



Learning+Skills Council

# Work-based learning provision: Factors affecting quality and performance

## Evidence from the West Midlands

Quality and Standards  
Evaluation and Good Practice Team  
October 2003

## Contents

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1	INTRODUCTION.....	3
2	MAIN FINDINGS.....	7
3	FACTORS AFFECTING QUALITY AND PERFORMANCE IN WORK-BASED LEARNING.....	9
4	WORK-BASED LEARNING PROVISION IN THE WEST MIDLANDS – THE CONTEXT.....	21
5	QUALITY AND PERFORMANCE OF WORK-BASED LEARNING PROVISION IN THE WEST MIDLANDS – A STATISTICAL ANALYSIS.....	25
6	VIEWS OF THE PEOPLE INTERVIEWED.....	35
7	ANNEX A – METHODOLOGY AND STATISTICAL ANALYSIS.....	44
8	ANNEX B – FREQUENCY TABLES.....	69
9	ANNEX C – SCATTER PLOTS.....	81
10	ANNEX D – SCOPING REPORT.....	85
11	ANNEX E - BIBLIOGRAPHY.....	90

This project was steered by the LSC and the ALI



## 1 Introduction

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### 1.1 Background

**1.1.1** The Learning and Skills Council (LSC) has a responsibility to help providers improve the quality of the education and training they offer. Further education colleges have taken some successful action to raise retention and achievement rates. Until now less has been known about comparable action taken in the work based learning sector.

**1.1.2** At present, there is data on the overall numbers of work-based learning providers. Such data, however, is not broken down, for instance, in terms of local LSC area, type of provider, or the curriculum areas covered by providers.

### 1.2 Aim and scope

**1.2.1** The Evaluation and Good Practice Team at the LSC National Office and the Research and Data Team at the Adult Learning Inspectorate (ALI) identified the need for a comprehensive and analytical study of work-based learning, focusing on the different types of providers and the factors which affect the quality of the education and training offered. GHK was commissioned to undertake the study.

### 1.3 Methodology

**1.3.1** The first stage of the project was to determine what data was currently available. The consultants met with representatives of the LSC and the ALI to discuss what relevant data was available. The key data sources identified were the individualised learner record (ILR), inspection reports, the provider information management system (PIMS) and performance reviews.

**1.3.2** A database was established which also included information from providers on learners' performance, for example, in terms of retention, achievement and progression rates. The data was diverse and covered a wide range of types of provider. It was decided, therefore, to focus on work-based learning providers in the West Midlands region only.

**1.3.3** Between April 2001 and December 2002, 208 work-based learning providers had either undergone an ALI inspection or a performance review.

The dataset was developed using data from the ILR, PIMS, ALI inspection grades and performance review assessments. The dataset included information about:

- success rates (from the ILR)
- inspection grades and performance review assessments
- type of organisation, for example, governance, numbers of learners, programme areas

## Internal report

- characteristics of learners, for example, gender, ethnic origin, level

**1.3.4** The dataset was analysed using a variety of statistical techniques to identify any factors that significantly affected performance.

**1.3.5** We interviewed people involved in work-based learning, such as providers, employers and local LSC representatives (see Section 6) and asked them if they were aware of any other information which was readily available and could be used in this study. Some of the information is exemplified below and was not used for the following reasons:

- Surveys of the views of learners. Providers carry out such surveys and the LSC does so at national level. These surveys, however, are diverse in style and scope and would not have provided statistically significant data about work-based learners in the West Midlands region.
- Information and judgements in inspection and performance review reports. Although there is a wealth of information in these documents, it required analysis which was outside the scope of this study.
- Data collected by providers and local LSCs. The format of such data was insufficiently consistent to be of significant use in this study.

**1.3.6** There are two sets of factors relating to work-based learning and these may be described as “structural” and “non-structural”. They can be defined as follows:

- structural factors are those relating to the provider’s organisation and characteristics, for example, the provider’s size and type
- non-structural factors are those relating to aspects of provision which can be subject to qualitative judgements, for example, management and leadership, learner support, quality assurance procedures.

**1.3.7** We read relevant literature about quality and performance in work-based learning. A bibliography is provided in Annex E. Two major points emerged from the literature studied. It is generally thought that:

- non-structural factors have a greater influence on quality and performance than structural factors
- the low inspection grades many work-based learning providers obtain are a consequence of the introduction of the *Common Inspection Framework* (2001) and the comparatively low achievement rates of their learners (especially the low proportion of modern apprentices who meet all the requirements of their apprenticeship framework).

**1.3.8** We interviewed work-based learning providers in the West Midlands and also representatives from:

- the LSC National Office
- local LSCs in the West Midlands
- the ALI
- The Association of Learning Providers (ALP)

- British Chambers of Commerce.

## 1.4 Definitions of quality and performance

**1.4.1** There is no agreed definition of what the terms “quality” and “performance” mean in the context of LSC-funded provision. In the Department for Education and Skills’ publication, *Success for All* (November 2002) there is reference to the requirement for providers to achieve floor targets and learners’ performance is defined in “...terms of learner success rates, based on the successful completion of qualification aims.”

**1.4.2** It is stated in the Common Inspection Framework, that the focus of inspections will be “...primarily on the experiences and expectations of individual learners through the evaluation, as applicable, of:

- *what is achieved – the standards reached and learners’ achievements, taking account of their prior attainment and intended learning goals*
- *the quality of teaching, training, assessment and learning*
- *other aspects of provision that contribute to the standards achieved, such as the range, planning and content of courses or programmes, resources, and the support for individual learners*
- *the effectiveness with which the provision is managed, is quality assured and improved, and how efficiently resources are used to ensure that the provision gives value for money*
- *the extent to which provision is educationally and socially inclusive, and promotes equality of access to education and training, including provision for learners with learning difficulties or disabilities.”*

**1.4.3** For the purposes of this study, performance is measured by:

- retention and achievement rates, and particularly the proportion of modern apprentices who meet all the requirements of their apprenticeship framework.

**1.4.4** For the purposes of this study, quality is measured by

- Office for Standards in Education(OfSTED)/ ALI inspection grades, and the local LSC performance review overall assessments.

**1.4.5** The analysis supporting this research was carried out in early 2003, during the period when consultation was taking place on the proposals set out in *Success for All*<sup>1</sup>, and prior to the release of statistical first release 25<sup>2</sup> (ISR/SFR25). Following the release of ISR/SFR25 and the completion of consultation on the proposals in *Success for All*, a new method for the calculation of success rates has now been established and this differs from that used in this research. The main difference is that this research uses the first 16 periods (April 2001 to July 2002) of the interim ILR record, whilst ISR/SFR25 uses only the last 12 periods (August 2001 to July 2002). Both methods, however, lead to much the same result (for more details, please see Section 7).

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<sup>1</sup> LSC Circular 03/02 *Implementation of the framework for quality and success for work based learning only*, published January 2003

<sup>2</sup> ISR/SFR25 *Further education and work based learning for young people – Learner outcomes in England 2001/02*, published 24 July 2003

## **1.5 Structure of the report**

**1.5.1** The structure of the report is as follows;

- Section 2 contains the main findings and recommendations.
- Section 3 sets out the findings from recent literature on quality and performance in work-based learning.
- Section 4 provides a context for statistical analysis.
- Section 5 presents a statistical analysis of work-based learning provision in the West Midlands .
- Section 6 contains a summary of the evidence of individuals who were interviewed..
- Annexes A-C contain an explanation of the methodology and detailed statistical analyses and graphs.
- Annex D gives the sources of data used in the report.
- Annex E contains a bibliography.

## 2 Main Findings

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**2.1** The key finding of this study is that no one type of provider, of a particular size, or operating in a particular curriculum area, performs consistently better or offers consistently better education and training than any other type of provider. High inspection grades, good performance review assessments and high achievement rates, particularly in terms of modern apprentices who meet all the requirements of their apprenticeship framework, are not the monopoly of any one provider type.

**2.2** There is, in fact, considerable variation in the quality and performance of providers of the same type, size and curriculum area.

**2.3** What matters most are the non-structural factors, especially leadership and management. Providers, irrespective of type, size and curriculum area are more likely to perform well and offer good education and training if they are managed well, provide good support for learners, and have effective procedures for quality assurance.

**2.4** Even where certain types of providers had certain advantages over others in terms of resources, they did not necessarily perform (comparatively) better.

**2.5** No one category of learner is likely to perform better than another. For example, although male learners are more likely to meet all the requirements of an apprenticeship framework than female learners, there is no evidence to show that providers with a majority of male learners obtain higher inspection grades or performance review assessments.

**2.6** There was consensus among those interviewed that broader criteria are needed for determining what constitutes quality provision and good performance. It is felt that at present, high achievement rates in terms of the proportion of modern apprentices who meet all the requirements of their apprenticeship framework, are a prerequisite for obtaining high inspection grades and good performance review assessments. Insufficient account is taken of learners' partial achievement of qualifications in the form of NVQ units.

**2.7** It was generally considered that broader measures<sup>3</sup> for assessing quality and performance in work-based learning are needed which take account of:

- the extent of, and value added to learners' achievements (the distance travelled)
- partial achievement of qualifications
- the views of learners
- the view of employers.

**2.8** There is insufficient involvement of employers in work-based learning. It is difficult to find employers who are committed to training modern apprentices, particularly throughout the full

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<sup>3</sup> See Annex E of LSC Circular 03/02 'Success for All: Implementation of the Framework for Quality and Success for Work-Based Learning Only').

## Internal report

period of their apprenticeship. The LSC National Office recognises that it is a priority to secure greater involvement of employers in training.



## 3 Factors affecting quality and performance in work-based learning

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### 3.1 Introduction

**3.1.1** A review of recent literature about performance and quality in work-based learning was undertaken in the early stages of the project (a bibliography is included in Annex E).

**3.1.2** There are some widely held beliefs about work-based learning. For example, many believe that work-based learning providers, who are also employers, perform better (in terms of learners' achievement, retention and progression rates) than other types of providers. The annual report of the Chief Inspector of the former Training Standards Council for 2000-01, states that inspection grades were often higher when the training provider was also an employer and when a further education college provided the off-the-job component of training.

### 3.2 Policy context

**3.2.1** The framework for performance review was revised in October 2002 following consultation with the sector. Performance review is a continuous process involving formal assessments twice a year, in late Autumn and late Spring. The revised framework comprises three key performance areas and providers are placed in one of five performance categories.

**3.2.2** Performance review assessments take account of a range of evidence, including self-assessment reports and development plans, the findings from learner and employer satisfaction surveys, current inspection reports, reports on the qualifications and expertise of staff, health and safety reports and data on learners' attendance, retention, achievement and progression.

**3.2.3** As stated in the report 'The Cost of Work-Based Learning', produced by the ALP and the Learning and Skills Development Agency (LSDA) in 2001, it is Government policy to ensure an excellent system of vocational education. In his speech on Education into Employability (24 January 2001) at the Institute of Economic Affairs, the Rt Hon David Blunkett MP, then Secretary of State for Education and Skills said:

*"Our primary purpose is radically to improve the education and training available to our young people and adults – and, particularly, to secure an excellent system of vocational and technical education fit for the new century. This is vital if we are to meet critical skills shortages that employers currently face."*

**3.2.4** The report of the Modern Apprenticeship Advisory Committee chaired by Sir John Cassels, was published in September 2001. This report contains recommendations relating to a national framework for apprenticeships, the content and certification of apprenticeships and apprenticeship training.

**3.2.5** In February 2003, the National Modern Apprenticeship Framework was introduced. Its principle aim is to ensure that modern apprenticeship programmes respond to the changing needs of employers and young people.

### 3.3 Success for All

**3.3.1** The Department for Education and Skills' (DfES) strategy document, *Success For All: Reforming Further Education and Training*, published in November 2002, specified four key proposals for reform:

- Meeting needs, improving choice
- Putting teaching, training and learning at the heart of what we do
- Developing the leaders, teachers, trainers and support staff of the future
- Developing a framework for quality and success.

**3.3.2** The document also sets out proposals relating to planning, funding and accountability and for providers to work in partnership with local LSCs.

**3.3.3** There will be:

- a new framework of targets linked to success measures including, where possible, value-added measures
- support and intervention to help under-performing colleges to improve
- recognition of successful providers.

**3.3.4** Local LSCs will assess the effectiveness of providers' development plans and the extent to which providers achieve headline targets for improvement through performance review. Performance review assessments will be the basis for determining whether or not to enter into three-year funding agreements with providers.

### 3.4 Quality and performance

**3.4.1** Key performance indicators are:

- retention rates
- achievement rates.

**3.4.2** The LSC's Quality Improvement Research and Good Practice team's report, *Retention and Achievement in Work-Based Learning*, defines the terms 'retention' and 'achievement' as follows:

#### **Retention**

*'The percentage of those students who, having enrolled on a learning programme of at least 12 weeks duration, continue to attend at the end of the qualification or the end of the teaching year (31 July), whichever is sooner.'*

#### **Achievement**

*'The total number of qualification aims achieved, expressed as a percentage of the total number of qualification aims for which students have completed the learning programmes.'*

**3.4.3** The report suggests that retention and achievement rates can be affected by the quality and effectiveness of the following:

- leadership and management
- strategies to raise retention and achievement rates
- recruitment and induction procedures
- learning programmes
- learner support
- involvement of employers in training.

### **3.5 Floor targets**

**3.5.1** The introduction of floor targets for providers is intended to enable local LSCs to identify providers who perform well and also those providers who need help in order to improve.

**3.5.2** Respondents to the proposals set out in *Success for All* generally supported the introduction of floor targets, but emphasised that they should be clear and realistic, and should take account of learners' achievements in terms of value-added and distance travelled.

### **3.6 Operational Context; work-based learning in England**

**3.6.1** The annual report (2001-02) of the Chief inspector of the ALI states that, at the time of writing, there were fewer than 300,000 learners on work-based learning programmes. More recent figures (2002-03) from the Office of National Statistics (ONS) give the number of total learners (including Entry to Employment Pathfinders [E2E]) as 284,000. Of these, most (42.5%) undertake Foundation Modern Apprenticeships (FMAs), 39.9% followed Advanced Modern Apprenticeships (AMAs), 13.9% were working towards NVQs and 3.7% were on Lifeskills programmes.

**3.6.2** Since 1999-00, the proportion of learners on FMA and Lifeskills programmes has increased, whilst those on AMA and NVQ programmes has fallen. The relatively small group of learners on Lifeskills programmes is catered for by some 1,450 LSC-funded providers (this figure includes all work-based learning providers, not only those offering Lifeskills provision, and colleges offering work based-learning), 200 of which have fewer than 10 learners.

### **3.7 Inspection grades for work-based learning**

**3.7.1** The first annual report (2001-02) of the Chief Inspector of the ALI found the quality of work-based learning provision in many cases to be unsatisfactory, and noted a sharp decline in inspection grades awarded.

**3.7.2** The report suggests possible reasons for this decline:

- the emphasis the *Common Inspection Framework* places on achievement rates
- changes in funding, inspection and administrative arrangements
- the failure of providers to adjust to reduction in government funding and demands placed upon them by the introduction of modern apprenticeship frameworks.

## Internal report

**3.7.3** The report of the Learning and Skills Development Agency, *Making the Grade* – a report on standards in work based learning for young people (2002), examined reasons for the lower inspection grades. The report explored the situation from the viewpoint of ALI inspectors, LSC quality managers, and work-based learning providers themselves. The report acknowledged that the deterioration in inspection grades for providers was due to a number of factors. These include issues related to the transition from Training and Enterprise Councils (TECs) to local LSCs; some providers' inadequate understanding of the inspection process, and the way performance data is used in inspection.

**3.7.4** Table 1 summarises ALI inspection grades between June 2001 and February 2003 when 520 providers were awarded grades. With the exception of those providers offering foundation programmes, more providers were awarded a grade 4 or 5 (unsatisfactory or very weak) in both curriculum and cross-curriculum areas than grades 1 or 2 (outstanding or good). Of those providers offering foundation programmes, however, 37.1% of providers were awarded grades 1 or 2.

Table 1 Summary of ALI Inspection grades for England – June 2001-February 2003

Sector	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Total
Land-based provision	1	8	10	15	2	36
Construction	1	11	18	28	6	64
Engineering, technology and manufacturing	5	39	74	44	5	167
Business administration, management & professional	2	31	105	81	9	228
Information & communications technology	0	9	31	28	4	72
Retailing, customer service and transportation	1	10	79	71	11	172
Hospitality, leisure, sport and travel	2	12	27	23	6	70
Hairdressing and beauty therapy	2	13	26	35	5	81
Health, social care and public services	5	20	58	54	8	145
Visual and performing arts and media	1	0	3	2	0	6
Foundation programmes	3	40	50	23	0	116
All areas of learning	23	193	481	404	56	1157
Leadership and management	4	73	180	210	53	520
Equal opportunities	14	68	252	165	21	520
Quality assurance	3	41	162	252	62	520

Source: ALI <http://docs.ali.gov.uk/stats/live%20docs/Published%20Work-based%20Providers.xls>

**3.7.5** More grades 1 and 2 were awarded to providers offering programmes in engineering, technology and manufacturing, land-based provision, and hospitality, leisure, sport and travel, than to providers offering programmes in other curriculum areas. Most of the grades 4 and 5 were awarded to providers offering programmes in construction, hairdressing and beauty therapy, and retailing, customer service and transportation.

**3.7.6** In general, the grades awarded for leadership and management were lower than those for curriculum areas. Equal opportunities was the generic area attracting the highest grades.

### **3.8 Views of the key players**

**3.8.1** In its research, the LSDA investigated the views of the key players involved in work-based learning. It summarised the key issues raised as follows:

Providers:

- are aware that retention and achievement rates are important but do not necessarily see the link between these and the way learners are taught.
- are working with a new system of inspection which they do not fully understand.
- lack support or resources to remedy their shortcomings.
- have difficulty in helping learners develop key skills.
- increasingly think they are working with less able or unmotivated learners.
- have problems in obtaining and using data.

LSC quality managers:

- have significant concerns about the impact of poor quality provision on learners.
- see data collection and interpretation as a key issue.
- regard some providers as lacking relevant experience.
- consider providers have difficulty in offering key skills training and in designing good training programmes.
- share, to some extent, the providers' views about learners on work-based programmes.

ALL inspectors:

- see a correlation between retention and achievement rates and the quality of the training provided.
- share with the providers their concern about lack of support and their inadequate understanding of the inspection system.
- agree that there are significant problems related to the provision of key skills training and the design of training programmes.
- suggest the size and scale of the organisation can affect provision.

### **3.9 Structural Factors Affecting Performance**

**3.9.1** The factors affecting quality of provision are varied. This report aims to establish whether or not structural factors (for example, the size and type of provider) affect the quality of education and training offered. Previous analyses of this type have been carried out but these analyses tend to be based on percentage distributions and not on more rigorous statistical analysis for example, regression analysis.

### 3.10 Type of provider

**3.10.1** It is widely acknowledged that a provider's type and characteristics can greatly affect the quality of education and training offered. For instance, the annual report (2000-01) of the Chief Inspector of the former Training Standards Council, *Reaching New Standards*, states that the highest grades were achieved by providers who were employers training their own staff. For instance, of those providers who were also employers, over 60% obtained grades 1 and 2 for their curriculum areas, compared with only 36% of other types of providers. Providers who were also employers also received comparatively few low grades.

**3.10.2** Employers in high-technology industries often provided excellent facilities and a stimulating environment for learning.

