can therefore be used to give some indication as to how well the National Council-ELWa has been at expanding 'horizontally' the education and learning of the Welsh population. In taking this approach this indicator also measures the National Council-ELWa's ability to be socially inclusive.

Together these three performance indicators encompass a range of educational levels, from an individual's first qualification at any level to an individual's first educational

qualification at the level of an NVQ level 3 or equivalent. The second performance indicator not only gives an indication of 'mid-range' levels of education and training but also identifies how well the National Council-ELWa is in encouraging individuals to extend their educational qualifications.

- ***The proportion of learners aged over 16 enrolled on any form of education and training who complete their course to increase annually until 2010***

This is a process performance indicator that measures the National Council-ELWa's ability to increase the completion rate of learners. Rather than being concerned with the level of qualification that a learner is awarded – an outcome indicator – this is more concerned with ensuring that more is done to prevent learners from having to leave before the end of the course or training. The need for targets emphasising student retention and drop-out was emphasised in our consultation with stakeholders.

"Enrolled on any form of education and training" includes all learners that have been formally recognised by the National Council-ELWa as undertaking some form of learning episode. The National Council-ELWa's individual learner database must give some indication as to whether a learning episode has been completed. The definition of this may vary according to the form of learning being undertaken, but this should be made as transparent as possible.

Further research must complement this target that examines the incidence of drop-out and non-completion. It is possible that with greater participation in lifelong learning a greater proportion of learners are not likely to complete their learning. Research studies are required to investigate the common causes of this and identify ways in which retention and completion of learners can increase.

- ***The proportion of all available lifelong learning and training courses that are deemed of high quality to increase annually until 2010***

This is an input performance indicator that measures whether what lifelong learning is currently offered is of a particular high standard. This ensures that learners are guaranteed high quality forms of learning in whichever area of lifelong learning they wish to pursue.

"All available lifelong learning and training courses" relates to all possible training courses or packages that the National Council-ELWa has registered. This includes all types of learning and every institution or organisation that provides the training or education. "Deemed of high quality" must be a composite indication as each form and type of learning will have its own measure of high quality. However, the operational definitions of what "high quality" means must be made transparent. Such quality assessment is already undertaken, particularly in sixth forms and further education. However, such quality assessment may need extending to other learning episodes.

This is a combined process and outcome performance indicator. It differs from other forms of output targets, such as the proportion of adults being awarded particular qualifications. Rather than measuring the credentials that learners leave their education or training course with this performance indicator provides a soft measure of outcomes. It also provides another process measure of the quality of the training and education being offered.

"Any form of lifelong learning and training course" refers to all recognisable forms of learning that the National Council-ELWa have identified (see above). "Leaving" must include all those exiting the learning episode, whether they completed the course and gained a qualification or not. "Very satisfied" refers to the question on the proposed leavers' survey.

This performance indicator must be complemented by qualitative research that consults with learners about their experiences of lifelong learning. Such research should focus on a range of different learning episodes.

5.5 Proposed performance indicators for knowledge generation and application

5.5.1 National Assembly for Wales targets

In Chapter 3 no NAfW targets were identified as potential measures for the National Council-ELWa's progress in knowledge generation and application.

5.5.2 New performance indicators

> - ***The number of new patents to increase annually until 2010***

This outcome performance indicator will give some indication as to how well knowledge is being generated and applied to the economy. However, it may still be difficult to distinguish between the National Council-ELWa's contribution and other factors, such as HEFCW, in meeting this target.

Baseline figures will need to be calculated in order for real targets to be set for the future. Patents are available for regions, such as Wales, via EUROSTAT.

> - ***The proportion of unemployed learners who leave any form of lifelong learning and training for employment to increase annually until 2010***

This outcome performance indicator will measure how well all forms of education and training under the auspices of the National Council-ELWa can help unemployed adults seek employment.

"Unemployed learners" refers to those individual learners who enrolled on a registered National Council-ELWa learning episode who identified themselves as being unemployed before the started the course or training.