**3.10.3** The annual report of the Chief Inspector of the ALI for 2000-01, found the best training was offered by those providers who were employers preparing staff for their own needs or those of other organisations. These employers are usually large organisations and they train only a small number of young people. Larger organisations are more able to subsidise the cost of a modern apprenticeship, and can often give young people access to sophisticated equipment and facilities.

**3.11.4** The highest grades for promotion of equal opportunities were awarded to local authorities. Of those local authorities providing work-based learning, 21% were awarded a grade 1 or 2 for equal opportunities, compared with only 14.3% of private training providers.

**3.11.5** Providers who were employers also performed well in the generic areas of learner support and management of training. Local authorities also received high grades for learner support.

**3.11.6** The LSC Report, *Retention and Achievement in Work-Based Learning*, (2002), highlighted the strengths of different types of work-based learning providers. These were as follows:

- managers of independent work-based learning providers are strongly committed to offering quality education and training.
- providers who are also employers usually have thorough and rigorous recruitment procedures.
- FE colleges provide good support for learners and good off-the-job training.

**3.11.7** The report states, however, that all types of provider with the exception of providers who are also employers, need to secure more involvement of employers in training.

### 3.12 Provider size

**3.12.1** The report of the Chief Inspector of the former Training Standards Council for 2000-01 noted that in general, providers in the middle-size range (in terms of the number of learners), were awarded a greater number of lower grades than either small providers or large ones. The performance of the smallest providers (those with fewer than 50 learners) was similar, in terms of grades awarded, to that of the largest providers (those with more than 500 learners).

**3.12.2** Many of the smaller providers were specialists in a particular curriculum area, or in a small number of curriculum areas. These smaller providers usually received good grades for their curriculum area(s), whereas larger providers often received good grades for their generic areas.

### **3.13 Employer involvement**

**3.13.1** It is widely acknowledged that the close involvement of employers in work-based learning can have a beneficial impact on quality and performance, and especially on retention and achievement rates. The LSC report, *Retention and Achievement in Work-Based Learning*, discusses the need for the development of a productive relationship between provider, employer and learner. The report stresses the importance of ensuring that the training process educates the employer and provider, as well as the learner. Employers must understand the learning process and recognise the importance of providing learners with good training in the workplace. In turn, the provider must be aware of the employer's commitments, responsibilities and business pressures. It is most important that there should be a strong and productive relationship between the provider and the employer.

**3.13.2** The LSC report, *Retention and Achievement in Work-based Learning*, summarises ways of facilitating effective involvement of employers in work-based learning. These include:

- development of rapport between provider and employer.
- holding regular meetings between provider, learner and employer.
- carefully vetting the employer and the workplace.
- regular visits by providers to employers to give them help and support.
- prompt response by providers to employers' problems.
- encouraging employers to share some responsibility for the quality of training.
- encouraging employers to provide training in the workplace that meets learners' needs.
- encouraging employers to take part in the monitoring and recording of learners' progress.
- ensuring employers understand the need to co-ordinate on- and off-the-job learning.

**3.13.3** The ALI has reported that although most young people on work-based learning programmes are employed, 27% of providers fail to involve employers sufficiently in the training process.

**3.13.4** The LSDA report, *Making the Grade*, noted that many providers believed that those offering training in only a few vocational areas achieved higher inspection grades. The annual report (2001-02) of the Chief Inspector of the ALI, however, states that of the 31 worst-performing providers, over half specialised in a single area of learning.

**3.13.5** Training in certain subject areas has been identified as consistently good. For example, data from inspections carried out by the former Training Standards Council in 2000-01 show that nearly 90% of all learners in engineering were on programmes which were graded at least satisfactory. On the best engineering programmes achievement and retention rates were

## Internal report

consistently above 90%. The majority of providers in this curriculum area are either employers, or maintain close involvement with employers.

**3.13.6** The annual report (2001-02) of the Chief Inspector of the ALI states that learners' achievement rates are almost 60% on engineering, technology and manufacturing programmes. Many of the providers of these programmes have a close involvement with employers who are, in some instances, able to offer learners good training facilities in the workplace.

**3.13.7** In contrast, only 20% of modern apprentices on customer service and transportation, hospitality, and sports, leisure and travel programmes met all the requirements of their apprenticeship framework.

**3.13.8** Learners can be motivated by job prospects. For instance, in order to obtain a job in transportation, learners must obtain a specific qualification or licence, and their achievement rates on transportation programmes are consistently high. There is a high demand for skilled people in the construction industry and many learners on construction programmes leave these early in order to take up employment.

**3.13.9** Table 2 shows inspection grades awarded in different areas of learning<sup>4</sup>.

**Table 2 Grades by areas of learning**

Area of Learning	TSC % grades 4 and 5 in 1998/9	Average % of all three TSC years	ALI % grades 4 and 5 in 2001/02	Difference % TSC ave. / ALI
Land-based provision	29	29	67	38
Construction	15	17	59	42
Engineering, technology & manufacturing	11	15	30	15
Administration and ICT	9	15	46	31
Retailing, customer service and transport	12	17	51	34
Hospitality, sports, leisure and travel	12	20	57	37
Hairdressing & beauty therapy	16	21	54	33
Health, social care and public services	16	21	48	27
Visual and performing arts and media	-	-	-	Low sample
Foundation programmes	15	16	23	7

*Source: Making the Grade, LSDA*

**3.13.10** The above data shows that the proportion of grades 4 and 5 awarded to providers is increasing. This decline in grade levels is occurring across all subject areas, although it is less marked on foundation programmes. Grades for construction and hospitality, sports, leisure and

<sup>4</sup> The inspections carried out by the Training Standards Council and the ALI did not cover the subject areas of:

- science and mathematics
- humanities
- English and communications



travel have declined significantly and those for engineering, technology and manufacturing have also fallen, but to a lesser extent.

### 3.14 Key skills

**3.14.1** A high proportion of providers have found it difficult to offer training in key skills. Learners, however, who do not achieve the required key skills certification are not able to complete their apprenticeship.

**3.14.2** The LSDA reports that most providers view the requirement for learners to achieve key skills certification as a barrier to learners' successful completion of programmes. Some learners regard key skills as irrelevant to their area of learning and some employers consider them as superfluous, especially when key skills training is not made an integral part of learning programmes. Some providers simply lack the ability to provide key skills training effectively.

### 3.15 Local LSCs

**3.15.1** Following the transfer of responsibility for post-16 education and training from the former Training and Enterprise Councils to local LSCs, there have been significant changes in systems of support and guidance for providers and in administrative procedures and funding arrangements.

**3.15.2** The LSC has four main objectives for helping providers improve the education and training they offer. The LSC will:

- support action to raise standards
- identify and reward excellence and expect providers to share their expertise more widely
- identify poor performance and take prompt and effective action to improve it
- reduce bureaucracy.

### 3.16 Location of providers

**3.16.1** The location of the provider can have significant bearing on the way training programmes are organised and implemented. The LSC report, *Retention and Achievement in Work-based Learning* (2002) states that providers operating in a catchment area of learners with low prior achievement are under pressure to compete with one another. They may accept learners who do not meet the entry requirements for their programmes, and may have difficulty in giving them the additional support they need.

**3.16.2** The annual report (2001-02) of the Chief Inspector of the ALI states that almost half of the 31 providers with the lowest grades were located in the North East and North West areas of the country, whilst only one in five was located in the South East, South West or London.

**3.16.3** The nature of a provider's location also affects a provider's capability to establish external partnerships and develop links with local schools, universities, colleges, companies, the Connexions partnership and community organisations. It is easier to develop such links in some areas than in others.

**3.16.4** The annual report (2000-01) of the Chief Inspector of the former Training and Standards Council stated that providers in some parts of the country obtained a greater proportion of high or low grades than providers in other regions. For example, providers in London achieved a larger proportion of grades 1 and 2 (37%) than providers the rest of the country (32%). In the South West region, fewer grades 4 and 5 (18%) were awarded to providers, compared with the rest of the country (24%).

### **3.17 The Common Inspection Framework**

**3.17.1** The *Common Inspection Framework* (2001) covers all inspection of post-16 education and training with the exception of Higher Education. Inspections focus primarily on the quality of the learning experience.

**3.17.2** Some providers have a poor understanding of the *Common Inspection Framework* and some claim they have not received enough guidance on how the framework is used. The inspection process itself is viewed favourably by providers.

### **3.18 Factors affecting performance**

**3.18.1** As the LSC report, *Retention and Achievement in Work-Based Learning*, states, structural factors (type and size of provider) do not necessarily affect retention and achievement rates.

*“A reliance on purely quantitative data to underpin information on retention and achievement in work-based learning is flawed as it masks the multitude of variables underneath. Qualitative data can go some way towards supporting such performance evaluations, however the volume, subjectivity and complexity of the information can render the results impenetrable.”*

*(LSC 2002)*

### **3.19 Leadership and management**

**3.19.1** The annual report (2000/01) of the Chief Inspector of the former Training and Standards Council stated that 66% of all training providers had received a grade 3 or above for management of training. In general, the highest grades were awarded to employers who trained their own employees and who viewed training as an investment. Inspection has shown that where management of training was good, training programmes were usually well planned and effective.

**3.19.2** The LSC Report, *Retention and Achievement in Work-Based learning*, stated that where the provider was an FE college, the work-based provision was not necessarily managed well. Providers who were also employers, however, usually managed training well, especially if they were large organisations.

**3.19.3** The availability of good management information was seen as crucial to the planning, monitoring and effective implementation of learners' programmes.

**3.19.4** Of the 298 providers of work-based learning inspected in 2001-02, however, only one received a grade 1 for leadership and management.

## Internal report

**3.19.5** Providers benefiting from good leadership and management usually also had effective management information systems, well co-ordinated on- and off-the-job training, well managed sub-contracting arrangements where applicable, and effective arrangements for setting targets and monitoring progress towards their attainment.

**3.19.6** The annual report (2001-02) of the Chief Inspector of the ALI suggests some reasons why it is essential for some providers to ensure their programmes are of a high standard:

- the provider has to operate under conditions in which mistakes would be dangerous for both staff and customers; such providers would be the helicopter repair facility at the Defence Aviation Repair Agency (DARA) at Gosport, or the Army Foundation College at Harrogate. In 2001-02, four of the 24 providers awarded the highest grades were military establishments.
- the provider demonstrates a firm commitment to people in its care. Among the 24 providers awarded the highest grades were two National Health Service (NHS) Trust organisations, a day nursery, a private care provider and residential college for people with disabilities.
- the provider is associated with a brand name which is synonymous with quality. Nine engineering companies, including Jaguar, are among the 24 providers awarded the highest grades.

## **3.20 Staff development**

**3.20.1** Both providers and LSC staff commented that staff in the work-based learning sector do not receive enough training and professional development. Until very recently, the FE Standards Fund has not been used to provide training for staff in the work-based learning sector.

**3.20.2** The annual report (2000-01) of the Chief Inspector of the former Training Standards Council states that some providers' staff development activity was narrowly focused on ensuring contractual compliance, rather than meeting the needs of individual staff.

**3.20.3** The LSDA report, *Making the Grade*, (2002) notes that only a low proportion of staff in the work-based learning sector have relevant qualifications.

## **3.21 Recruitment and induction**

**3.21.1** The annual report (2000-01) of the Chief Inspector of the former Training Standards Council found that initial assessment was the weakest aspect of learner support and that many learners were placed on programmes that were unsuitable for them. Only one third of providers took learners' initial assessment results into account when devising individual learning plans.

## **3.22 Learner support**

**3.22.1** The vast majority of training providers give learners effective support.

## **3.23 Quality assurance**

## Internal report

**3.23.1** The proportion of providers graded 4 or 5 for quality assurance procedures has increased.

**3.23.2** Providers whose quality assurance systems were graded 4 or 5 usually also received low grades for all, or some of, their curriculum areas.

**3.23.3** 2001/02 inspection data showed that over half of all providers had weak quality assurance systems.

**3.23.4** The minority of quality assurance systems which were graded 3 or above usually had all, or some, of the following features:

- the quality assurance arrangements covered all aspects of training.
- effective use was made of data.
- the views of learners and employers were taken into account when planning improvements.
- staff met to identify and share good practice.
- there was systematic observation of trainers and the training process.
- staff had a thorough understanding of the quality assurance system and of the criteria for making assessments.

## 3.24 Conclusion

**3.24.1** In general, inspection grades for work-based learning provision are lower than those for other forms of post-16 education and training.

**3.24.2** Structural factors:

- providers who are employers usually obtain comparatively higher grades for some or all of their curriculum areas, management and leadership, and learner support.
- in general, however, medium-sized employers (between 50 and 500 learners) obtain comparatively lower inspection grades.
- some areas of learning, especially engineering, have higher retention and achievement rates than others and attract comparatively higher inspection grades.
- in general, work-based learning provision in southern regions attracts higher inspection grades than in northern regions.

**3.24.3** Non-structural factors:

- providers who were awarded a high grade for leadership and management usually offered well-planned training.
- many providers received high grades for learner support.
- few providers had good quality assurance systems.
- few providers had good programmes of staff development.

## 4 Work-based learning provision in the West Midlands – the context

### 4.1 Introduction

4.1.1 Data was gathered on 208 work-based learning providers in the West Midlands, including those contracted with the National Contracting Service (NCS).

### 4.2 Number and type of providers in the study

4.2.1 Of these 208 providers, all had been subject to performance review by their local LSC, 81 had been inspected and 199 were able to provide information about the number of learners who had met all the requirements of their apprenticeship framework.

4.2.2 Table 3 shows the numbers of providers by local LSC area. Most were located in the area covered by Staffordshire LSC, about one in five came within the remit of the Black Country LSC and 5% were contracted with the NCS. Almost one quarter of learners (22.9%) were with providers located in the Black Country LSC area and approximately one fifth (20.4%) were with providers in the Staffordshire LSC area.

Table 3 Number of providers and learners by local LSC area

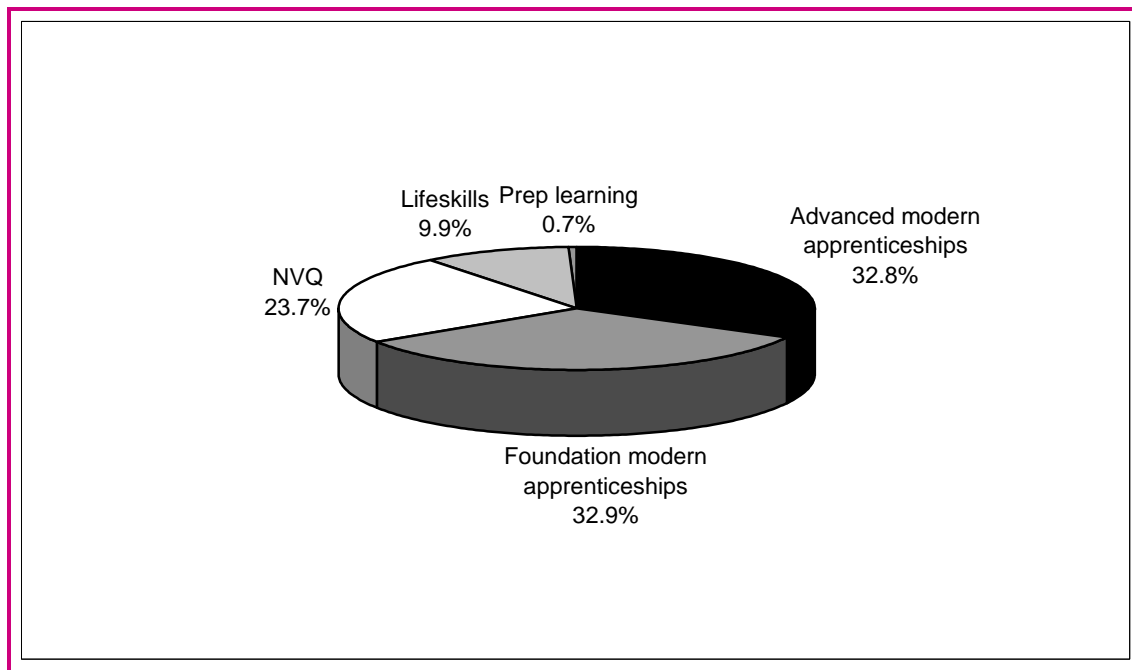
	Providers		Learners	
	Number	Percent	Number	Percent
Birmingham and Solihull	37	17.8	6705	14.6
Black Country	39	18.8	10515	22.9
Coventry and Warwickshire	23	11.1	6569	14.3
Hereford and Worcestershire	25	12.0	4741	10.3
Shropshire	25	12.0	7781	16.9
Staffordshire	50	24.0	9379	20.4
NCS	9	4.3	246	0.5
<b>Total</b>	<b>208</b>	<b>100.0</b>	45936	100.0

Source: Provider Performance Dataset

4.2.3 Just over half of the 45,936 learners were male (53.9%), 11.1% were of minority ethnic origin, and 3.2% were learners with learning difficulties and/or disabilities. In 2002-2003 there were, in England as a whole, 284,000 learners undertaking work-based learning, of whom 56.7% were male and 7.3% were of minority ethnic origin.

4.2.4 Figure 1 shows the breakdown of work-based learners in the West Midlands by programme.

Figure 1 Learner by type of programme



Source: Provider Performance Dataset

### 4.3 Quality and performance

4.3.1 Many of those interviewed believed that in order for providers offering modern apprenticeship training to achieve high inspection grades or a good performance review assessment, it was essential that a high proportion of their learners met all the requirements of their modern apprenticeship framework. They argued strongly that factors other than the proportion of learners who completed modern apprenticeships successfully should be taken into account in inspection and performance review. Such factors might include:

- the extent of learners' achievement (the value-added/distance travelled)
- the views of learners
- the views of employers
- learners partial completion of qualification (for example, acquisition of NVQ units)
- learners' socio/economic background.

4.3.2 Table 16 and

Table 17 in annex A show a possible correlation between performance review assessment, inspection grades and the proportion of learners who meet all the requirements of their modern apprenticeship framework.

## 4.4 Performance Review

**4.4.1** Table 4 shows the outcome of performance review assessment for 208 providers in the West Midlands. In addition to the overall assessment, assessments are made in respect of learner experience and performance, management, and participation and recruitment. In the case of two providers, there was insufficient evidence to award an assessment.

**Table 4 Performance Review assessment**

	Overall assessment		Learner experience & performance		Management		Participation & recruitment	
	No.	%	No.	%	No.	%	No.	%
1 Excellent Performance	5	2.4	5	2.4	5	2.4	6	2.9
2 Strong Performance	58	27.9	64	30.8	47	22.6	69	33.2
3 Acceptable Performance	79	38.0	80	38.5	84	40.4	90	43.3
4 Giving cause for some concerns	47	22.6	42	20.2	54	26.0	33	15.9
5 Giving cause for serious concern	17	8.2	16	7.7	17	8.2	8	3.8
6 Insufficient evidence	2	1.0	1	0.5	1	0.5	2	1.0
<b>Total</b>	<b>208</b>	<b>100.0</b>	<b>208</b>	<b>100.0</b>	<b>208</b>	<b>100.0</b>	<b>208</b>	<b>100.0</b>

*Source: Provider Performance Dataset*

**4.4.2** The proportion of providers assessed as giving excellent or strong performance varies from 52.6% for FE Colleges (note the results cover the whole of college activities, not only work-based learning provision), to 20.0% for Voluntary and Community Sector (VCS) providers. Overall, private and VCS providers have the lowest assessments. There is no clear relationship between size of provider and performance assessment.

## 4.5 Inspection grades

**4.5.1** Table 5 shows the inspection grades for providers in the West Midlands by curriculum areas and generic areas. Three providers were awarded a grade 1 for a curriculum area, and three different providers were awarded a grade 1 for a generic area.

**4.5.2** The national picture shows that some curriculum areas attracted higher inspection grades than others. For example, Table 1 shows that 26.3% of the grades awarded in the curriculum areas of engineering, technology and manufacturing were 1 or 2 with only 6.4% in the curriculum areas of retail, customer service and transportation. There is, however, a large amount of variation in the grades awarded within curriculum areas as well as between them. For instance, 29.3% of the grades awarded in the curriculum areas of engineering, technology and manufacturing were 4 or 5. The most commonly awarded grade in seven of the 10 curriculum areas was 3.

**Table 5 Inspection grades by curriculum area and cross-curriculum areas**

	No. of providers	Inspection grades				
		1	2	3	4	5
Land based	4	0	0	1	3	0
Construction	10	0	2	2	6	0
Eng/Tech/Manuf	24	0	6	9	9	0
Bus admin/Man/Prof	24	0	2	14	7	1
ICT	9	0	0	6	3	0
Retail/Cust serv/Trans	30	0	4	19	5	2
Hosp/Sports/Travel	16	0	4	10	2	0
Hair and beauty	13	0	3	6	4	0
Health/Care/Public serv	18	1	4	7	6	0
Visual & perf arts	2	1	0	0	1	0
Foundation programmes	15	1	7	5	2	0
Leadership and management	81	3	17	31	27	3
Equal opportunities	81	3	13	38	24	3
Quality Assurance	81	2	14	29	31	5

Source: Provider Performance Dataset

## 4.5 Conclusion

**4.5.1** There were difficulties in creating a dataset from four different sources: the ILR, PIMs, performance review assessments and inspection grades. Most of the problems related to the Unique Provider Identifier Number (UPIN) as some providers had been given more than one UPIN. The LSC National Office is aware of this and is taking action to resolve the situation.

**4.5.2** Performance review assessments and inspection grades vary considerably between different types of providers.

**4.5.3** Those interviewed strongly believed that providers were usually only given a good performance review assessment and high inspection grades if a large proportion of their learners met all the requirements of their modern apprenticeship framework. Some felt that a disproportionate weight was given to the rate for successful completion of modern apprenticeships and that other factors should be taken into consideration as evidence of quality and good performance.



## 5 Quality and performance of Work-Based learning provision in the west midlands – a statistical analysis

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### 5.1 Introduction

**5.1.1** Literature studied in this survey suggested that various structural factors (independent variables) affected quality and performance in work-based learning. These were:

- type of provider; for example, providers who are employers are believed to offer comparatively better occupational training and learner support, and thought to be well managed.
- provider size; for example, medium-sized employers (with between 50 and 500 learners) are thought to obtain lower inspection grades.
- areas of learning; for example, some curriculum areas, especially engineering, have comparatively high achievement and retention rates and attract higher inspection grades than other areas.
- location; for example, more providers in Southern regions do well in performance review and obtain high inspection grades than those in Northern regions. An important factor is the nature of a provider's catchment area. Providers whose learners come from economically deprived areas may face greater challenges than providers elsewhere.

In this section, we will test statistically the validity of these assumptions.<sup>5</sup>

**5.1.2** Quality and performance were measured by the provider's inspection grade, performance review assessment, retention and achievement rates, including the proportion of learners who met all the requirements of their modern apprenticeship framework. This information was derived from ALI's inspection data, performance review data and the ILR, respectively. More specifically;

- performance was measured by the proportions of learners achieving NVQs and meeting all the requirements of their modern apprenticeship framework and success rates<sup>6</sup>.
- quality was measured by the inspection grade awarded and the local LSC performance review assessment.

**5.1.3** The structural factors (independent variables) taken into account in the study were:

- type of provider – FE College, employer, private sector, public sector/not for profit
- size of provider – measured in terms of numbers of learners
- occupational/ learning area
- socio/economic characteristics of learners.

Data in respect of these variables was derived from the ILR and the PIMS.

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<sup>5</sup> A complete list of variables is contained in Annex D.

<sup>6</sup> An explanation of the calculation of success rates is provided in section 7

## Internal report

**5.1.4** Many of the independent variables were categorical in nature, and more specifically nominal (that is the data is assigned to mutually exclusive categories such as female or male). It was therefore necessary to convert the data into continuous ratio data for the purpose of examining data distributions. For example, rather than considering the impact of female and male categories separately, a percentage is calculated that relates to the percentage of learners who are female.

**5.1.5** The data was explored by:

- obtaining descriptive statistics on the variables
- investigating the statistical associations of dependent and independent variables.

A more detailed report on the variables and the analyses, including the approaches used, is provided in section 7 and in annex A, B and C.

## 5.2 Testing the conventional wisdom

### Type of provider

**5.2.1** Findings from the study of relevant literature (see Section 3) suggest that providers who are employers are believed to offer better occupational training than other providers of occupational learning, be well managed and have good arrangements for learner support. Local authorities are thought to promote equal opportunities effectively, and FE Colleges are considered to offer good learner support. No variables exist, however, for measuring learner support.

**5.2.2** Four types of providers were included in the analyses: FE Colleges (38), public sector/not for profit organisations (22), private sector employers (121), and private sector education/training specialists (22).<sup>7</sup>

**5.2.3** Because provider type is a categorical variable, two non parametric tests were used; Kruskal-Wallis and Mann Whitney U, rather than analysis of variance (regression). The results are shown in Table 6. The Kruskal-Wallis test result is used to test the hypothesis that the population means are different. Further information on the test, and the results of the test, are shown in Annex A.

**5.2.4** The significance levels from Table 6 show that only performance review assessments have a high significance level and that the population means for the four provider types are different. The low significance level in the remaining dependent variables indicate that the null hypothesis must be accepted and that there is no difference in quality and performance measures across the provider types.

**5.2.5** In addition to the Kruskal-Wallis test, the Mann-Whitney U test was run for some combinations of variables. The results in Table 6 show that there is a significant difference (at 5% level of confidence) between FE colleges and private sector provider/education/training specialist in performance review data, but that in performance there is no significant difference.<sup>1</sup>

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<sup>7</sup> The maximum number of cases is shown and this sums to more than 208 providers. This is because the number of providers varies for each dependent variable, as data (inspection grades) is not available for some providers.

<sup>1</sup> Please note: the results cover the whole of college activities, not only work based learning provision

**5.2.6** There is no significant difference between private sector provider (general) and private sector provider (education and training specialist) in terms of results.

Table 6 Relationship between provider type and quality and performance

Kruskal-Wallis Test	Framework rate		Framework/NVQ rate		PR assessment		ALI grade (best)	
	No of cases	Mean Rank	No of cases	Mean Rank	No of cases	Mean Rank	No of cases	Mean Rank
FE College	38	84.07	38	107.29	38	77.18	NA	NA
Public sector/not for profit	12	122.50	17	103.65	22	88.20	8	26.19
Private sector (employer)	33	95.68	33	109.15	31	111.27	23	42.83
Private sector (training/education specialist)	105	94.70	110	93.27	113	111.39	50	42.53
Total	188	NA	198	NA	204	NA	81	NA
Asymptotic significance	NA	0.202	NA	0.387	NA	0.005	NA	0.132

**5.2.7** The Kruskal-Wallis test calculates the mean ranks of cases by the broad categories. If all cases are distributed equally across the range when ranked from lowest to highest, then the mean ranks will be equal. If cases belonging to a certain category are clustered at the low or high end of the range, then that category may exhibit a different distribution from the other categories in terms of quality and performance.

**5.2.8** In Table 6 it can be seen that in framework success rates, public sector/not for profit providers appear to have higher levels of success than other categories. However, the significance level is given as 0.202 or 20.2%. This means that it is only possible to say that public sector/not for profit providers are likely to have higher success rates 4 times out of 5. Statistically this is not significant, and therefore it is concluded that there is no difference amongst provider types in terms of learners who complete all requirements of their modern apprenticeship framework.

**5.2.9** The analysis of provider type by NVQ achievement rates, proportions of learners who meet all the requirements of their modern apprenticeship, and inspection grades, also leads us to the same conclusion that no one type of provider has higher NVQ achievement rates, or a higher proportion of learners who complete modern apprenticeships successfully, than another.

**5.2.10** However, the Kruskal-Wallis test result is significant for Performance Review (0.005 or significance above 99%). Table 6 shows that there is a clear difference in the mean ranks of FE colleges and public sector/not for profit providers, and private sector providers. The mean rank of private sector providers is higher than the other categories and therefore (bearing in mind that the ranks are from numerically lowest to highest) this implies that private sector providers have lower performance grades.

## 5.3 Provider size

**5.3.1** Findings from the study of relevant literature suggest that the largest and smallest providers performed better and had higher achievement rates than medium-sized providers (with between 50 and 500 learners).

Table 7 Relationship between provider size and quality and performance

Provider Size (Average in-learning, April 2001 to July 2002)	Framework completion rate		Framework completion/NVQ rate		Performance review assessment		Inspection grade (highest)	
	No of cases	Mean Rank	No of cases	Mean Rank	No of cases	Mean Rank	No of cases	Mean Rank
<50 learners	77	94.81	82	94.04	89	107.18	43	41.49
50-249 learners	92	93.59	97	102.58	97	98.86	32	39.92
250-499 learners	17	99.76	17	111.32	17	98.76	5	42.20
500+ learners	2	80.00	2	73.50	1	103.00	1	48.50
Total	188	NA	198	NA	204	NA	81	NA
Asymptotic Significance	NA	0.954	NA	0.539	NA	0.778	NA	0.973

The evidence from West Midlands providers neither supports nor undermines this observation. Table 7 shows the relationship between provider size (based on the average number in-learning from April 2001 to July 2002) and quality and performance.

**5.3.2** Initial observations from Table 7 might suggest that medium sized providers (50 to 500) actually have better performance grades and higher achievement rates. However, the significance levels associated with this analysis are very low, and it is concluded that there is no correlation between the size of the provider and the quality of education and training offered and also the provider's performance in terms of achievement rates.

## 5.4 Curriculum area of learning

**5.4.1** Analysis was carried out to discover whether or not performance and the quality of provision were better in particular curriculum areas, for example engineering. Since some providers did not offer training in certain curriculum areas, it was necessary to calculate success rates for learners in each curriculum area offered by each provider.

**5.4.2** Figure 2 and Table 8 show the results of this analysis. Table 8 shows that no significant difference in performance review assessment and inspection grades can be found from one curriculum area to another, but that some areas have higher success rates than others. Figure 2 aims to aid the interpretation of these results.

**5.4.3** Figure 2 shows achievement rates are higher in engineering, technology and manufacturing; business administration, management and professional; and hairdressing and beauty therapy than other curriculum areas. The reason for this remains unexplained and it is unclear whether or not these achievement rates are attributable to other factors, for example, type of learner.

Figure 2 Relationship between curriculum area of learning and performance

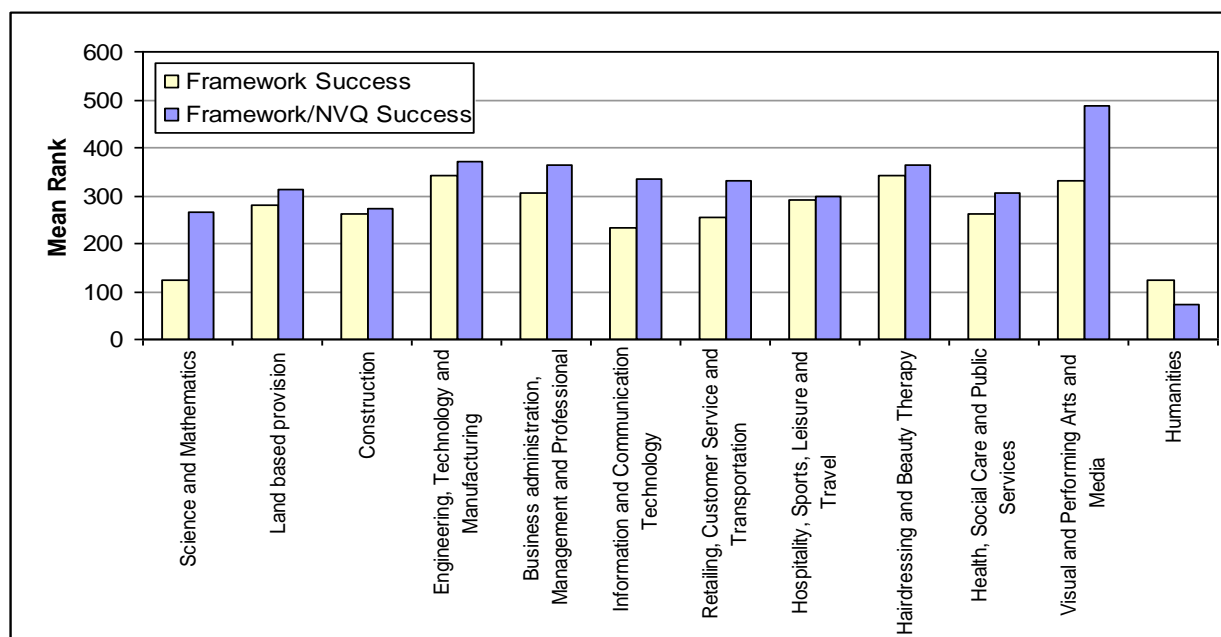


Table 8 Relationship between curriculum area of learning and quality and performance

Curriculum area of Learning	Framework completion rate		Framework completion /NVQ achievement rate		Performance review assessment		Inspection grade (highest)	
	No of cases	Mean Rank	No of cases	Mean Rank	No of cases	Mean Rank	No of cases	Mean Rank
Science and mathematics	2	124.50	5	266.60	9	369.44	3	122.50
Land- based provision	18	281.78	29	311.45	29	323.79	6	107.83
Construction	41	260.01	51	272.02	54	351.60	16	122.06
Engineering, technology and manufacturing	78	342.39	92	371.34	92	355.60	29	104.57
Business administration, management and professional	109	307.19	115	364.23	119	345.88	34	99.47
Information and communication technology	51	234.17	65	334.99	74	347.47	21	106.17
Retailing, customer service and transportation	102	253.07	117	329.71	120	365.13	42	99.29
Hospitality, sports, leisure and Travel	53	289.41	66	297.14	68	343.77	21	93.17
Hairdressing and beauty therapy	43	343.37	45	364.93	44	320.47	12	118.50
Health, social care and public services	64	260.13	71	305.85	72	354.47	17	99.03

Visual and performing arts and Media	11	331.64	13	486.65	17	351.29	4	88.75
Humanities	1	124.50	1	72.00	1	574.50	1	122.50
<b>Total</b>	<b>573</b>	<b>NA</b>	<b>670</b>	<b>NA</b>	<b>699</b>	<b>NA</b>	<b>206</b>	<b>NA</b>
<b>Asymptotic significance</b>	<b>NA</b>	<b>0.000</b>	<b>NA</b>	<b>0.004</b>	<b>NA</b>	<b>0.968</b>	<b>NA</b>	<b>0.916</b>

## 5.5 Characteristics of learners

**5.5.1** The Kruskal-Wallis test is available for the comparison of categories. However, in considering differences arising from learner characteristics it is necessary to use continuous variables (for example, using the proportion of female learners rather than a discrete variable of simply male and/or female learners). Relationships between learner characteristics and quality and performance were therefore investigated using the  $r$  and  $r^2$  test statistics. The size of the sample should be taken into account when looking at these findings.

Table 9 Relationship between learner characteristics and quality and performance

Learner characteristics of providers	Framework rate		Framework/NVQ rate		PR assessment		ALI grade (best)	
	R <sup>8</sup>	R <sup>29</sup>	R	R <sup>2</sup>	R	R <sup>2</sup>	R	R <sup>2</sup>
% female	0.085	0.007	0.085	0.007	-0.070	0.005	-0.162	0.026
% white	0.019	0.000	0.126	0.016	-0.073	0.005	-0.035	0.001
% disabled	0.060	0.004	-0.046	0.002	-0.121	0.015	-0.118	0.014
% special training needs	-0.120	0.014	-0.216	0.047	0.079	0.006	0.032	0.001
% employed at start	0.099	0.001	0.149	0.022	0.023	0.001	0.210	0.044
% employed on leaving	0.212	0.010	0.241	0.058	-0.039	0.002	0.144	0.021
Number of cases	188	188	198	198	195	195	81	81

**5.5.2** Table 9 shows the results of analysing quality and performance measures against learner characteristics. This is based upon a calculation of the proportion of learners with specific characteristics attending a provider and an analysis of any relationship between these characteristics and the provider's performance.

**5.5.3** The results are not conclusive. However, it is feasible to consider whether differences arise at the learner level in terms of performance, through the use of the Chi-square test. By considering all learners identified at providers in the West Midlands, the Chi-square test can be used to identify if learners with certain characteristics are more likely to achieve an NVQ or meet all the requirements of their apprenticeship framework.

<sup>8</sup>  $r$  (Pearson Product Moment Correlation Coefficient) identifies the direction of the relationship. Values above 0 indicate positive relationships, whilst values below 0 indicate negative relationships. 0 indicates no relationship

<sup>9</sup>  $r^2$  (Coefficient of Determination) identifies the amount of the dependent variable explained by the independent variable. Significant relationships occur at  $r^2$  values above 0.95

**5.5.4** The Chi-square test calculates an expected profile across learner characteristics and then compares the actual profile to this. Where there is significant deviation from the expected profile the chi-square statistic will be high.

Table 10 Chi-square test for learner characteristics compared with performance

Learner characteristics	Learner meets all the requirements of the apprenticeship framework			Learner meets all the requirements of the apprenticeship framework or achieves an NVQ		
	Chi-square	Asymptotic Significance	Fisher's Exact Test <sup>10</sup>	Chi-square	Asymptotic Significance	Fisher's Exact Test
Learner is female	25.61	0.0	0.0	22.162	0.0	0.0
Learner is of white ethnicity	14.50	0.0	0.0	88.874	0.0	0.0
Learner is disabled	4.712	0.03	0.034	2.440	0.118	0.126
Learner has special training needs	21.977	0.0	NA	154.70	0.0	NA
Learner is employed at start	0.014	0.904	0.912	94.836	0.0	0.0
Learner is employed on leaving	237.496	0.0	0.0	655.90	0.0	0.0
Learner is from a deprived area <sup>11</sup>	0.026	0.873	0.881	1.651	0.199	0.209
Number of cases	13,257	NA	NA	19,561	NA	NA

**5.5.5** In Table 10 above it can be seen that learners with certain characteristics are more likely to succeed.. Where the significance is 0.0 this identifies highly significant relationships. The following observations of the data were made:

- gender - male learners are more likely to meet all the requirements of the modern apprenticeship framework or achieve an NVQ
- ethnicity - learners of white ethnic origin are more likely to meet all the requirements of the modern apprenticeship framework or achieve an NVQ
- special training needs - learners with special training needs are less likely to meet all the requirements of the modern apprenticeship framework or achieve an NVQ
- employed on leaving - learners who meet all the requirements of their modern apprenticeship framework or obtain an NVQ are more likely to be employed on leaving
- employed at start of training - learners employed at the start of training are more likely to achieve an NVQ and meet all the requirements of their modern apprenticeship framework
- deprived areas - there is no evidence to suggest that learners from deprived areas perform better or worse than learners from other areas.