- ***The levels of research grants and contracts income to Further Education institutions to increase annually in real terms until 2010***

This can be seen as an input-process-output performance indicator that ascertains the level of research being undertaken within further education institutions. It measure the amount of resources going in to FE institutions for research, how successful FE institutions are in generating research funding, and gives some indication as to how much research is being undertaken within Wales and under the remit of the National Council-ELWa. Research in FE institutions acts as a proxy for knowledge generation. Although HE institutions will tend to be the larger sources of research, this does not suggest that this cannot be encouraged to a greater extent in FE institutions.

- ***Collaboration between businesses and providers of learning to increase annually until 2010***

Although not a measurable performance indicator this will reflect the growing need for employers and trainers/educators to work closely together. This can be in identifying the training needs of current and future employees. It could also be in the way in which knowledge generated within learning institutions, via training or research, can be applied to business opportunities. Such networked relationships are crucial to information exchange and the innovation process.

This performance indicator requires further research to identify ways in which this can potentially be defined and measured in more detail. It also requires more detailed studies to see what barriers there are to collaboration and how greater collaboration can be encouraged.

- ***The number of employment opportunities that are generated directly from any forms of lifelong learning and training to increase annually until 2010***

Again, this is not an immediately measurable performance indicator. However, a greater understanding of how education and training can generate job opportunities, and therefore wealth creation, is needed. This may require some form of new undertaking by the National Council-ELWa in order to identify how this can be achieved.

Employment opportunities from lifelong learning and training could come from a number of sources: the number of learners who themselves go on to start their own business; the total number of employment opportunities that may arise from this; and the number of new employment opportunities in existing businesses that are generated from developments in new skills and training.

Clearly this should be complemented by research in order to see how the relationship between employment opportunities and lifelong learning can be monitored. Also research is needed to explore how this relationship can be enhanced.

5.6 Proposed performance indicators for skills for business

5.6.1 National Assembly for Wales targets

- By 2004, work-based learning programmes, including the Modern Apprenticeships and the Modern Skills Diploma for Adults will provide for over 14000 participants at NVQ level 3 and above
- The New Deal to help 30,000 under 25s leave benefit for work or training and also to target inactivity amongst older age groups, lone parents and disabled people by 2003
- For organisations employing less than 50 people, 825 to achieve the Investors in People Standard by 2002; 1100 by 2004; 1350 by 2007 and 1500 by 2010
- The percentage of organisations with 50 or more employees achieving the Investors in People standard to increase from 15 per cent in 1997; to 35 per cent by 2002; to 40 per cent by 2004; to 50 percent by 2007; and to 58 percent by 2010
- The percentage of organisations employing 200 or more people achieving the Investors in People standard to increase from 27 per cent in 1997; to 48 per cent by 2002; to 58 per cent by 2004; to 70 percent by 2007; and to 80 percent by 2010
- Assist the management development of 4,500 SMEs per year until 2004

These targets can still be used in the short-term until a time when the proposed new performance indicators are fully operational. As discussed in the previous chapter these targets may need redefining in order to measure the contribution of the National Council-ELWa alone. Where appropriate the new performance indicators given below have been redefined from these National Assembly for Wales targets.

5.6.2 New performance indicators

- *The proportion of adults aged over 16 years who are enrolled on any form of work-based training programme to increase annually until 2010*

This performance indicator encompasses all participation in work-based learning. It could, if necessary, be broken down into constituent parts, such as Modern Apprenticeships. However, because of the changing age profiles of participants on such work-based training and the length of provision of the individual programmes, a composite performance indicator is preferred. It is necessary with this performance indicator to avoid duplication of individuals, since a learner may be enrolled on more than one form of training.

> - ***The proportion of businesses, by size and type, which participate in any form of lifelong learning and training to increase annually until 2010***

This performance indicator will measure how far all forms of work-related learning and training extend across the economy and to employees. Individual monitoring and setting of targets could be established according to the size of the businesses and by the type of businesses participating. These could include small and medium sized businesses and public and private businesses. This would ensure that lifelong learning and employment-based learning are distributed evenly across the economy or so particular businesses could be encouraged to participate in all forms of lifelong learning and training.

> - ***The proportion of organisations employing less than 50 people to achieving the Investors in People Standard to increase annually until 2010***
>
> - ***The proportion of organisations with between 50 and 200 employees achieving the Investors in People Standard to increase annually until 2010***
>
> - ***The proportion of organisations with more than 200 employees achieving the Investors in People Standard to increase annually until 2010***

These three performance indicators measure the involvement of all businesses, by the size of their workforce, in the Investors in People Standard programme. These performance indicators have been slightly redefined from the National Assembly for Wales targets.