<sup>10</sup> Fisher's exact test is a test for independence that determines the exact probability of obtaining the observed results in 2 x 2 tables (or where the compared variables have two possible outcomes)

<sup>11</sup> Learner's home postcode is located in an area of high deprivation, based on the Learning and Skills Council's definition of deprived areas for 2002/2003

## 5.6 Type and level of qualification

**5.6.1** Analysis was carried out to ascertain whether there was any correlation between level and type of qualification pursued, and quality and performance. Initially,  $r$  and  $r^2$  values were calculated between the characteristics of providers and their success rates (shown at Table 11). Two Chi-square tests were then calculated to confirm the observations from Table 11. The results of the Chi-square tests are shown in Table 20 and Table 21 at Annex A. The results of the coefficients of determination and the Chi-square tests indicate that there is dependence between success rates and the type and level of qualification offered by providers.

**5.6.2** The following conclusions were drawn:

- type of qualification: providers who primarily offer advanced modern apprenticeship training have comparatively higher achievement rates. Providers who primarily offer training leading to NVQs have comparatively low achievement rates
- level of qualification: providers who primarily offer training leading to level 3 qualifications are more likely to have comparatively higher completion rates. Providers that primarily offer training leading to qualifications at level 1 are more likely to have comparatively lower completion rates.

Table 11 Relationship between provider characteristics and quality and performance

Type and level of qualification offered by provider	Framework completion rate		Framework completion/NVQ rate		Performance review assessment		Inspection grade (highest)	
	R	R <sup>2</sup>	R	R <sup>2</sup>	R	R <sup>2</sup>	R	R <sup>2</sup>
% AMA	0.327	0.107	0.307	0.094	-0.161	0.026	-0.119	0.014
% FMA	-0.230	0.053	-0.122	0.015	0.135	0.018	0.163	0.027
% NVQ	-0.122	0.015	-0.190	0.036	0.146	0.021	0.094	0.009
% Lifeskills	-0.077	0.006	-0.083	0.007	-0.109	0.012	-0.132	0.017
% Preparatory Learning	-0.037	0.001	0.107	0.011	-0.091	0.008	-0.094	0.009
% Level 1	-0.075	0.006	-0.157	0.025	-0.061	0.002	-0.090	0.008
% Level 2	-0.261	0.068	-0.199	0.040	0.211	0.004	0.212	0.045
% Level 3	0.316	0.100	0.308	0.095	-0.156	0.024	-0.125	0.016
Total	188	188	198	198	195	195	81	81

## 5.7 Analysis of dependent variables

**5.7.1** Analysis was also undertaken to find out whether there was any correlation between the dependent variables. For example, did providers with high success rates also achieve high inspection grades?

**5.7.2** Table 16 in Annex A presents the Chi-square test results for dependent variables. It shows that there is a close correlation between inspection grades and performance review assessments.

**5.7.3** The number of cases available for the Chi-square tests are limited (a minimum of 5 cases per cell are required, and this was often not achieved). Whilst the results do indicate that



the dependent variables are not independent of each other, the test statistics need to be treated with caution.

### 5.8 Conclusion

**5.8.1** Analysis of the data has not shown that provider type is a significant factor affecting quality and performance.

**5.8.2** The analysis by provider type and type of learner has identified some emerging relationships, particularly in the public sector/not for profit type, but whilst there are some significant relationships they are not consistent across different measures of quality and performance and so at this stage it is not clear whether the relationships are coincidental and arising from insufficient variation and sample size, or indicative of a causal link.

**5.8.3** The overall lack of significant relationships evident in this analysis could be explained as:

- Insufficient variation of the independent variables. By looking at the frequencies of the independent variables by provider type it is observed that the independent variables are dominated by certain categories, generally most learners are white male and not disabled. This means that there is insufficient variation in the data for a clear relationship to be distinguished.
- Insufficient variation of the dependent variables. Previous reports have considered the frequencies of the independent variables and it has been observed that the success rate-dependent variables have large skews in the data meaning that data is clustered around specific values. Likewise inspection grades and performance review assessments only cover small ranges and cases. The result is that the lack of range and variation in the dependent variables reduces the ability to discern a statistical relationship with the independent variables.
- Other factors may account for the variation in the dependent variables that have not been investigated. It is plausible that other independent variables could be tested, such as age at start of programme.

**5.8.4** There are certain difficulties in using management information to identify factors that affect quality and performance at the provider level. Management information records only particular characteristics, all of which can be quantified. Management information cannot capture qualitative information, such as teaching style and facilities. It is therefore not unexpected that weak relations between inspection grades/performance review assessments and quantitative information exist.

**5.8.5** However those results which appear to have some significance can be summarised as follows:

- male learners are more likely to achieve an NVQ or meet all the requirements of their modern apprenticeship framework
- learners of white ethnic origin are more likely to achieve an NVQ or meet all the requirements of their modern apprenticeship framework than learners of other ethnic origin
- achievement rates and the proportions of learners who meet all the requirements of their modern apprenticeship framework are usually higher on engineering, technology and

## Internal report

manufacturing; business administration, management and professional; and hairdressing and beauty therapy programmes

- learners who meet all the requirements of their modern apprenticeship framework and/or obtain an NVQ are more likely to be employed on leaving
- providers who offer primarily advanced modern apprenticeship training or training leading to level 3 qualifications usually have higher achievement rates
- there is no correlation between provider type and achievement rates
- learners with special training needs are less likely to achieve an NVQ or meet all the requirements of their modern apprenticeship framework.

**5.8.6** These results suggest that learner characteristics are a factor affecting quality and performance (see also the scatter graphs in Annex C relating to public sector/not for profit providers).

**5.8.7** The observation of significant relationships between some learner characteristics and performance in the Chi-square tests suggests that a regression model based on such characteristics could be produced to predict how well learners will do.

**5.8.8** This report identifies that quantitative information alone cannot be used to identify those providers most likely to demonstrate better quality and performance.

## 6 Views of the people interviewed

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### 6.1 Introduction

**6.1.1** This section reports on interviews conducted with people involved in work-based learning including providers and representatives from local LSCs. These interviews took place after the statistical analyses had been carried out. At the interviews, the findings from these analyses were discussed and the views of the interviewees were sought on what factors affected quality and performance in work-based learning.

**6.1.2** Twenty people were interviewed. Of these:

- seven were representatives from the six local LSCs in the West Midlands and the NCS.
- two were representatives from the LSC National Office.
- two were ALI Inspectors with experience of inspection of work-based learning provision.
- two were representatives from national provider organisations.
- seven were from providers in the West Midlands.

### 6.2 Factors affecting quality and performance

**6.2.1** Those interviewed were asked for their views on the extent to which the main structural and non-structural factors, identified through the study of relevant literature, affected quality and performance in work-based learning.

**6.2.2** These factors had been subjected to statistical analysis and were as follows:

#### **Structural**

- type of provider
- size of provider
- occupational/industrial sector
- characteristics of learners
- type and level of qualification.

#### **Non-structural**

- management and leadership
- quality assurance systems
- learner recruitment and induction processes
- planning and implementation of learning
- learner support
- employer engagement.

**6.2.3** Those interviewed were asked if they could identify any additional structural or non-structural factors which might affect quality and performance in work-based learning.

### **6.3 Type of provider**

**6.3.1** Providers were categorised by type as follows:

- FE college
- employer
- private sector provider
- VCS provider
- local authority.

**6.3.2** Most of the discussion with those interviewed centred on the extent to which provider type, more than any other factor, can affect quality and performance. Interviewees felt that no one type of provider was better than another and that all had strengths and weaknesses. For instance, it was thought that many employers had strengths in the areas of management, learner recruitment and induction, and employer engagement, but these had to be set against weaknesses in quality assurance and learner support. There was also some lack of agreement on whether all providers of a particular type shared the same strengths. For example, some interviewees thought VCS providers had good quality assurance systems but others did not. Few interviewees commented on local authorities.

**6.3.3** Most interviewees said that good management and effective leadership were the key factors affecting quality and performance. Where leadership and management were good, it usually followed that all other aspects of provision, such as quality assurance systems, the quality of the learning programme, employer engagement, were good as well.

**6.3.4** The main points emerging from the discussions about provider type were as follows:

- FE Colleges - these were considered to have good management systems. College staff had substantial experience of teaching and training and were well qualified. Some interviewees made the point that in some colleges, work-based learning is only a small part of what the college offers and is not accorded parity of esteem with other mainstream provision. Interviewees also suggested that FE colleges did not always focus on customers' needs adequately and did not organise programmes flexibly to meet these.
- employers – learners and their training are managed effectively but it was thought that employers have a vested interest in managing their learners effectively because they are their employees and also their future skilled staff. Employers were thought to have well-qualified staff. On a negative side, interviewees said that learning was not necessarily seen as a key business area for employers, and consequently they might not always accord it sufficient priority
- private sector providers – for many private sector providers, training was their core business and it was in their interests to ensure it was carried out well. It was thought, however, that some private sector providers did not have enough qualified staff.

## Internal report

- VCS providers - views on VCS providers varied considerably. Some VCS providers were considered to be highly committed to meeting the needs of their learners but lacked sufficient management experience and appropriately qualified staff.

### 6.3.5 Questions about some non-structural factors provoked a range of responses:

- Quality assurance - FE Colleges were viewed as having good and well-established quality assurance procedures. They were also considered to be experienced in preparing themselves for inspection. In contrast, it was thought that both private sector and VCS providers did not have formal quality assurance systems.
- Recruitment and induction- interviewees felt that employers who were providers carried out recruitment and induction well, mainly because they were recruiting their own employees. Both private sector and VCS providers were thought to carry out recruitment and induction flexibly and focus on the learners' needs. Some private sector, VCS providers, and FE colleges however, relied on other organisations to recruit their learners and this was thought to be a potential weakness. Where FE colleges recruited their own work-based learners, it was felt that they did not necessarily take the needs of the learners sufficiently into account. Some interviewees considered, for example, that recruitment procedures in FE colleges were insufficiently flexible, and suited learners who joined at the beginning of the academic year, but not those who needed to start at other times.
- Learner support - FE colleges, private sector and VCS providers were considered to offer learners good support but it was thought some employers who were providers lacked commitment to offering learners sufficient support.
- Employer engagement – it was thought that FE Colleges have good links with employers. VCS providers, however, often work with young people, who may be hard to help and these providers can find it difficult to engage employers.

## 6.4 Size of provider

6.4.1 Some interviewees felt that the group training model, and sub-contracting chain, were beneficial to quality and performance.<sup>12</sup>

6.4.2 It was felt that there was no optimum size for a provider. Larger organisations were considered to benefit from economies of scale and to have more systematic quality assurance and management processes, but it was also felt that central management might be too remote from the learner and employer and therefore less responsive to their needs.

6.4.3 The following points were made by interviewees in discussion about whether or not the size of the provider is a factor affecting quality and performance:

- there were doubts whether the management of some larger providers, and especially those which are part of a national organisation, is totally committed to meeting the needs of learners. Large providers are usually able to make more resources available to managers, but priority may be given to meeting business needs rather than those of the learner.

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<sup>12</sup> The group training model is one where employers (usually SMEs) band together to form their own training company.

## Internal report

- management in smaller providers is thought to be close to the learners and committed to meeting their needs. It was felt, however, that some smaller providers did not have enough management resources. Group training providers were seen as being responsive to the needs of their members. The quality of management of subcontracted provision varies significantly.
- larger providers and providers that are part of a national organisation, were thought to be comparatively well resourced, have good quality assurance and effective recruitment and induction systems. Although smaller providers were committed to carrying out quality assurance, they often lacked the resources to do so.
- smaller providers were also seen as having good and flexible recruitment and induction systems, but these were not always adequately resourced.
- smaller providers were thought to provide flexible learning programmes which met the learners' needs. On the other hand, some small providers may not be able to cover all requisite aspects of the learning programme. For example, they may not be able to provide training in key skills.
- it was thought that providers which were in a subcontracting chain had less control over the implementation of the learning programme. Providers can, however, shop around for the best suppliers.

## 6.5 Occupational/industrial sector

**6.5.1** Table 1 showed that across the country as a whole, the proportion of inspection grades 1 and 2 awarded in a particular curriculum/occupational area varied from 26.3% for engineering, technology and manufacturing to 6.4% for retailing, customer service and transportation.

**6.5.2** There is a general perception that the engineering industry enjoys certain advantages. These were thought to be:

- a well-established four-year apprenticeship scheme
- substantial involvement of employers in training
- well-qualified and highly motivated learners
- employed status for learners
- low staff turnover.

**6.5.3** There is, however, considerable variation in the inspection grades awarded within a curriculum area. For instance, although 26.3% of inspection grades awarded for engineering, technology and manufacturing were 1 and 2, 29.3% of grades were 4 or 5.

**6.5.4** The following factors relating to occupational/industrial sector were considered to have an effect upon performance and quality:

- well-established tradition of training in a sector – it is a widely held view that work-based learning is good in areas such as, engineering, construction, hairdressing and business administration, which have a history of apprenticeship or other training for 16-19 year olds. This view, however, is not necessarily backed up by the data. The highest proportion of

## Internal report

inspection grades 4 or 5 was given in the area of construction, whilst the lowest proportion (only six) was given in the area of performance and visual arts where there is not a well-established tradition of work-based training.

- status and qualifications of learners on entry - it was thought learners in engineering were better qualified on entry than those in other areas, such as care or retail. It was regarded as an advantage that a large proportion of learners in engineering had employed status. It was also believed that learners in engineering were well motivated because they often had to compete to secure a place on a training programme. Better qualified learners were also seen as requiring less learner support and less assistance with key skills units.
- labour market conditions - the hospitality sector was seen by several interviewees to be relatively disadvantaged mainly because of the high turnover of staff (and, by implication, learners). Learners may leave their employer (and learning provider) to take up the offer of better paid employment elsewhere with a consequent adverse effect on retention rates (and in turn, on inspection grades and performance review assessments).
- employer commitment to training- commitment by employers to training is perceived to be less in sectors such as care and hospitality partly because of high turnover of staff.

**6.5.5.** Although there is a generally held view that quality and performance are best in engineering, high inspection grades and good performance review assessments are given in other occupational and industrial areas. It proved difficult through the statistical analysis in this study to analyse quality and performance by sector with confidence because of the low numbers of learners and providers in each curriculum area. Further rigorous analysis of data is needed in order to ascertain the extent to which industrial/occupational sector is a significant factor in affecting quality and performance. There is scope for benchmarking quality and performance across different providers within the same sector.

## 6.6 Learner characteristics

**6.6.1** Learner characteristics are seen to impact on quality and performance for the following reasons:

- disaffected and disengaged young people are more likely to have fewer qualifications. Findings of the Youth Cohort Study<sup>13</sup> show that more than half of those who achieved at least one General Certificate of Secondary Education (GCSE) at grades A\*-C had achieved a level 3 qualification at age 18 compared with only 31% of those with GCSEs below C. Learners who are comparatively well qualified on entry are more likely to achieve the qualification they are aiming for and meet all the requirements of their modern apprenticeship framework.
- it is thought that disaffected and disengaged young people require more learning support and therefore more resources need to be devoted to this aspect of provision. On the other hand, it is recognised that provision of good learning support can help to raise retention rates.

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<sup>13</sup> 'Youth Cohort Study: The activities and experiences of 18 year olds: England and Wales 2002'; DfES Statistical First Release SFR 05/2003, February 2003.

- disaffected and disengaged young people may face barriers to learning and are more likely to leave before completing their programme. It is therefore essential that they are given effective advice and guidance.

**6.6.2** Inspectors interviewed felt that the characteristics of learners are taken into account in awarding grades. There is, however, a generally held view that inspection grading is heavily influenced by the proportion of learners who meet all the requirements of their modern apprenticeship framework. The proportion of disadvantaged and disaffected learners who meet all the requirements of their apprenticeship framework is often low. The statistical analysis undertaken as part of this study, however, does not show any clear relationship between learners' characteristics and quality and performance.

## **6.7 Type and level of qualification**

**6.7.1** The type and level of qualification were not thought to be a significant factor affecting quality and performance. For example, where quality and performance were poor on programmes below level 2, this was thought to be more to do with the characteristics of the learners. Where quality and performance were poor on programmes above level 2, this was thought to be more to do with the nature of the industrial/occupational sector. For example, the learners might be able to find well-paid employment without meeting all the requirements of their modern apprenticeship framework.

## **6.8 Other characteristics**

**6.8.1** It was felt that funding would affect quality and performance in work-based learning. Some modern apprenticeship programmes receive higher pro rata funding because they required more capital equipment. Some interviewees believed this additional funding led to better quality and performance.

## **6.9 The most important factors affecting quality and performance**

**6.9.1** Most interviewees believed that management and leadership constituted the most critical factor affecting quality and performance. If management and leadership were first-class then other factors affecting quality and performance such as quality assurance procedures, learner support, and employer engagement would also be first-rate.

## **6.10 Definitions and measurement of quality**

**6.10.1** Interviewees were asked how any definition of quality should take account of the structural aspects of work-based learning and how quality should be measured.

**6.10.2** Interviewees did not provide a definition of quality that took into account structural factors because few believed that structural factors affected quality and performance. Virtually all those interviewed felt that current definitions of quality were, far too narrow or failed to take account of certain important considerations. As one interviewee said:



## Internal report

“Quality is in the eye of the beholder and is driven by what the Government wants. The Government wants achievement, so ALI grades are based on achievement, so achievement is paramount.”

**6.10.3** Virtually all interviewees wanted to broaden the definition of quality to take account of one or more of the following:

- distance travelled – many respondents felt that a definition and measurement of quality should take into account the extent of a learner’s achievement and distance travelled. It could be argued that the extent of achievement by a learner with only one GCSE at grade C or above who completes a modern apprenticeship successfully, is greater than that of someone with 5 GCSEs at grade C or above who also meets all the requirements of the apprenticeship framework. Many interviewees felt that definitions of quality and performance should reflect the distance travelled by learners in terms of the extent of their achievement
- acquisition of units – many interviewees believed that at present, quality and performance were measured in terms of learners’ achievement of full qualifications. The view was held that insufficient credit is given to learners who complete units and modules towards partial achievement of a qualification. The completion of modules or units by learners with few or no qualifications on entry may represent a great achievement for them but current definitions or measures of quality and performance do not take account of such learners’ success. The LSC National Office is addressing this whole issue. Interviewees also felt that recognition of partial achievement of qualifications was particularly important in those areas where learners completed enough modules or units to enable them to leave and take up a skilled job. At present, when such learners leave the programme, their success is not necessarily recognised.

**6.10.4** The inflexibility of the modern apprenticeship programme was raised by several interviewees. They pointed out that learners have to meet every requirement of their modern apprenticeship framework even though parts of it are not relevant to the particular employer sponsoring them. As one respondent said:

*“In care, the average programme lasts for two years but people tend to stay in jobs for only six months so it should be possible for learners to build up units and modules and take them with them. This was one of the original ideas behind NVQs but they are not as transportable as they could be”.*

**6.10.5** Some interviewees observed that if a learner failed one out of a programme of three General Certificate of Education advanced level (GCE A level) subjects, their passes in the other two subjects would still be taken account of in performance measures, whereas no credit is given for a learner who meets some, but not all, the requirements of the modern apprenticeship framework. The LSC National Office is addressing this issue.

**6.10.6** Some interviewees would also like other factors to be taken into account, such as how many NEETs (young people not in education, employment or training) they are working with, provision of programmes to reduce criminal and other anti-social behaviour, and their effectiveness in meeting targets for broadening participation. Although some of these factors are taken into account in inspections and performance reviews, the general feeling is that they are

## Internal report

accorded insufficient significance compared with the importance placed upon the proportions of learners who meet all the requirements of their apprenticeship framework.

**6.10.7** The imperative for providers to ensure that learners meet all the requirements of their modern apprenticeship framework was seen to limit innovation in the sector, particularly in respect of working with disadvantaged and disaffected young people. Such learners were unlikely to be able to meet all the requirements of an apprenticeship framework. They could perhaps achieve some units that would improve their employability, give them partial qualifications, and make them want to go on learning. Some interviewees called for a system to track and record all the longer-term benefits learners might gain without necessarily meeting all the requirements of their apprenticeship framework.

**6.10.8** Interviewees also commented on the following:

- Learner satisfaction- many of those interviewed felt that the satisfaction of learners should carry greater weight when assessing quality and performance. Learners' satisfaction could be expressed through satisfaction surveys and responses to questionnaires, but it could also be inferred from the distance learners have travelled by their achievements. The extent to which learners meet the targets specified in their individual learning plans should be measured. The National Learner Satisfaction Survey found that most learners were satisfied with their learning experience.
- Employer satisfaction – some felt that a definition and measure of quality should be whether the learner is 'fit for purpose' and a key measure would be the extent to which employers felt their needs had been met. Interviewees made the point that many employers are heavily involved in designing modern apprenticeship programmes within their particular sectors and the extent of individual employers' satisfaction should be an important measure of quality and performance.
- The need for broader measures of quality and performance – many interviewees felt that inspection grades and performance review assessments were too heavily influenced by the proportions of learners who meet all the requirements of their modern apprenticeship framework. During both inspections and performance reviews, a wide range of information about the quality and performance of providers is collected through, for example, lesson observations, discussions about staff development and interviews with learners and that the findings from these activities should be given greater weight when it comes to grading providers. The statistical analysis has shown that there is a correlation between the different measures of quality and performance (see Section 5).

**6.10.9** Some of these changes desired by interviewees are explored in Annex E of LSC Circular 03/02 *Success for All : Implementation of the Framework for Quality and Success for Providers of Work-Based Learning*. There is a discussion of the development of future measures of success relating to, for instance, learners' destinations, learner satisfaction, progression and the value added to learners' achievements (distance travelled).

## 6.11 Conclusion

**6.11.1** Most respondents felt that the influence of structural factors on quality and performance was not as significant as that of some non-structural factors, especially management and

leadership. Of the structural factors, most interviewees felt that type of provider and industrial/occupational sector were those most likely to affect quality and performance. In practice, however, quality and performance across providers in the same sector were often as variable as the quality and performance of providers in different sectors. Some providers were good and some were poor, irrespective of size, occupational/industrial sector and whether or not they were part of a national organisation or an employer.

**6.11.2** Virtually all those interviewed felt that inspection grades and performance review assessments were biased too heavily in favour of those providers with high proportions of learners who met all the requirements of their modern apprenticeship framework. Statistical analysis supports such an assertion.

**6.11.3** Most of those interviewed would like definitions and measurements of quality and performance to take greater account of the extent of learners' achievements (distance travelled), learners' acquisition of units and partial achievement of qualifications, successful outcomes such as the gaining of relevant employment, and learner and employer satisfaction. Some of these desired changes are currently being discussed by the LSC National Office (see Annex E of LSC Circular 03/02 *Success for All: Implementation of the Framework for Quality and Success for Providers of Work Based Learning*).

## 7 Annex A – Methodology and statistical analysis

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### 7.1 Introduction

7.1.1 Data sources for this project included:

- LSC interim individualised learner record (ILR) for work-based learning, covering periods 1 to 16 in 2001/2002 (April 2001 to July 2002)
- LSC performance review data set, based on the Autumn 2002 review
- LSC provider information management system (PIMS)
- ALI inspection grades.

7.1.2 A data set covering provision in the West Midlands area was extracted for all learners who had either completed programmes by, or were continuing their programmes at, 31 July 2002. This included provision at public sector providers, employers (local and national), and training and education specialists.

7.1.3 The information was then matched to the data set of available LSC and ALI inspection grades. This resulted in matched information for over 200 providers. Finally, learners resident in the West Midlands region were extracted (therefore restricting the analysis to contracted provision in the region).

7.1.4 Information from PIMS was expected to provide additional characteristics at the provider level. However, difficulties were experienced in obtaining extracts from PIMS within the desired timescale. Some basic reports for West Midlands providers based on PIMS did not add any further information to that gained from the performance review and ALI data sets.

7.1.5 The difficulties associated with PIMS were attributed to low data quality (high number of duplicate codes) and to low level of resource to make the information available (few people have the capability and access to PIMS to derive customised reports).

### 7.2 Relation to Statistical First Release 25

7.2.1 The analysis supporting this research was carried out in early 2003, during the process of consultation for *Success for All*<sup>14</sup>, and prior to the release of statistical first release 25<sup>15</sup> (ISR/SFR25). The approaches used to calculate success rates based on the interim ILR were guided by draft methods and the need to adopt a methodology that would enable comparison between providers included in the study, rather than to determine sector wide performance measures.

7.2.3 The release of ISR/SFR25 and the completion of the consultation for *Success for All*, have now established agreed approaches to the calculation of success rates, which differ from

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<sup>14</sup> LSC Circular 03/02 *Implementation of the framework for quality and success for work based learning only*, published January 2003

<sup>15</sup> ISR/SFR25 *Further education and work based learning for young people – Learner outcomes in England 2001/02*, published 24 July 2003

## Internal report

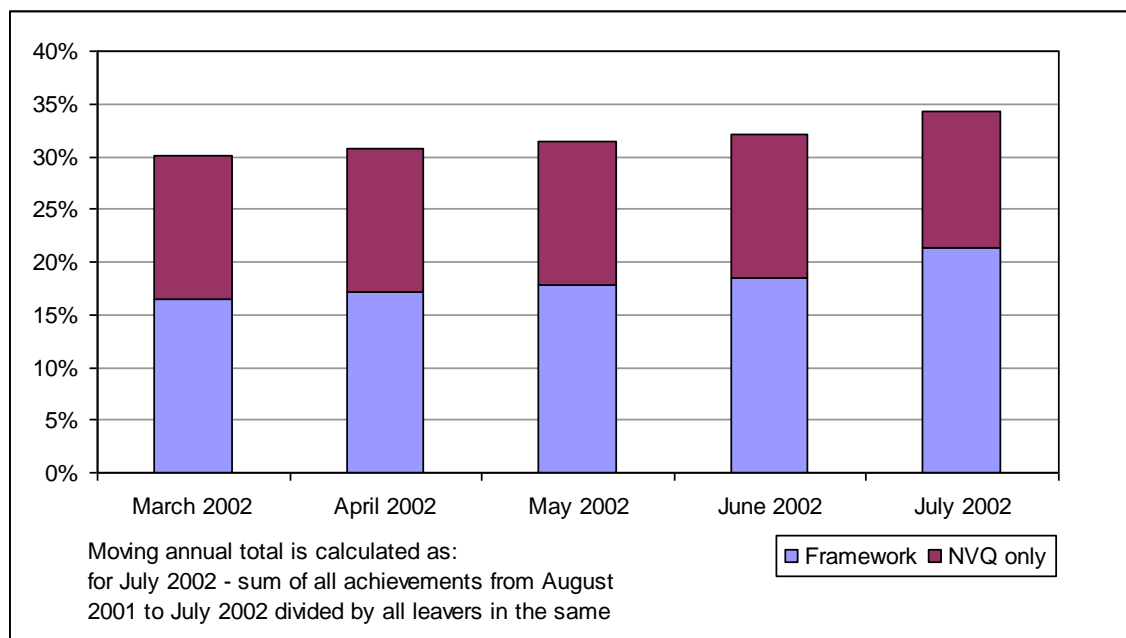
those used in this research. The main difference is that this research uses the full first 16 periods (April 2001 to July 2002) of the interim ILR record, whilst ISR/SFR25 uses the last 12 periods (August 2001 to July 2002).

**7.2.4** In this research the study draws on information relating to provision in the West Midlands. Therefore the findings of this research reflect the geographic and provider type characteristics of the area and should not be directly compared with the national statistics published in ISR/SFR25.

**7.2.5** The use of the 16 period interim ILR has the effect of reducing overall success rates for the study data set. This reduction occurs because the first four periods (April 2001 to July 2001) will be affected by issues of data quality (this was the first ILR for providers) and seasonality (it is expected that this time of the year may exhibit lower rates of success). However, because success rates were reduced, the standard deviation of success rates for the study group was less than the standard deviation calculated for the study group using the last 12 periods.

**7.2.6** Figure 3 shows the gradual rise in success rates for the 12 month period following April 2001. This demonstrates the lower success rates evident at the start of the interim ILR.

Figure 3 Success rates in modern apprenticeships – moving 12 month period for West Midlands providers



**7.2.7** An investigation was carried out to determine if the current approach for calculating success rates based on the last 12 periods of 2001/02 would yield any significant relationships. This investigation found that there was no difference in the conclusions of the research, and that using the 16 period approach actually yielded higher levels of significance.

## 7.3 Methodological issues

**7.3.1** Creating the dataset and its analysis were problematic and there were the following complications in bringing provider information together from the four different datasets:

## Internal report

- providers could have more than one UPIN. Providers operating in different local LSC areas do not necessarily have the same UPIN.
- not every provider had a UPIN on each dataset. The ALI data has an inspection code which then needed to be matched to a UPIN. This was undertaken using the provider's name.

**7.3.2** The quality and performance of providers is measured at different levels depending on the data used:

- ALI data is for the provider as a whole, so if a provider operates across the country, the inspection grades are for the provider at the highest aggregate level. However, data on framework completion and performance review are collected at the local LSC level. Therefore if a provider operates in four different local LSCs in the West Midlands we would have different information for each provider in each local LSC.
- for FE Colleges, the inspection data for curriculum area refers to work-based learning provision, but the grades for generic areas (leadership and management, equal opportunities and quality assurance) are for the college as a whole and therefore have not been used in this analysis.

## 7.4 Data analysis

**7.4.1** The project was concerned with identifying factors closely associated with quality and performance in work-based learning. Four dependent variables were identified to represent quality and performance. A range of independent variables was examined to identify any significant relationships.

**7.4.2** The data was explored in three ways, by:

- obtaining descriptive statistics on the variables
- investigating the statistical associations of dependent and independent variables
- developing a regression model.

**7.4.3** The software package SPSS version 11.5 and Microsoft Access and Excel version 8.0/2000 were used to analyse the data.

**7.4.4** The project initially considered differences in quality and performance between provider types, before investigating any apparent differences associated with different learner demographics.

## 7.5 Dependent variables

**7.5.1** There are two dependent variables in this project, which can be represented in two ways:

- performance - measured by the proportion of learners who meet all the requirements of their apprenticeship framework and NVQ achievement rates.
- quality - measured at the provider level by the highest inspection grades for curriculum areas and by the local LSC performance review overall assessment.

## **7.6 Success Rates**

**7.6.1** Success rate calculations were based on the early approaches devised in *Success for All*. The methodology used in the calculations was based on draft approaches made available in February 2003.

**7.6.1** The success rate calculation takes account of all learners on modern apprenticeship and NVQ programmes who have completed or left their programme during the period of investigation (April 2001 to July 2002). Learners that have completed modern apprenticeships are then compared with all learners who have completed or left modern apprenticeships programmes in order to calculate the modern apprenticeship framework success rate. Learners who have completed modern apprenticeship or NVQ programmes are compared with all learners who have completed or left these programmes in order to calculate the NVQ and modern apprenticeship framework success rate.

**7.6.2** Where a learner has obtained the NVQ on a modern apprenticeship programme, but not the additional training needed to meet all the requirements of the modern apprenticeship framework, the learner will then be counted as a success in the modern apprenticeship framework and NVQ success rate, but would not be included in the modern apprenticeship success rate itself.

## **7.7 Quality**

**7.7.1** Not all inspection grades and performance assessments were used as dependent variables. In a significant proportion of the analysis the highest grade was used, or the overall performance review assessment.

**7.7.2** In statistical associations it should be noted that 1 represents best performance and 5 represents worst performance, therefore in visual and statistical analysis, a relationship opposite to the one for performance is often sought. In other words, when performance increases the numeric value for quality is expected to decrease.

## **7.8 Independent variables**

**7.8.1** The independent variables were initially selected on the basis of their availability in the management information systems. The independent variables reflected both the characteristics of the learner as well as the recruitment pattern of the provider.

**7.8.2** Many of the independent variables were categorical in nature, and more specifically nominal (that is the data is assigned to mutually exclusive categories such as female or male). It was therefore necessary to convert the data into continuous ratio data for the purpose of examining data distributions. For example, rather than considering the impact of female and male categories separately, a percentage is calculated that relates to the percentage of learners that are female.

## **7.9 Descriptive statistics**

**7.9.1** In total, 208 providers were identified, although only 70 providers had information across all four dependent variables. Table 12 shows the total number of cases available for analysis.

Table 12 Number of Cases Available for Analysis

<b>Dependent Variable</b>	<b>Number of Providers with Data (Completed Learners)</b>	<b>Number of Providers with Data (Completed Learners and Still In-Learning)</b>
Framework Success Rate	188	208
Framework and NVQ Success Rate	198	199
ALI Inspection Grade (Best)	81	81
Performance Review assessment (Overall)	205	205
Total Providers Identified	208	208
Number of Providers with all the above data available	70	70

**7.10.1** Five broad provider groups were identified. The case totals per group are shown in Table 13. It was clear that the private sector training/education specialists, who represented over half of all providers in the research, dominated the provider type. This had implications for the research, as the sample size in this group was significantly larger than other groups. Use of statistical techniques to take into account different population sizes would reduce this problem, but it was likely that there was insufficient variation in the data in the other provider types to be able to identify associated factors.

Table 13 Broad Provider Types: Number of providers per dependent variable

<b>Provider Type</b>	<b>Framework Success Rate</b>	<b>Framework and NVQ Success Rate</b>	<b>ALI Inspection Grade (Best)</b>	<b>Performance Review assessment (Overall)</b>
Further Education College	38	38	0	38
Public sector/not for profit	12	17	8	22
Private sector (e.g. employer)	33	33	23	22
Private sector (training/education specialist)	105	110	50	121
HE institution	1	1	0	0

Annex B contains profiles of the independent variables considered in this research. These are based on the characteristics of learners that have either completed learning during 2001/2002, or were still in learning at the end of July 2002. A summary of these tables is provided in Table 14.

Table 14 Summary of Independent Variable Characteristics

<b>Variable</b>	<b>Comment</b>
Disability	There is a high percentage of learners whose disability status is not known for private sector providers
Ethnicity	Over 90% of learners are white
Gender	Private sector providers have an equal distribution of females and males in comparison to other provider types that are dominated by male learners
Level of Programme	Most programmes are at level 2 and level 3, except public sector/not for profit which have a higher proportion of level 1 programmes
Local LSC	Over 97% of learners at non-NCS providers are resident in the West Midlands. For NCS providers, less than 10% of their provision is to learners resident in the West Midlands



Age at Start of Programme	The majority of learners are aged 16 or 17 at the start of their programme. All providers exhibit similar profiles
Employment Status at Start	Near to 70% of learners starting programmes in the private sector or further education were employed. In comparison only 50% of learners were employed at the start of programmes with public sector/not for profit providers
Employment Status at Leaving	Over 60% of learners in the private sector or further education were employed when they left training. In comparison less than 25% of learners were employed when they left training with public sector/not for profit providers
Special Training Need	Up to 20% of learners had special training needs in private sector providers. Public sector/not for profit providers had in excess of 30% of learners with special training needs, whilst further education providers had just over 10% of learners with special training needs
Occupation Sector	Much further education and public sector/not for profit provision is in engineering (26% and 40% respectively). Private sector providers are mainly providing training in business administration
Programme Type	Overall two thirds of programmes are in modern apprenticeships. Public sector/not for profit providers have the highest proportion of learners in Life Skills (17%)

Table 15 shows the results of descriptive statistics on the dependent variables (comprising minimum, mean, maximum and skewness). This shows that the majority of dependent variables have significant variation from the normal distribution. This necessitated the use of non-parametric tests for investigating statistical associations.

Annex B contains profiles of the independent variables considered in this research. These are based on the characteristics of learners that have either completed learning during 2001/2002, or were still in learning at the end of July 2002.

Table 15 Dependent Variable Statistics by Provider Type

Provider Type	Number of Cases	Min.	Max.	Median	Standard Deviation	Skew.
<b>Further Education</b>						
<sup>16</sup> Framework Success Rate	38	0	67%	11%	15%	1.5
Framework and NVQ Success Rate	38	10%	81%	31%	28%	0.8
ALI Inspection Grade (highest)	-	-	-	-	-	-
Performance Review assessment (Overall)	38	5	1	2	0.85	0.8
Provider Type	Number of Cases	Min.	Max.	Median	Standard Deviation	Skew.

<sup>16</sup> The term 'framework' in these tables refers to the modern apprenticeship framework which stipulates requirements learners must meet in order to complete their apprenticeship successfully.

<b>Public sector/not for profit</b>						
Framework Success Rate	12	0	100%	27%	31%	1
Framework and NVQ Success Rate	12	0	100%	39%	28%	0.6
ALI Inspection Grade (highest)	8	4	1	2	0.89	1.0
Performance Review assessment (Overall)	22	4	1	3	0.81	-0.1
<b>Private sector (e.g. employer)</b>						
Framework Success Rate	33	0	100%	20%	30%	1.5
Framework and NVQ Success Rate	33	0	100%	30%	32%	0.7
ALI Inspection Grade (highest)	23	4	2	3	0.81	0.3
Performance Review assessment (Overall)	31	5	1	3	1.11	0.1
<b>Private sector (education/training specialist)</b>						
Framework Success Rate	105	0	80%	16%	17%	1.1
Framework and NVQ Success Rate	105	0	80%	28%	19%	0.5
ALI Inspection Grade (highest)	50	4	1	3	0.75	-0.3
Performance Review assessment (Overall)	113	5	1	3	1.00	-0.1

Information on the distribution of the dependent variables by provider type is shown at Table 15. This table shows:

- Number of cases. Count of all providers where information is available.
- Minimum. The minimum value of the dependent variable.
- Maximum. The maximum value of the dependent variable.
- Median. The middle value of the data when ranked in order.
- Standard Deviation. This provides an indication of the dispersion of the variable about the mean. The larger the value the more dispersed the data.
- Skewness. This provides an indication of whether the dependent variable displays a normal distribution, or is weighted to one extreme. A value of 0 indicates normal distribution. The sign indicates the direction of the skewness, and the greater the value indicates the more skewed the data is.

## 7.11 Statistical Associations

7.11.1 Three forms of statistical association were investigated using SPSS and Microsoft Excel:

- Chi-square to test that measured variables are independent.
- Pearson product moment correlation coefficient (r) and the coefficient of determination (r<sup>2</sup>) to measure the linear relationship and strength of relationship of two variables.
- Mann-Whitney U test/Kruskal-Wallis tests to determine if there are differences in variable means.

## 7.12 Chi-square

7.12.1 It was hypothesised that measures of quality and performance would be related. A means of testing this was to calculate the Chi-square for combinations of the dependent variables. This would test to see if the variables were independent of each other.

7.12.2 Table 16 shows the Chi-square test results for dependent variables. The cells of the table show the Chi-square test result and the level of significance expressed as a percentage. High significance is represented by values close to, or at, 0%. If there is a high significance then the null hypothesis that the variables are independent can be rejected.

7.12.3 The Chi-square test does not produce significant results for comparison of success rates to inspection grades. This is because success rates are expressed on a ratio scale, and the combination of success rates against grades is not meaningful for the Chi-square test. Instead success rates are banded into five ranges.