New baseline figures will need to be calculated so that they appear as proportions of the total number of organisations with the respective size of workforce in Wales. This will ensure that any impact on the Welsh economy does not directly influence whether the National Council-ELWa is meeting these targets.

These performance indicators can be supplemented by identifying the proportion of organisations by size that are *committed* to the Investors in People Standard. This would measure a secondary level of participation of businesses, particularly useful for small businesses.

> - ***The proportion of employees' skills and needs identified by businesses being met by education and training programmes to increase annually until 2010***

This performance indicator differs from that presented under the National Council-ELWa's activities for essential skills. This performance indicator is more qualitative in nature and is based upon skills needs consultation with businesses and learner providers. This consultation must show that the perceived needs of businesses for their employees are being met. This should be a longitudinal consultation using the same sample of businesses over time. That way it is possible to examine changes in needs alongside whether prior needs have been met by learner providers.

Further research would extend this consultation exercise to identify the wider benefits of providing skills for business. This research would also examine how employers determine what are the current skills of their workforce and how they identify future needs. Little is known as to whether employers themselves always have the most accurate idea of future skill needs. Such research would also investigate this. Research has suggested that they have not got a good idea of future skills needs.

- ***Knowledge of informal work-based learning to increase by 2010***

This performance indicator requires the National Council-ELWa to investigate the incidence of informal learning in the workplace. This would identify to what extent this occurs, how useful this is, what constraints there are to such informal learning, how it can be enhanced, and how it relates to more formal modes of work-related learning and training.

Currently little is known about this, yet could provide a substantial element in providing skills for business. It would, therefore, seem appropriate for the National Council-ELWa as part of its corporate strategy to gain a greater understanding of this. The resulting findings may then be used to develop greater involvement in enhancing informal learning. However, as this would be 'informal' learning it is difficult to see at this time how further targets may be set.

5.7 Proposed performance indicators for community learning and cultural development

5.7.1 National Assembly for Wales targets

In Chapter 3 no NAfW targets were identified as potential measures for the National Council-ELWa's progress in community learning and cultural development.

5.7.2 New performance indicators

- ***The participation rates of all adults aged over 16 in any form of lifelong learning and training from the poorest Wards in Wales to increase annually until 2010***

This performance indicator measures the participation of learners from particular communities as defined by their relatively low levels of income. This social inclusion performance indicator will establish how successful the National Council-ELWa has been in improving the levels of learning in such communities.

"Participation rates" are defined as the number of individuals per 1000 of the resident population in each Ward who are currently enrolled on a recognised training programme. "Any form of lifelong learning and training" can be defined as any form of education and training that is currently recognised and monitored by the National

Council-ELWa. The "poorest Wards" are defined as the poorest quintile of Wards in Wales. These can be identified from the National Assembly for Wales' index of deprivation (2000). Since over time the "poorest Wards" may change it may be necessary to identify these Wards at one given point in time and measure the participation rates of these communities for a ten-year period, say. That way it will be possible to see whether participation has really increased rather than whether the poorest Wards have changed.

It is also important that these participation rates be considered against the participation rates of learners who are attending Higher Education institutions (outside the National Council-ELWa). Greater participation in HE establishments may lead to a decline in participation in other forms of learning and training, although at no expense to community learning nor as a failure of the National Council-ELWa. The calculation of baseline figures and targets should also avoid duplication of individuals. An individualised learners' database with unique identifiers is necessary for this to be achieved.

A technical outline of how it is possible to measure such participation rates – currently for only learners in Further Education institutions – can be found in the appendices.

- *The number of community-led learning programmes to increase annually until 2010*

This performance indicator would measure the National Council-ELWa's encouragement of learning schemes that are developed and run by individual communities. Since by definition these would be community-led programmes, the performance indicator would have to be a composite measure rather than a measure of a particular community programme. Therefore "community-led learning programmes" could include a range of different schemes that the National Council-ELWa would recognise as such. These could include schemes that are generated from the Communities First programme and community-led organisations and membership of the umbrella organisation of the University of the Third Age.