Table 17 shows the re-calculated Chi-square test result for banded success rates.

7.12.4 The number of cases available for the Chi-square tests are limited (a minimum of 5 cases per cell are required, and this was often not achieved). Whilst the results do indicate that the dependent variables are not independent of each other, the test statistics need to be treated with caution.

Table 16 Chi-square test results for dependent variables

Variable	Framework Success Rate	Framework and NVQ Success Rate	ALI Inspection Grade (Best)	Performance Review assessment (Overall)
Framework Success Rate				
Framework and NVQ Success Rate	4755.02 (0%)			
ALI Inspection Grade (highest)	95.696 (40.3%)	161.178 (1.9%)		
Leadership and Management	132.916 (27.6%)	164.082 (57.1%)	34.638 (0.1%)	
Quality Assurance	136.116 (21.5%)	155.925 (73.8%)	36.654 (0%)	
Equality of	156.234 (2.7%)	156.245 (73.2%)	22.097 (3.6%)	

<b>Opportunity</b>				
<b>Performance Review assessment (Overall)</b>	273.674 (42.6%)	323.266 (43.8%)	66.716 (0%)	
<b>Learner Experience and Performance</b>	305.409 (6.8%)	342.615 (18.4%)	57.647 (0%)	657.106 (0%)
<b>Management</b>	261.401 (63.5%)	346.147 (14.8%)	35.652 (0%)	547.746 (0%)
<b>Participation and Recruitment</b>	233.919 (94.5%)	302.054 (75.7%)	54.067 (0%)	505.726 (0%)

**Table 17 Chi-square test results for dependent variables**

Success rates have been banded into 6 groups (0%, 0-25%, 25-50%, 50-75%, 75-99%, 100%)

<b>Variable</b>	<b>Framework Success Rate</b>	<b>Framework and NVQ Success Rate</b>
Framework Success Rate		
Framework and NVQ Success Rate	409.091 (0%)	
ALI Inspection Grade (highest)	37.178 (0.1%)	34.852 (0.3%)
Leadership and Management	17.124 (64.5%)	17.063 (64.9%)
Quality Assurance	21.026 (39.6%)	21.379 (37.5%)
Equality of Opportunity	19.108 (51.5%)	14.507 (80.4%)
Performance Review assessment (Overall)	48.766 (0.3%)	70.071 (0%)
Learner Experience and Performance	54.785 (0.1%)	76.718 (0%)
Management	40.237 (2.8%)	53.629 (0.1%)
Participation and Recruitment	53.921 (0.1%)	79.301 (0%)

**Table 18 Chi-square test results of learner characteristics against framework success rates**

The following tables show the Chi-square test results for learner characteristics against success rates.

		Gender		Total
		Female	Male	
Learner does not meet all the requirements of the framework	Observed	5,443	5,310	10,753
	Expected	5,557	5,196	10,753
Learner meets all the requirements of the framework	Observed	1,408	1,096	2,504
	Expected	1,294	1,210	2,504
<b>Chi-square tests</b>	<b>Value</b>	<b>Degrees of freedom</b>	<b>Asymptotic Significance</b>	<b>Exact Significance</b>
Pearson Chi-Square	25.612	1	0.0	

Internal report

Fisher's Exact Test				0.0
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		Ethnicity		Total
		Not White	White	
Learner does not meet all the requirements of the framework	Observed	804	9,949	10,753
	Expected	760	9,993	10,753
Learner meets all the requirements of the framework	Observed	133	2,371	2,504
	Expected	177	2,327	2,504
<b>Chi-square tests</b>	<b>Value</b>	<b>Degrees of freedom</b>	<b>Asymptotic Significance</b>	<b>Exact Significance</b>
Pearson Chi-Square	14.500	1	0.0	
Fisher's Exact Test				0.0

		Disability		Total
		Not Disabled	Disabled	
Learner does not meet all the requirements of the framework	Observed	10,525	228	10,753
	Expected	10,510.5	242.5	10,753
Learner meets all the requirements of the framework	Observed	2,433	71	2,504
	Expected	2447.5	56.5	2,504
<b>Chi-square tests</b>	<b>Value</b>	<b>Degrees of freedom</b>	<b>Asymptotic Significance</b>	<b>Exact Significance</b>
Pearson Chi-Square	4.712	1	0.03	
Fisher's Exact Test				0.034

		Special Training Need			Total
		Special training need	No special training need	Not known	
Learner does not meet all the requirements of the framework	Observed	486	10,133	134	10,753
	Expected	458.3	10,177.1	117.6	10,753
Learner meets	Observed	79	2,414	11	2,504

Internal report

all the requirements of the framework	Expected	106.7	2,369.9	27.4	2,504
<b>Chi-square tests</b>	<b>Value</b>	<b>Degrees of freedom</b>	<b>Asymptotic Significance</b>		<b>Exact Significance</b>
Pearson Chi-Square	21.977	2	0.0		
Fisher's Exact Test					NA

		Employed at start		Total
		No	Yes	
Learner does not meet all the requirements of the framework	Observed	2,080	8,673	10,753
	Expected	2,082.1	8,670.9	10,753
Learner meets all the requirements of the framework	Observed	487	2,017	2,504
	Expected	484.9	2,019.1	2,504
<b>Chi-square tests</b>	<b>Value</b>	<b>Degrees of freedom</b>	<b>Asymptotic Significance</b>	<b>Exact Significance</b>
Pearson Chi-Square	0.014	1	0.904	
Fisher's Exact Test				0.912

		Employed on leaving		Total
		No	Yes	
Learner does not meet all the requirements of the framework	Observed	2,203	8,550	10,753
	Expected	1,936.1	8,816.9	10,753
Learner meets all the requirements of the framework	Observed	184	2,320	2,504
	Expected	450.9	2,053.1	2,504
<b>Chi-square tests</b>	<b>Value</b>	<b>Degrees of freedom</b>	<b>Asymptotic Significance</b>	<b>Exact Significance</b>
Pearson Chi-Square	237.496	1	0.0	
Fisher's Exact Test				0.0

		Deprived Areas		Total
		No	Yes	
Learner does not	Observed	10,233	520	10,753

Internal report

meet all the requirements of the framework	Expected	10231.5	521.5	10,753
Learner meets all the requirements of the framework	Observed	2,381	123	2,504
	Expected	2,382.5	121.5	2,504
<b>Chi-square tests</b>	<b>Value</b>	<b>Degrees of freedom</b>	<b>Asymptotic Significance</b>	<b>Exact Significance</b>
Pearson Chi-Square	0.026	1	0.873	
Fisher's Exact Test				0.881

**Table 19 Chi-square test results of learner characteristics against framework/NVQ success rates**

		Gender		Total
		Female	Male	
Learner does not meet all the requirements of the framework or NVQ	Observed	6,010	6,842	12,852
	Expected	6,166.1	6,685.9	12,852
Learner meets all the requirements of the framework or NVQ	Observed	3,375	3,334	6,709
	Expected	3,218.9	3,490.1	6,709
<b>Chi-square tests</b>	<b>Value</b>	<b>Degrees of freedom</b>	<b>Asymptotic Significance</b>	<b>Exact Significance</b>
Pearson Chi-Square	22.162	1	0.0	
Fisher's Exact Test				0.0

		Ethnicity		Total
		Not White	White	
Learner does not meet all the requirements of the framework or NVQ	Observed	1,475	11,377	12,852
	Expected	1,287.1	11564.9	12,852
Learner meets all the requirements of the framework or NVQ	Observed	484	6,225	6,709
	Expected	671.9	6,037.1	6,709
<b>Chi-square tests</b>	<b>Value</b>	<b>Degrees of freedom</b>	<b>Asymptotic Significance</b>	<b>Exact Significance</b>
Pearson Chi-Square	88.874	1	0.0	
Fisher's Exact Test				0.0

Disability	Total
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Internal report

		Not Disabled	Disabled	
Learner does not meet all the requirements of the framework or NVQ	Observed	12,342	510	12,852
	Expected	12,361.9	490.1	12,852
Learner meets all the requirements of the framework or NVQ	Observed	6,473	236	6,709
	Expected	6,453.1	255.9	6,709
<b>Chi-square tests</b>	<b>Value</b>	<b>Degrees of freedom</b>	<b>Asymptotic Significance</b>	<b>Exact Significance</b>
Pearson Chi-Square	2.440	1	0.118	
Fisher's Exact Test				0.126

		Special Training Need			Total
		Special training need	No special training need	Not known	
Learner does not meet all the requirements of the framework or NVQ	Observed	2,540	10,205	107	12,852
	Expected	2,235.2	10,487.4	129.4	12,852
Learner meets all the requirements of the framework or NVQ	Observed	862	5,757	90	6,709
	Expected	1,166.8	5,474.6	67.6	6,709
<b>Chi-square tests</b>	<b>Value</b>	<b>Degrees of freedom</b>		<b>Asymptotic Significance</b>	<b>Exact Significance</b>
Pearson Chi-Square	154.70	2		0.0	
Fisher's Exact Test					NA

		Employed at start		Total
		No	Yes	
Learner does not meet all the requirements of the framework or NVQ	Observed	4,367	8,485	12,852
	Expected	4,066.3	8,785.7	12,852
Learner meets all the requirements of the framework or NVQ	Observed	1,822	4,887	6,709
	Expected	2,122.7	4,586.3	6,709
<b>Chi-square tests</b>	<b>Value</b>	<b>Degrees of freedom</b>	<b>Asymptotic Significance</b>	<b>Exact Significance</b>
Pearson Chi-	94.836	1	0.0	



Internal report

Square				
Fisher's Exact Test				0.0

		Employed on leaving		Total
		No	Yes	
Learner does not meet all the requirements of the framework or NVQ	Observed	4,588	8,264	12,852
	Expected	3,811.4	9,040.6	12,852
Learner meets all the requirements of the framework or NVQ	Observed	1,213	5,496	6,709
	Expected	1,989.6	4,719.4	6,709
<b>Chi-square tests</b>	<b>Value</b>	<b>Degrees of freedom</b>	<b>Asymptotic Significance</b>	<b>Exact Significance</b>
Pearson Chi-Square	655.90	1	0.0	
Fisher's Exact Test				0.0

		Deprived Areas		Total
		No	Yes	
Learner does not meet all the requirements of the framework or NVQ	Observed	12,089	763	12,852
	Expected	12108.9	743.1	12,852
Learner meets all the requirements of the framework or NVQ	Observed	6,341	368	6,709
	Expected	6,321.1	387.9	6,709
<b>Chi-square tests</b>	<b>Value</b>	<b>Degrees of freedom</b>	<b>Asymptotic Significance</b>	<b>Exact Significance</b>
Pearson Chi-Square	1.651	1	0.199	
Fisher's Exact Test				0.209

**Table 20 Chi-square test results of type and level of qualification against framework success rates**

		Type of qualification		Total
		AMA	FMA	
Learner does not meet all the requirements of the framework or NVQ	Observed	4,651	6,102	10,753
	Expected	4,828.6	5,924.4	10,753
Learner meets all	Observed	1,302	1,202	2,504

Internal report

the requirements of the framework or NVQ	Expected	1,124.4	1,379.6	2,504
<b>Chi-square tests</b>	<b>Value</b>	<b>Degrees of freedom</b>	<b>Asymptotic Significance</b>	<b>Exact Significance</b>
Pearson Chi-Square	62.765	1	0.0	
Fisher's Exact Test				0.0

		Level of qualification					Total
		1	2	3	4	NA	
Learner does not meet all the requirements of the framework or NVQ	Observed	14	6,103	4,564	70	~	10,753
	Expected	11.4	5,931.7	4,735.3	73	1.6	10,753
Learner meets all the requirements of the framework or NVQ	Observed	0	1,210	1,274	20	0	2,504
	Expected	2.6	1,381.3	1,102.7	17	0.4	2,504
<b>Chi-square tests</b>	<b>Value</b>	<b>Degrees of freedom</b>		<b>Asymptotic Significance</b>		<b>Exact Significance</b>	
Pearson Chi-Square	63.378	4		0.0			
Fisher's Exact Test						NA	

**Table 21 Chi-square test results of type and level of qualification against framework/NVQ success rates**

		Type of qualification			Total
		AMA	FMA	NVQ	
Learner does not meet all the requirements of the framework or NVQ	Observed	3,752	4,847	4,253	12,852
	Expected	3,911.2	4,798.9	4,141.9	12,852
Learner meets all the requirements of the framework or NVQ	Observed	2,201	2,457	2,051	6,709
	Expected	2,041.8	2,505.1	2,162.1	6,709
<b>Chi-square tests</b>	<b>Value</b>	<b>Degrees of freedom</b>		<b>Asymptotic Significance</b>	<b>Exact Significance</b>
Pearson Chi-Square	29.006	2		0.0	
Fisher's Exact Test					NA

		Level of qualification					Total
		1	2	3	4	NA	

Learner does not meet all the requirements of the framework or NVQ	Observed	1,400	7,181	4,174	95	~	12,852
	Expected	1,120.2	7,260.1	4,325.2	145.2	1.3	12,852
Learner meets all the requirements of the framework or NVQ	Observed	305	3,869	2,409	126	0	6,709
	Expected	584.8	3,789.9	2,257.8	75.8	0.7	6,709
<b>Chi-square tests</b>	<b>Value</b>	<b>Degrees of freedom</b>			<b>Asymptotic Significance</b>		<b>Exact Significance</b>
Pearson Chi-Square	63.378	4			0.0		
Fisher's Exact Test							NA

### 7.13 Pearson product moment correlation coefficient (r) and the coefficient of determination (r<sup>2</sup>)

**7.13.1** Microsoft Excel was used to calculate the r and r<sup>2</sup> values for independent variables. Table 22 and Table 23 display the r<sup>2</sup> value for a range of transformed independent variables. In Table 22 the independent variables are based on the characteristics of all learners that have completed or left learning. Table 23 is based on the characteristics of all learners that have completed, left, or are still in learning. Annex B shows scatter graphs of the public sector/not for profit high r<sup>2</sup> from Table 23.

**7.13.2** The data in Table 22 and Table 23 show the r<sup>2</sup> value, which measures the statistical strength of the relationship between the transformed variables and the dependent variables. A value of 0 indicates that there is no relationship between the variables, through to a value of 1 which indicates a 100% relationship (or that the independent variable explains all the dependent variable).

Table 22  $r^2$  Results for Transformed Independent Variables (Completed or Left Learning)

Transformed Independent Variable	Further Education Colleges				Public sector/not for profit			
	Framework Success	Framework and NVQ Success	ALI Inspection Grade (Best)	Performance Review assessment (Overall)	Framework Success	Framework and NVQ Success	ALI Inspection Grade (Best)	Performance Review assessment (Overall)
Size	0.03	0.00	-	0.00	0.00	0.20	0.13	0.07
% Female	0.00	0.04	-	0.18	<u>0.42</u>	<u>0.33</u>	0.16	0.00
% White	0.08	0.02	-	0.05	0.15	0.09	<u>0.45</u>	0.10
% Disabled	0.04	0.02	-	0.02	0.00	0.07	0.01	0.04
% Special Training Needs	0.00	0.01	-	0.06	0.01	0.24	0.04	0.01
% AMA <sup>17</sup>	0.08	0.02	-	0.15	0.05	<u>0.29</u>	0.05	0.03
% FMA <sup>18</sup>	0.05	0.00	-	0.02	0.17	0.03	0.09	0.00
% NVQ Direct	0.00	0.00	-	0.04	0.05	0.10	0.21	<u>0.32</u>
% Life Skills	0.00	0.05	-	0.03	0.01	0.09	0.15	0.14
% Preparatory Learning	0.00	0.00	-	0.02	0.09	0.01	-	0.11
% Employed at Start	0.05	0.04	-	0.09	0.06	<u>0.36</u>	0.05	0.01
% Employed at Leaving	0.09	0.05	-	0.19	0.07	<u>0.36</u>	0.06	0.01
% Level 1 Programmes	0.02	0.01	-	0.00	0.00	0.23	0.05	0.08
% Level 2 Programmes	0.03	0.02	-	0.09	0.04	0.04	0.16	<u>0.30</u>
% Level 3 Programmes	0.03	0.00	-	0.14	0.05	<u>0.29</u>	0.05	0.02
% Level 4 Programmes	0.07	0.00	-	0.06	0.01	0.01	0.01	0.02
% Level Unspecified Programmes	0.04	0.09	-	0.06	0.09	0.12	<u>0.50</u>	0.05

Note: underlined values indicate  $r^2$  above 0.25

<sup>17</sup> Advanced modern apprenticeships

<sup>18</sup> Foundation modern apprenticeships

Internal report

Table 22 continued

Transformed Independent Variable	Private sector (e.g. employer)				Private sector (education/training specialist)			
	Framework Success	Framework and NVQ Success	ALI Inspection Grade (Best)	Performance Review assessment (Overall)	Framework Success	Framework and NVQ Success	ALI Inspection Grade (Best)	Performance Review assessment (Overall)
Size	0.02	0.02	0.00	0.00	0.02	0.01	0.00	0.00
% Female	0.00	0.00	0.08	0.02	0.02	0.06	0.02	0.00
% White	0.00	0.00	0.02	0.14	0.05	0.06	0.00	0.00
% Disabled	0.04	0.02	0.07	0.03	0.00	0.00	0.00	0.01
% Special Training Needs	0.12	0.08	0.09	0.00	0.01	0.04	0.01	0.02
% AMA	0.21	0.14	0.04	0.01	0.10	0.04	0.00	0.01
% FMA	0.10	0.15	0.09	0.00	0.04	0.01	0.00	0.00
% NVQ Direct	0.10	0.01	0.02	0.02	0.03	0.03	0.00	0.02
% Life Skills	0.02	0.00	0.11	0.10	0.00	0.00	0.01	0.00
% Preparatory Learning	0.01	0.00	0.06	0.08	0.00	0.04	0.00	0.00
% Employed at Start	0.01	0.01	0.13	<u>0.40</u>	0.01	0.02	0.02	0.02
% Employed at Leaving	0.01	0.00	0.14	0.22	0.05	0.05	0.00	0.03
% Level 1 Programmes	0.07	0.02	0.00	0.02	0.01	0.02	0.01	0.02
% Level 2 Programmes	0.09	0.15	0.06	0.01	0.06	0.01	0.00	0.00
% Level 3 Programmes	0.15	0.16	0.03	0.06	0.07	0.03	0.01	0.01
% Level 4 Programmes	0.02	0.00	0.00	0.00	0.00	0.03	0.00	0.06
% Level Unspecified Programmes	0.01	0.00	0.05	0.05	0.01	0.00	0.00	0.00

Note: underlined values indicate  $r^2$  above 0.25

Table 23  $r^2$  Results for Transformed Independent Variables (Completed, Left, or In Learning)

Transformed Independent Variable	Further Education Colleges				Public sector/not for profit			
	Framework Success	Framework and NVQ Success	ALI Inspection Grade (Best)	Performance Review assessment (Overall)	Framework Success	Framework and NVQ Success	ALI Inspection Grade (Best)	Performance Review assessment (Overall)
Size	0.03	0.00	-	0.00	0.10	0.21	0.12	0.02
% Female	0.00	0.05	-	0.14	0.11	0.08	0.02	0.00
% White	0.09	0.04	-	0.04	<u>0.71</u>	0.02	<u>0.45</u>	0.12
% Disabled	0.02	0.01	-	0.01	0.05	0.07	0.01	0.05
% Special Training Needs	0.00	0.01	-	0.03	0.00	<u>0.29</u>	0.11	0.01
% AMA	0.11	0.02	-	0.13	0.03	0.06	0.03	0.04
% FMA	0.07	0.00	-	0.02	0.01	0.16	0.01	0.01
% NVQ Direct	0.00	0.01	-	0.02	0.02	0.15	<u>0.28</u>	<u>0.32</u>
% Life Skills	0.01	0.06	-	0.03	0.01	0.09	0.15	0.15
% Preparatory Learning	0.00	0.00	-	0.02	0.09	0.01	-	0.11
% Employed at Start	0.06	0.04	-	0.10	0.02	<u>0.28</u>	0.01	0.01
% Employed at Leaving	0.08	0.04	-	0.19	0.07	<u>0.37</u>	0.06	0.01
% Level 1 Programmes	0.01	0.01	-	0.00	0.00	0.23	0.05	0.09
% Level 2 Programmes	0.04	0.01	-	0.07	0.07	0.07	0.12	<u>0.34</u>
% Level 3 Programmes	0.05	0.00	-	0.12	0.03	0.06	0.03	0.04
% Level 4 Programmes	0.12	0.02	-	0.08	0.01	0.01	0.01	0.02
% Level Unspecified Programmes	0.06	0.09	-	0.07	0.09	0.16	<u>0.48</u>	0.04

Note: underlined values indicate  $r^2$  above 0.25

Internal report

Table 23 continued

Transformed Independent Variable	Private sector (e.g. employer)				Private sector (education/training specialist)			
	Framework Success	Framework and NVQ Success	ALI Inspection Grade (Best)	Performance Review assessment (Overall)	Framework Success	Framework and NVQ Success	ALI Inspection Grade (Best)	Performance Review assessment (Overall)
Size	0.01	0.01	0.00	0.00	0.02	0.01	0.00	0.00
% Female	0.00	0.00	0.08	0.01	0.02	0.07	0.02	0.02
% White	0.00	0.00	0.10	0.23	0.02	0.03	0.00	0.01
% Disabled	0.01	0.00	0.04	0.03	0.01	0.01	0.00	0.02
% Special Training Needs	0.14	0.08	0.09	0.00	0.01	0.03	0.01	0.01
% AMA	0.14	0.16	0.05	0.04	0.13	0.07	0.01	0.06
% FMA	0.09	0.15	0.11	0.00	0.03	0.00	0.00	0.03
% NVQ Direct	0.05	0.04	0.02	0.00	0.04	0.04	0.00	0.01
% Life Skills	0.02	0.00	0.11	0.10	0.00	0.00	0.01	0.00
% Preparatory Learning	0.01	0.00	0.06	0.07	0.00	0.04	0.00	0.01
% Employed at Start	0.00	0.00	0.15	<u>0.40</u>	0.01	0.01	0.01	0.01
% Employed at Leaving	0.02	0.01	0.18	0.22	0.04	0.05	0.00	0.01
% Level 1 Programmes	0.07	0.03	0.00	0.03	0.01	0.02	0.01	0.01
% Level 2 Programmes	0.11	0.18	0.09	0.01	0.09	0.02	0.00	0.04
% Level 3 Programmes	0.19	0.18	0.05	0.05	0.11	0.07	0.02	0.05
% Level 4 Programmes	0.02	0.00	0.00	0.00	0.00	0.00	0.01	0.01
% Level Unspecified Programmes	0.01	0.00	0.05	0.05	0.00	0.01	0.00	0.00

Note: underlined values indicate  $r^2$  above 0.25





## Internal report

**7.13.3** The majority of high  $r^2$  values are observed in the public sector/not for profit provider type. However as shown in Table 13, the overall number of providers in that group is low (ranging from 8 to 22 depending on the dependent variable). The small sample could coincidentally result in high  $r^2$ , whereas a larger sample could reduce the  $r^2$ .

**7.13.4** In contrast, the large number of providers in private sector (education/training specialist) does not show any significant  $r^2$ . The  $r^2$  analysis therefore shows that there is no significant relationship between quality and performance and:

- type of provider
- size of provider
- characteristics of learners
- level of study/type of programme (i.e. AMA, FMA or Lifeskills).

**7.13.5** For other structural variables, especially curriculum area, the number of cases is not enough to allow a rigorous analysis.

**7.13.6** The overall lack of significant relationships evident in this table could be attributed to:

- insufficient variation of the independent variables. By looking at the frequencies of the independent variables by provider type it is observed that the independent variables are dominated by certain categories, generally all learners are white male and not disabled. This means that there is insufficient variation in the data for a clear relationship to be distinguished.
- insufficient variation of the dependent variables. Previous reports have considered the frequencies of the independent variables and it has been observed that the success rate dependent variables have large skews in the data meaning that data is clustered around specific values. Likewise the grades from ALI inspection and assessments from performance review only cover small ranges and cases. The result is that the lack of range and variation in the dependent variables reduces the ability to discern a statistical relationship with the independent variables.

**7.13.7** Other factors account for the variation in the dependent variables that have not been investigated. It is plausible that other independent variables could be tested, such as age at start of programme.

## 7.14 Kruskal-Wallis

**7.14.1** The Kruskal Wallis test is a non-parametric alternative to analysis of variance. The test statistic is calculated in the same way as the Mann-Whitney U test, but is available for the measurement of multiple factors. SPSS was used to calculate the test results.

**7.14.2** This test was used to determine if there are any differences in the mean of the dependent variables between the broad provider types.

Table 24 and Table 25 shows the results of the Kruskal Wallis test comparing the dependent variables against provider type.

**Table 24 Kruskal-Wallis: Non-Parametric Descriptive Statistics**

Variable	N	Mean	Std. Deviation	Minimum	Maximum
Framework Rate for Provider	189	0.20	0.21	0.00	1.00
Framework/NVQ rate for Provider	199	0.32	0.22	0.00	1.00
PR assessment	205	3.03	1.01	0.00	5.00
ALI Inspection grade (Best)	81	2.78	0.79	1.00	4.00
broad provider type grouping	208	3.10	1.25	1.00	9.00

**Table 25 Kruskal-Wallis: Test Statistics for Provider Type**

	Framework Rate for Provider	Framework/NVQ rate for Provider	PR assessment	ALI Inspection grade (Best)
Chi-Square	4.797	3.109	12.648	4.053
Df	3	3	3	2
Asymp. Sig.	0.187	0.375	0.005	0.132

**Table 26 Kruskal-Wallis: Ranks**

Variable	Provider Type	N	Mean Rank
Framework Rate for Provider	Further education	38	83.68
	Public sector/not for profit	12	122.79
	Private sector (e.g. employer)	33	95.68
	Private sector (training/education specialist)	105	94.81
	Total	188	
Framework/NVQ rate for Provider	Further education	38	107.45
	Public sector/not for profit	17	103.94
	Private sector (e.g. employer)	33	109.14
	Private sector (training/education specialist)	110	93.18
	Total	198	

## Internal report

PR assessment	Further education	38	77.18
	Public sector/not for profit	22	88.20
	Private sector (e.g. employer)	31	111.27
	Private sector (training/education specialist)	113	111.39
	Total	204	
ALI Inspection grade (Best)	Public sector/not for profit	8	26.19
	Private sector (e.g. employer)	23	42.83
	Private sector (training/education specialist)	50	42.53
	Total	81	

**7.14.3** In addition to the Kruskal-Wallis test, Mann Whitney U Tests were carried out for both success rates and performance review assessments for the following two combinations of detailed provider types. These represent the only comparisons with sufficient cases at the detailed provider type level:

- FE college – general FE/tertiary college compared with private sector provider – education/training specialist.
- Private sector provider - general (for example, employer) compared with private sector provider – education/training specialist.

The results are of the Mann Whitney U tests are shown in Table 27.

Table 27 Mann Whitney U-Test Results

Test Result	Framework Success	Framework and NVQ Success	ALI Inspection Grade (Best)	Performance Review assessment (Overall)
FE College – general FE/tertiary college compared with private sector provider – education/training specialist				
Mann-Whitney U	1651.5	1719.5	<b>N/A</b>	1393.5
Asymp. Sig. (2-tailed)	0.258	0.237	<b>N/A</b>	0.003
Significant at # level	74.2%	76.3%	<b>N/A</b>	99.7%

Internal report

Private sector provider - general (for example, employer) compared with private sector provider – education/training specialist				
Mann-Whitney U	714.5	861.5	220	829.5
Asymp. Sig. (2-tailed)	0.186	0.602	0.517	0.343
Significant at # level	81.4%	39.8%	<b>N/A</b>	65.7%

## 8 Annex B – Frequency tables

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### 8.1 Descriptive Statistics

**8.1.1** The following section provides descriptive statistics on the frequency of field values for all independent variables. This was used to identify issues of data quality in assessing non-response (for example, is there a high rate of not provided/not specified values?) and distribution (for example, are certain values dominant?). The ~ symbol represents less than 10 learners. All tables are rounded to 10.

Characteristics of provider types.

Disability	Yes	No	Not Provided	Total (incl leavers)
FE college	380	11,870	630	12,880
	3%	92%	5%	100%
Public sector/not for profit	610	6,070	1,540	8,210
	7%	74%	19%	100%
Private sector (e.g. employer)	130	5,610	380	6,110
	2%	92%	6%	100%
Private sector (training/education specialist)	640	16,390	1,700	18,730
	3%	88%	9%	100%
Higher education (HE) institution	0 ~		0 ~	
	0%	100%	0%	100%
Total	1,760	39,940	4,240	45,940
	4%	87%	9%	100%

Internal report

Ethnicity	Bangladeshi	Black African	Black Caribbean	Black other	Chinese	Indian	Pakistani	White	Other – Asian	Other	Total (known ethnicity)	Not known/not provided
FE college	30	10	120	80	~	140	160	12,050	20	100	12,730	160
	0%	0%	1%	1%	0%	1%	1%	95%	0%	1%	100%	-
Public sector/not for profit	100	10	170	100	~	140	290	7,170	10	180	8,180	40
	1%	0%	2%	1%	0%	2%	3%	88%	0%	2%	100%	-
Private sector (e.g. employer)	40	20	100	70	~	130	200	5,470	~	60	6,100	10
	1%	0%	2%	1%	0%	2%	3%	90%	0%	1%	100%	-
Private sector (training/education specialist)	150	40	370	270	10	390	410	16,790	20	220	18,690	40
	1%	0%	2%	1%	0%	2%	2%	90%	0%	1%	100%	-
HE institution	0	0	0	0	0	0	0	~	0	0	~	0
	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	100%	-
Total	320	80	760	520	20	810	1,060	41,490	60	570	45,690	240
	1%	0%	2%	1%	0%	2%	2%	91%	0%	1%	100%	-

Internal report

<b>Gender</b>	<b>Female</b>	<b>Male</b>	<b>Total</b>
FE college	4,810	8,070	12,880
	37%	63%	100%
Public sector/not for profit	2,450	5,760	8,210
	30%	70%	100%
Private sector (e.g. employer)	3,070	3,040	6,110
	50%	50%	100%
Private sector (training/education specialist)	9,590	9,130	18,730
	51%	49%	100%
HE institution	~	~	~
	33%	67%	100%
Total	19,930	26,010	45,940
	43%	57%	100%

Internal report

Level of Programme	Level 1	Level 2	Level 3	Level 4	Level Not Specified	Total
FE college	940	6,620	4,750	200	380	12,880
	7%	51%	37%	2%	3%	100%
Public sector/not for profit	2,420	1,820	3,620	10	340	8,210
	29%	22%	44%	0%	4%	100%
Private sector (e.g. employer)	390	3,490	1,930	70	240	6,110
	6%	57%	31%	1%	4%	100%
Private sector (training/education specialist)	2,350	9,220	6,160	160	840	18,730
	13%	49%	33%	1%	4%	100%
HE institution	0	~	~	0	0	~
	0%	67%	33%	0%	0%	100%
Total	6,100	21,150	16,460	450	1,790	45,940
	13%	46%	36%	1%	4%	100%



Internal report

Resident LLSC	National Contracts Service	Shropshire	Staffordshire	Black Country	Birmingham and Solihull	Herefordshire and Worcestershire	Coventry and Warwickshire	Total (Provision to learners resident in the West Midlands)	National Contracts Service (Outside the West Midlands)	Provision outside of the West Midlands
FE college	0	1,040	3,130	2,820	1,200	1,860	2,830	12,880	0	630
	0%	8%	24%	22%	9%	14%	22%	100%	-	-
Public sector/not for profit	0	3,970	770	1,480	870	1,120	0	8,210	0	70
	0%	48%	9%	18%	11%	14%	0%	100%	-	-
Private sector (e.g. employer)	250	1,300	180	1,530	910	640	1,310	6,110	2,800	660
	4%	21%	3%	25%	15%	10%	21%	100%	-	-
Private sector (training/education specialist)	0	1,470	5,290	4,700	3,720	1,120	2,430	18,730	0	560
	0%	8%	28%	25%	20%	6%	13%	100%	-	-
HE institution	0	0	0	0	~	0	0	~	0	0
	0%	0%	0%	0%	100%	0%	0%	100%	-	-

Internal report

Total	250	7,780	9,380	10,520	6,710	4,740	6,570	45,940	2,800	1,910
	1%	17%	20%	23%	15%	10%	14%	100%	-	-

Internal report

Age at start of learning	15	16	17	18	19	20-24	Total (known age)	Not Known
FE college	180	4,320	3,110	2,190	1,210	1,880	12,880	~
	1%	34%	24%	17%	9%	15%	100%	-
Public sector/not for profit	110	2,140	2,160	1,170	820	1,750	8,210	60
	1%	26%	26%	14%	10%	21%	100%	-
Private sector (e.g. employer)	100	1,850	1,390	970	580	1,240	6,110	~
	2%	30%	23%	16%	9%	20%	100%	-
Private sector (training/education specialist)	290	5,050	4,230	2,610	1,900	4,620	18,730	30
	2%	27%	23%	14%	10%	25%	100%	-
HE institution	0	0	~	0	0	~	~	0
	0%	0%	33%	0%	0%	67%	100%	-
Total	670	13,350	10,880	6,930	4,510	9,490	45,940	100
	1%	29%	24%	15%	10%	21%	100%	-

Internal report

Employment status at start	Employed	Not Employed	Total (known status)	In Learning	Total
FE college	9,080	3,750	12,830	50	12,880
	71%	29%	100%	-	-
Public sector/not for profit	4,220	3,700	7,920	290	8,210
	53%	47%	100%	-	-
Private sector (e.g. employer)	4,430	1,680	6,110	~	6,110
	73%	27%	100%	-	-
Private sector (training/education specialist)	12,530	5,650	18,180	550	18,730
	69%	31%	100%	-	-
HE institution	~	0	~	0	~
	100%	0%	100%	-	-
Total	30,270	14,770	45,040	890	45,940
	67%	33%	100%	-	-

Internal report

Employment status at leaving	Employed	Not Employed	Total (known status)	In Learning	Total
FE college	4,700	2,540	7,240	5,640	12,880
	65%	35%	100%	-	-
Public sector/not for profit	970	3,080	4,050	4,160	8,210
	24%	76%	100%	-	-
Private sector (e.g. employer)	2,630	1,210	3,840	2,270	6,110
	68%	32%	100%	-	-
Private sector (training/education specialist)	7,670	4,220	11,900	6,830	18,730
	64%	36%	100%	-	-
HE institution	~	0	~	0	~
	100%	0%	100%	-	-
Total	15,980	11,050	27,030	18,910	45,940
	59%	41%	100%	-	-

Internal report

Special Training Need	Yes Cat B (ALN)	Yes Cat C (ASN)	Yes Cat D (ALSN)	No STN	Total	STN Not Stated
FE college	720	50	210	8,230	9,220	3,660
	8%	1%	2%	89%	100%	
Public sector/not for profit	540	680	1,250	4,890	7,350	860
	7%	9%	17%	67%	100%	
Private sector (e.g. employer)	280	120	310	3,700	4,410	1,700
	6%	3%	7%	84%	100%	
Private sector (training/education specialist)	1,310	360	940	12,250	14,870	3,860
	9%	2%	6%	82%	100%	
HE institution	0	0	0	~	~	0
	0%	0%	0%	100%	100%	
Total	2,850	1,220	2,710	29,080	35,860	10,080
	8%	3%	8%	81%	100%	

Internal report

Occupation Sector	Business Administration - G	Hospitality - J	Leisure Sport and Travel - I	Retailing and Customer Services - H	Agriculture - A	Hair and Beauty - K	Health Care and Public Services - L	Management and Professional - F	Media and Design - M	Construction - B	Engineering - C	Manufacturing - D	Transportation - E	Not Applicable -	Total
FE college	1,500	170	160	430	880	1,160	1,370	430	50	2,240	3,300	150	0	1,050	12,880
	12%	1%	1%	3%	7%	9%	11%	3%	0%	17%	26%	1%	0%	8%	100%
Public sector/not for profit	1,020	100	130	630	60	50	850	110	~	290	3,310	180	~	1,470	8,210
	12%	1%	2%	8%	1%	1%	10%	1%	0%	4%	40%	2%	0%	18%	100%
Private sector (e.g. employer)	1,250	150	260	1,290	10	390	590	240	~	340	880	270	~	430	6,110
	20%	2%	4%	21%	0%	6%	10%	4%	0%	6%	14%	4%	0%	7%	100%
Private sector (training/education specialist)	3,570	1,170	220	2,900	170	1,140	2,200	660	40	1,090	2,580	970	30	1,960	18,730
	19%	6%	1%	16%	1%	6%	12%	4%	0%	6%	14%	5%	0%	10%	100%
HE institution	0	0	0	0	0	0	0	0	0	0	0	~	0	0	~
	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	100%
Total	7,340	1,590	770	5,250	1,120	2,730	5,010	1,440	110	3,960	10,080	1,570	40	4,920	45,940
	16%	3%	2%	11%	2%	6%	11%	3%	0%	9%	22%	3%	0%	11%	100%

Internal report

Programme Type	AMA	FMA	NVQ	Lifeskills	Preparatory Learning	CPD	Total (known programme)	Not Known
FE college	4,270	5,390	2,150	970	70	20	12,850	30
	33%	42%	17%	8%	1%	0%	100%	
Public sector/not for profit	3,580	630	2,510	1,380	30	60	8,190	20
	44%	8%	31%	17%	0%	1%	100%	
Private sector (e.g. employer)	1,740	2,620	1,320	380	50	0	6,110	0
	29%	43%	22%	6%	1%	0%	100%	
Private sector (training/education specialist)	5,400	6,440	4,870	1,800	160	30	18,700	30
	29%	34%	26%	10%	1%	0%	100%	
HE institution	~	0	~	0	0	0	~	0
	33%	0%	67%	0%	0%	0%	100%	
Total	15,000	15,070	10,850	4,520	310	100	45,850	90
	33%	33%	24%	10%	1%	0%	100%	