This would require research to be undertaken to investigate further the notion and importance of community learning. Detailed studies could identify how learning communities can be defined and how lifelong learning can be utilised by such communities. This would also identify the potential for community learning as an approach in the delivery of education and training. Such research would also have to examine the presence and importance of informal learning. Since most informal learning outside relies on social networks these could suggest how learning communities may be identified.

One key way that Wales can develop its cultural development is via studies on the cultural development of Wales. This does not necessarily just mean courses that teach the Welsh language. Rather this covers any learning episode that focuses upon the more general development of the Welsh identify and cultural heritage. Both of these performance indicators attempt to measure the success of the National Council-ELWa in encouraging learners to study such courses and in providing such courses.

"Any form of lifelong learning" could include all forms and modes of courses recognised by the National Council-ELWa. "Cultural development of Wales" could include all aspects of contemporary and historical Welsh culture, such as Welsh language, Welsh literature, Welsh music, Welsh history, and archaeology in Wales.

Since the latter of these two performance indicators relates to a particular type of course or training package being offered it is not necessary for the *relative* number to increase. A proportionate performance indicator would suggest that these forms of learning should be given greater priority over other courses. This is not the case. The target should be to see an increase in the number of such courses not the importance of such courses in lifelong learning.

A further feature of the National Council-ELWa's activities should be, in the first instance, to monitor the proportion of learners registered who speak Welsh fluently in their home and in their learning. Based on similar data collection for school sixth forms this would give some indication of the demand for Welsh-medium education and training. This was emphasised in our consultation with stakeholders. The collection of such data may in the future lead to new targets based on the number of courses and learning packages that can be delivered through the medium of Welsh.

This performance indicator is a qualitative measure of cultural development in Wales. This would have to be based on new research and data collection. This is a composite measure of participation in a range of cultural activities. These could include attendance at cinemas, theatre productions, musical productions, museums, sporting events, and the use of libraries. The data required to identify the current rate of participation in cultural activities will need to be obtained from a number of sources, such as annual figures for attendance at different venues and repeated social surveys. Such data are available already in some European regions.

It is not clear how the National Council-ELWa can directly influence this performance indicator, although it has been decided that this organisation has some responsibility for cultural development. Therefore a programme of research must compliment this performance indicator to identify the relationship between the National Council-ELWa and participation in cultural activities.

Appendix A – NVQ LEVEL EQUIVALENTS

Qualifications used in the Labour Force Survey and their approximate 'Level' equivalents

NVQ Level 5
Higher Degree

NVQ Level 4
First degree
Other degree
Diploma in HE
HNC, HND, BTEC etc. higher
Teaching, further education
Teaching, secondary education
Teaching, primary education
Teaching, level not stated
Nursing etc.
RSA higher diploma
Other higher education below degree

NVQ Level 3
GNVQ advanced
2 A levels or equivalent
RSA advanced diploma
OND, ONC, BTEC etc., national
City and Guilds advanced craft
Scottish CSYS
SCE higher or equivalent

NVQ Level 2
1 A level, or AS levels or equivalent
Trade apprenticeship
GNVQ intermediate
RSA diploma
City and Guilds craft
BTEC, SCOTVEC first or general diploma
5 O levels, GCSE A-C, CSE grade 1 or equivalent

NVQ level 1
up to 4 O levels, GCSE A-C, CSE grade 1 or equivalent
GCSE D-G, CSE grade 2-6 or equivalent
GNVQ, GSVQ foundation
BTEC, SCOTVEC first or general
SCOTVEC modules
RSA other
City and Guilds other
YT, YTP certificate

Other qualification
Don' know
Not applicable
Did not answer

No qualification

The most problematic items are in italics. Of these the most numerically significant are Trade Apprenticeship (8% of base figure), and Other Qualification (7% of base figure).

This section examines some of the more specific methodological difficulties in carrying out international comparisons of educational systems and their outcomes, and concludes that such comparisons are fraught with problems.

One of the first such studies looked at the results in Switzerland and compared them to those of Barking and Dagenham in Essex (in Brown 1998). There are no prizes for guessing which 'country' came out on top. Students in Norway may look poor in assessments of their basic skills (see below), but then Scandinavia generally does not 'revel' in assessments as some countries do (OECD 1996). The Norwegian EMIL project leads to a curriculum covering as broad a range of content as possible, and this breadth is what is assessed by them. As the OECD (1996) succinctly state 'you get the school you test for' (p.17). This may be partly why students in Singapore appear to do well in international comparisons of Mathematics and Science, since their assessment system favours progress in these areas in a 'lopsided' way, at least according to O'Malley (1998). When tests are not used, but the comparison is made between local qualification systems, it is almost impossible to decide on fair equivalencies for GCSE in Britain, the baccalaureate in France, and the abitur in Germany for example (Rafferty 1999). There is therefore considerable potential for the 'fiddling' of figures by governments concerned to present a well-trained workforce to their potential overseas investors.

Third International Mathematics and Science Study

This section is devoted to consideration of perhaps the most convincing evidence for the relative failure of schools in England and Wales, the results of the Third International Mathematics and Science Study (TIMSS). The results for Mathematics are repeated in Table 4.2. Sixteenth place for England is far from impressive, but better than several countries including USA, Norway and Spain. Many of the 16 other countries taking part but not in Table 4.2 also scored lower, but were omitted by the researchers from analysis as they did not meet the sampling requirements for the study. Of these 16, six did not meet the required participation rates, four did not meet the age limit requirements, three were judged to have poor sampling methods, and another three had more than one of these sampling problems. In this study of the attainment of 14 year-olds, one South American country submitted scores for a cohort averaging 16 years of age.

Despite the necessary restrictions to samples imposed by the researchers, it is clear that Table 1 contains significant variation in the age of respondents. The oldest average age is for Singapore at the top of the table in terms of score, and the youngest is for Iceland near the bottom. The reasons for some of these differences are quite clear. Some countries allocate students to school years strictly by age (e.g. England), while other countries have yearly assessments and 'retake' years leading to very

different distributions of age per teaching class. In some comparisons the entire grade or year cohort is used in order to minimise disruption on the day of the test, so there have been reports of children aged 16 in Germany taking part in tests meant for 13 year-olds (Brown 1998). The linear correlation between age and score in Table 1 is +0.53 (Pearson's r, significant at the 1% level). This means that one would expect countries with older children in the test to have higher scores, and that nearly 30% of the variance in outcomes is explicable by differences in mean age alone.

Table 1 Performance and mean age of top 23 countries in TIMSS

Country	Mathematics score	Mean age
Singapore	643	14.5
Korea	607	14.2
Japan	605	14.4
Hong Kong	588	14.2
Belgium	565	14.1
Czechoslovakia	564	14.4
Slovenia	547	14.3
Switzerland	545	14.2
France	538	14.3
Hungary	537	14.3
Russia	535	14.0
Ireland	527	14.4
Canada	527	14.1
Sweden	519	13.9
New Zealand	508	14.0
England	506	14.0
Norway	503	13.9
USA	500	14.2
Latvia	493	14.3
Spain	487	14.3
Iceland	487	13.6
Lithuania	477	14.3
Cyprus	474	13.7

There may be further problems with the sampling, unchecked by the guidelines used by the researchers. Some countries have special schools for those with special educational needs, who would not therefore take part, while others have a policy of integration. Many countries, including Singapore, do not have compulsory schooling for all, so that in Thailand for example only around 32% of the relevant age group go to school. Attendance rates matter since only those students in school took part, and there is no reason to assume that those not attending school would have performed at the same level. In England some LEAs refused to participate in TIMSS from the start. Of the 300 schools that were asked to participate, 162 agreed, and for some parts of the study the response rate from these 162 schools was as low as 87% (Keys *et al.*. 1996a). The implication is that, for England, the overall response rate was below 50%. One can only imagine what the equivalent participation data would be for many other countries. It is partly for these reasons that Brown (1998) concludes that the

information in international league tables is generally too flawed to be of any use at all.

Even if the samples used were good random samples of each country, which they clearly were not, the results would still have a standard sampling error. On this very generous assumption, the sampling error would mean that any population statistic, such as a mean score, is 95% likely to lie within two standard deviations of the corresponding sample statistic (Keys *et al..* 1996a, p. 47). Using this as a guide shows that only the Russian Federation and Sweden (of the countries meeting the sample criteria) had an equivalent or younger mean age than students in England, *and* a higher Mathematics score without 95% confidence intervals overlapping with those of England. Singapore for example has an average age of 14.5 versus 14.0 for England. New Zealand had the same mean age as England, but although its score is 2 points (0.4%) higher than England, this score has a standard deviation of more than twice that difference (Keys *et al..* 1996b, Table 1.1). Therefore the probability is quite high that at least some of the scores appearing to be greater than those from England are taken from a population whose mean level is actually lower than England (and vice versa of course).

One reason that Mathematics and Science are used in comparisons is that they are felt to be more culture-free than other school subjects (such as English language). Even so, on close examination the variation in what had been taught to children in each country by the age of 14 was considerable. The curriculum in England had only covered an estimated 57% of the content of the TIMSS test by age 14, leading to the situation of children being tested on material they had not learnt. They had, instead, covered other topics in Mathematics which were not in the test. Children from the USA had the best match between curriculum and test material, perhaps because the USA were the primary funders of the study and therefore created the test. It is interesting to note that children in England still scored higher than those in the USA.

At least part of the reason for this apparently poor showing by the USA may be due to motivational factors. American students were reportedly held back from a games lesson to take part, and told that the test did not count towards their grades. In South Korea on the other hand, the children were urged to do well for the sake of the country, and marched in to the sound of school bands. If generally true, these systematic differences are sufficient in themselves to negate the generally small differences between many scores, which are obscured by the use of ranks in reporting the outcomes. In the same way, the use of means alone as scores hides the variation within each country. This within-country variation is usually similar except that many of the more 'successful' Pacific Rim countries have a higher standard deviation than England, signifying more varied outcomes, and a longer 'tail' below the mean.

Appendix C - METHODOLOGY FOR PARTICIPATION ANALYSIS

The patterns of learner participation can be considered at a number of spatial scales. For example:

1. National participation
2. Participation by Ward

The overall levels of participation for Wales can be ascertained directly from the relevant database of individual learners, such as the FE ISR. However, in order to provide an analysis at the regional or local scale it is necessary to map the students and place them in their respective Unitary Authorities (UAs) or Wards. The ISR keeps a record of which Local Education Authorities (LEAs) students were from, but because of local government reorganisation these LEAs changed between 1995/6 and 1998/9. Also, in order to consider patterns of participation with other socio-economic data not obtainable from the ISR records the transferral of individual students to the ward they lived in may be necessary.

In order to locate the students geographically in their respective UAs and wards the home postcodes of the students are converted into Ordnance Survey grid reference points using the Royal Mail's 1995 Central Postcode Directory (CPD). By transferring these points into a Geographical Information System (GIS) computer software package they can then be allocated to the UA and Ward they belong.

Unfortunately this technique means that some students are not incorporated into the analysis of participation at the regional and local level (it should be noted that they are included at the national level). If these 'missing' students are randomly spatially distributed then their absence would be trivial. Problems arise when these missing students are located in similar areas. A situation such as this occurs where postcodes are re-coded in a particular location. This appears to be of less significance in the FE analysis of participation where only approximately 1.96% of students are 'missing' from the 1998/9 data. Nevertheless a further source of bias must be acknowledged.

The participation of students presented here was based on two indices of participation. The first is the National Participation Ratio (NPR). This provides an overall level of participation of the total population in attending FE institutions and is discussed here as the number of people (of a particular subgroup, such as by age) per 1,000 of the total population (of the same subgroup) of Wales. This allows a comparison over time of the national levels of participation and can also be used to compare the national participation of different subgroups of the population. The NPR is calculated as follows:

$$NPR = \frac{\text{Total number of Welsh students of subgroup } A}{\text{Total population of Wales of subgroup } A}$$

Where A may be age or gender specific, for example.

The second measure of participation is the Participation Rate Ratio (PRR), or sometimes referred to as the Standardised Participation Rate (this has been used by HEFCW, 2000 and Shuttleworth *et al.* 2001). This indicator is used to compare the participation levels of the population at different spatial scales. This report presents the PRR of students at just one scale: Ward-level. The PRR is the ratio of the number of students who *actually* attended a FE institution to the number of students who would be *expected* to attend a FE institution, all things being equal, and multiplied by 100. The number of students expected to attend a FE from a particular area is the total population (of a particular subgroup) of that area multiplied by the national participation rate (NPR) calculated for the whole of Wales. In other words, this compares the participation rate of a particular area of Wales to the national level of participation, while standardising for the unequal distribution of the population across Wales. If the PRR of an area is above 100 then this would mean that the population in this area are more likely to participate in FE than the Welsh average levels of participation would indicate. If an area has a PRR of less than 100 then their levels of participation are lower than the Welsh average.

$$\text{PRR} = \frac{\text{Actual number of students in area } X \text{ of subgroup } A}{\text{Expected number of students in area } X \text{ of subgroup } A} \times 100$$

Where:

$$\begin{array}{l}\text{Expected number of} \\ \text{students in area } X \text{ of} \\ \text{subgroup } A\end{array} = \begin{array}{l}\text{Population in area } X \\ \text{of subgroup } A\end{array} \times \begin{array}{l}\text{National \quad Participation} \\ \text{Rate of subgroup } A\end{array}$$

And where:
A may be a Unitary Authority or Ward, *X* may be age or gender specific

Since the expected number of students to participate in the FE sector is based on a particular age group it is necessary to estimate the underlying number of people of that age living in the area under study. This analysis uses data from the 1991 UK Census by estimating, through projection, the number of people who would be a particular age in the relevant year. So, for example, to estimate the number of 18 to 20 year olds in 1995 the number of 14 to 16 year olds in 1991 were used, i.e. based on the four year interval. Similarly the number of 11 to 13 year olds were taken from the 1991 Census to provide the estimated number of 18 to 20 year olds in 1998, and so on. These estimations do not account for migration or natural demographic change but do provide a simple means to calculate the expected numbers of participating students (especially since mortality rates are so low among this age group). The Shuttleworth *et al.* report on student participation in Northern Ireland also used this method to estimate their population by age. However, for a more accurate estimation of population other geodemographic factors need to be incorporated, such as migration and life expectancy figures.

A geographical analysis of the PRRs means that areas of Wales that tend not to have people attending FE institutions, given their absolute numbers, can be identified. Because the PRR is calculated as a ratio it must be noted that the scale of this measurement is not linear, and this causes some inconvenience. For example, if the PRR of a particular area is equal to 50 then it can be said that the participation of this

area is half that of the national average. However, for an area to have twice the levels of participation from the national average the PRR for an area must be equal to 200. This must be noted when comparing the PRR of different areas or of different years. It should also be noted that the calculations of the PRRs for 1995/6 and 1998/9 use the respective years' calculated national participation rate (NPR). Hence, when comparing PRR over time it is not correct to say that a score of 100 in 1998/9 means that the level of participation was the same in 1995/6 if the PRR in that year was also equal to 100. If the NPR increases between 1995/6 and 1998/9 then a PRR score of 100 in both years would mean that the level of participation also increased over that time for a particular area. Therefore the actual PRR scores should not be used to compare the levels of participation for a particular area over time. This can only show changes in FE participation relative to other areas. If one wishes to consider changes in the level of participation over time then the change in the NPR should be also considered.

Using postcode analysis and the National Assembly for Wales' index of Deprivation (developed by the Department for Transport and the Regions) participation rates can be calculated for Wards across Wales according to their relative levels of income deprivation. Tables 1 and 2 contain such baseline figures. Incorporating participation rates from different socio-economic backgrounds in to the targets would show how *socially inclusive* the progress made by the National Council-ELWa had been.

Table 1 - Participation of all first-year Welsh students in FE for the most and least poorest Wards in Wales, by age cohort, 1995/6

Income levels	Number of Welsh students per 1000 of the population			
	16-17	18-20	21-24	25+
Wards with the greatest % of income deprived households	263	89	55	24
Wards with the fewest % of income deprived households	254	86	51	29

Table 2 - Participation of all first-year Welsh students in FE for the most and least poorest Wards in Wales, by age cohort, 1998/9

Income levels	Number of Welsh students per 1000 of the population			
	16-17	18-20	21-24	25+
Wards with the greatest % of income deprived households	309	139	88	42
Wards with the fewest % of income deprived households	289	119	70	47

Using these baseline figures and this method of measuring FE participation future national targets could be set. They could also be geographically defined, by Unitary Authority, for example. Such targets could provide an indication of the levels of community learning – overlapping with one of the other key National Council-ELWa activities.

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