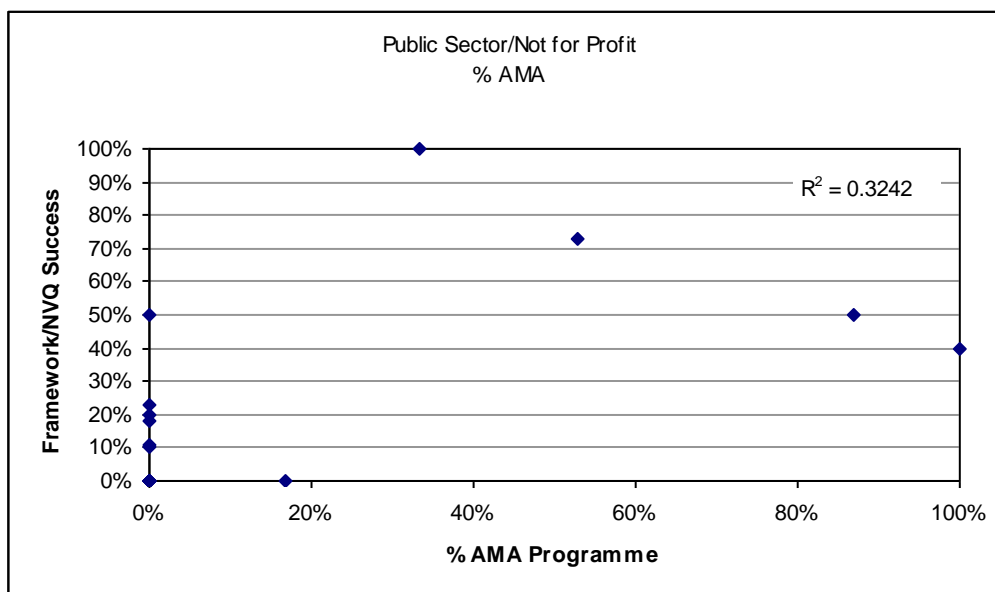
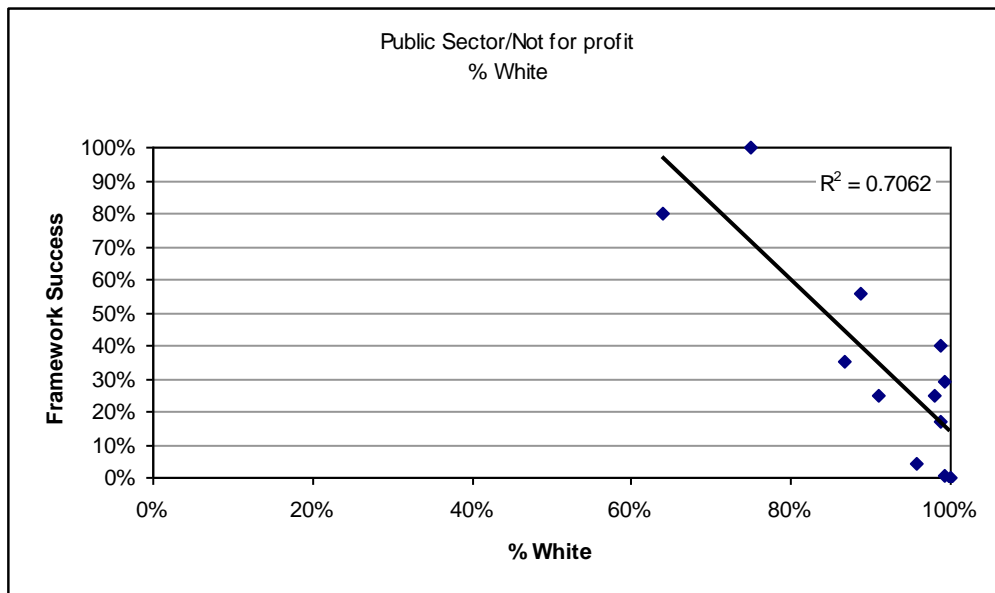


## 9 ANNEX C – scatter plots

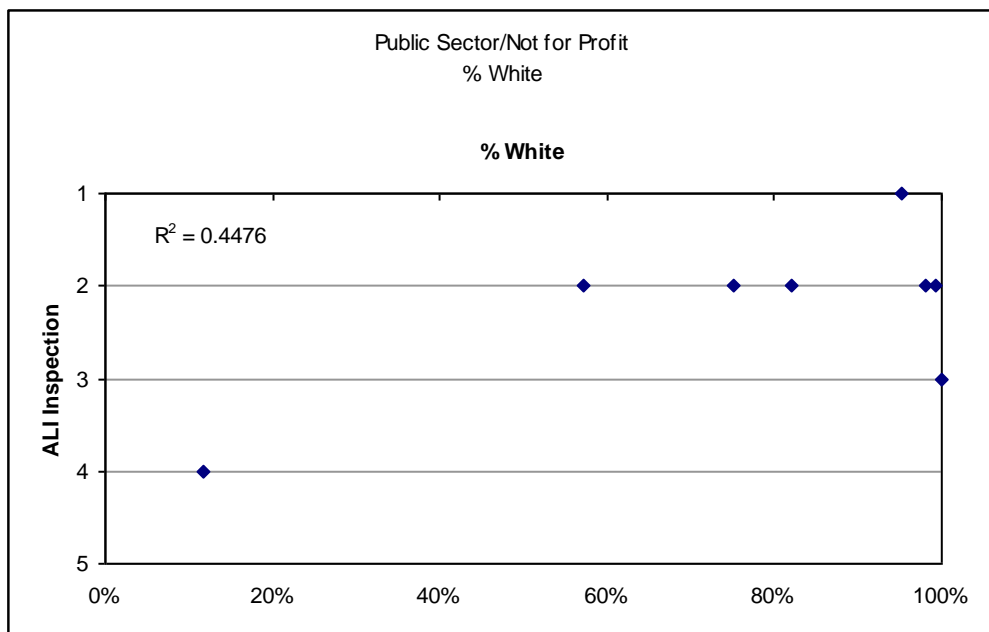
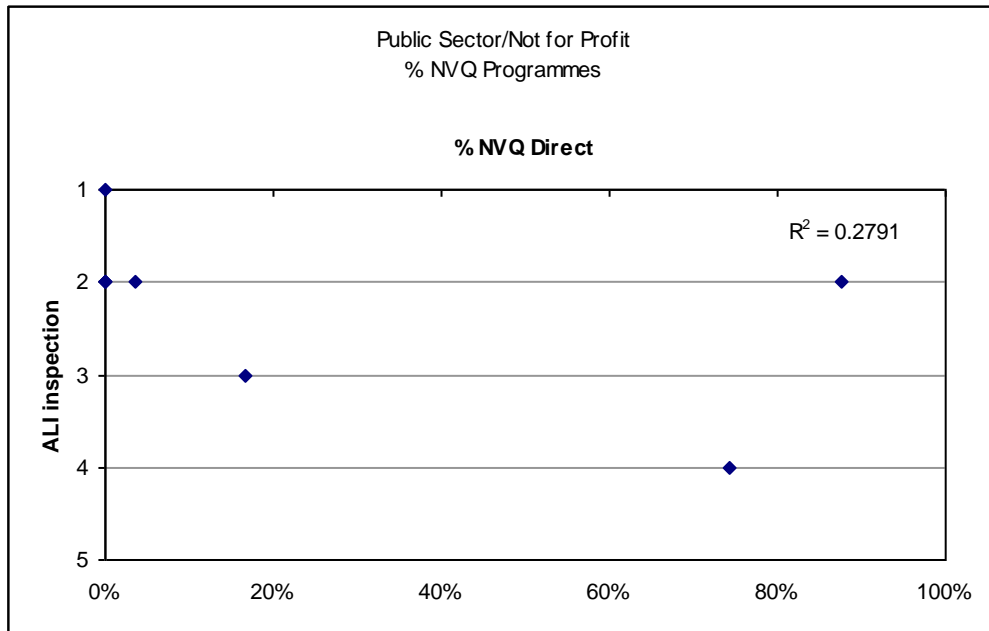
### 9.1 Scatter Plots

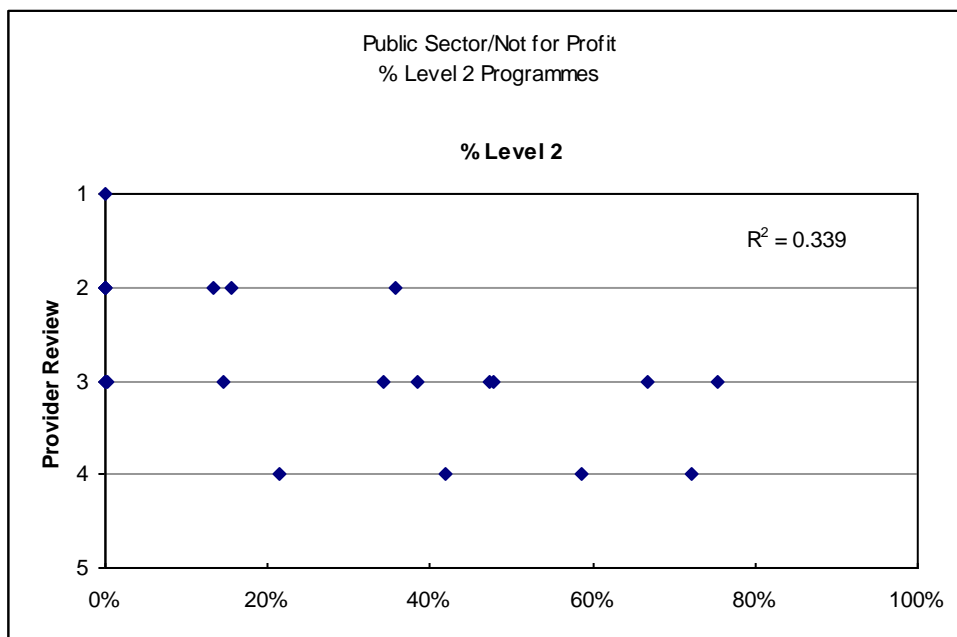
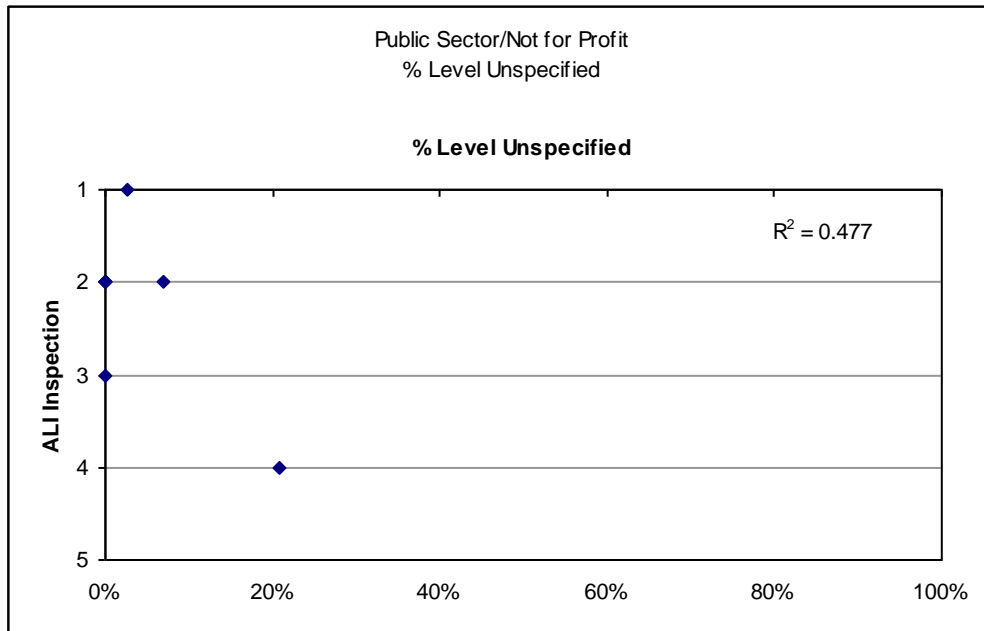
9.1.1 The following scatter plots provide visual representations of the  $r^2$  statistics shown at Annex A. Only  $r^2$  values of more than 25% (0.25) are shown. In itself 25% only indicates that 25% of the independent variable (x-axis) explains the variation in the dependent variable (y-axis).

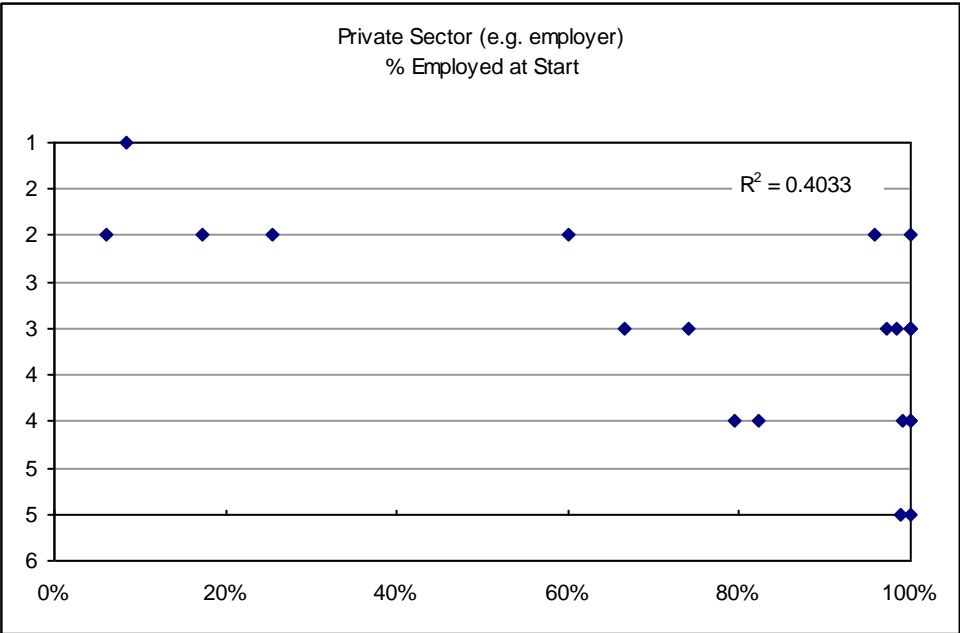
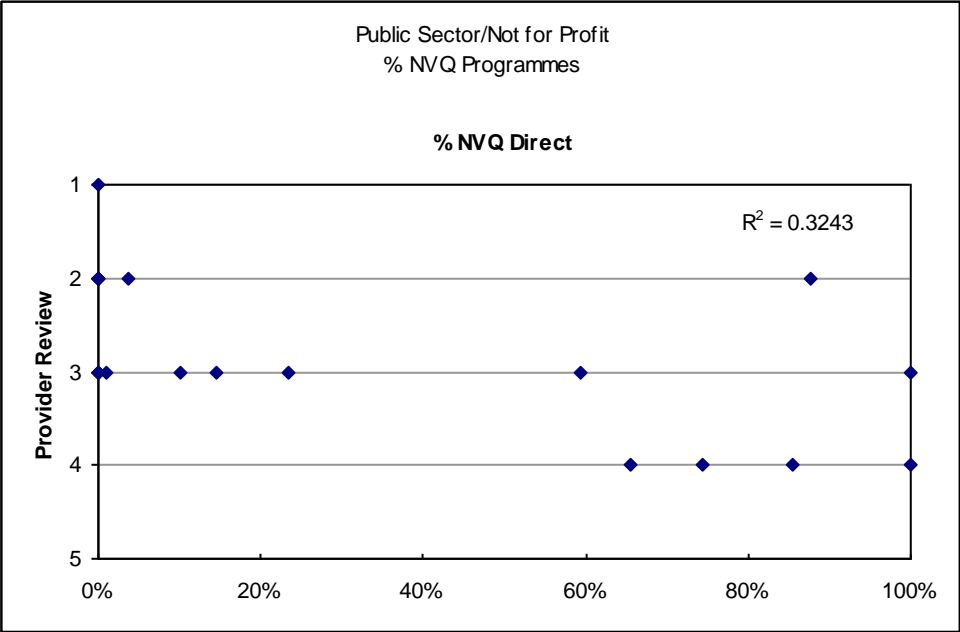
Scatter Graphs for Public sector/not for profit Provider Type,  $r^2 > 0.25$



Internal report







## 10 Annex D – Scoping report

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### 10.1 Introduction

**10.1.1** The focus of the study is to identify and understand the causal link between performance and a range of descriptive variables for work-based learning providers in England. This is a report of the first stage scoping exercise which was to identify what datasets and variables were readily available to develop a dataset that could be analysed.

**10.1.2** At the project's inception meeting it was agreed that the study should focus on those work-based learning providers operating in the West Midlands who had been inspected since April 2001. According to data received from the ALI, there were 297 such work-based learning providers who, between them, catered for almost 56,000 learners. They include a range of providers across different industrial and occupational sectors, who work with different types of learners, operate in one or several local LSC areas, and are contracted to the NCS. The providers are of different types and include FE Colleges, local authorities, private providers and employers.

### 10.2 Dataset Design

**10.3.1** There are three main sources of data for this study: ALI's inspection grade data; the performance information management system (PIMS), and individual learner records (ILR). Other data sources investigated were performance reviews and the postal follow-up survey of work-based learning leavers.

**10.3.2** The dataset will consist of data for the 297 work-based learning providers from the three existing data sources (plus the follow-up survey if available and appropriate).

### 10.3 Dependent variables

**10.3.1** There are four dependent variables:

- retention – this will be measured by the length of stay on a course as a proportion of the planned stay taken from ILR variables STDATE and LVDATE.
- achievement – this will be measured by the achievement of qualifications from the ILR data i.e. NVQ\_LEV, ACHIEVE, NVQ\_CMP, FRM\_CMP, LEV\_ACH.
- progression – this is more problematic because of the detail in the information held but we use the ILR variables STEMPST and LVEMPST.

## Internal report

- quality – this will be measured by the inspection grades for curriculum areas and generic areas from ALI's data. It must be remembered that inspection grades are for the provider's organisation as a whole. For example, the grades for the Construction Industry Training Board (CITB) would be for England as a whole and not just in respect of those programmes provided in the West Midlands.

More dependent variables may be used from the follow-up survey.

### 10.4 Independent variables

**10.4.1** A range of data will be used from the three main data sources.

#### 10.4.2 Inspection grades

**10.4.3** The inspection grades can also be used to predict the dependent variables and the full list is given below.

<b>Inspection grades:</b>
Curriculum areas:
• Land-based provision
• Construction
• Engineering, technology and manufacturing
• Business administration, management & professional
• Information & communications technology
• Retailing, customer service and transportation
• Hospitality, leisure, sport and travel
• Hairdressing and beauty therapy
• Health, social care and public services
• Visual and performing arts and media
• Foundation programmes
Generic areas:
• Leadership & management
• Equal opportunities
• Quality Assurance
Worst (lowest grade excluding equal opportunities and quality assurance)
Numbers of learners:
• Land-based provision

• Construction
• Engineering, technology and manufacturing
• Business administration, management & professional
• Information & communications technology
• Retailing, customer service and transportation
• Hospitality, leisure, sport and travel
• Hairdressing and beauty therapy
• Health, social care and public services
• Visual and performing arts and media
• Foundation programmes
Type of provider

#### 10.4.4 Provider Information Management System (PIMs)

10.4.5 We would include the following variables from the PIMS:

High level funding flags (WBL, Standards, ESF)
Owning LLSC
Associated LLSC (in cases where another LSC has a funding relationship with the same provider)
LLSC Region
Organisation Type (e.g. business in own right, FE College, Charitable Org, etc.)
Group (describes whether they are a discrete within a large national group)
Provider Number (UPIN)
MOD Funding Indicator

#### 10.4.6 Individual Learner Records (ILR)

10.4.7 We would include the following variables from the ILR:

Field Name	Field Label
LLSC	LLSC Number
HOME	DV LLSC of learner – according to learners postcode
SEX	Sex of learner
ETHNIC	Ethnicity of learner
DISAB	Disability or health problems
PTYPE	DV programme type broad aggregation
STDATE	Programme start date

LVDATE	Actual end date of the programme
XENDDTE	Funding Entitlement Expiry Date (FEED)
STEMPST	Status at start
LVEMPST	Status on last day of training
LVCODE	Destination (leaving) code
EP_TYPE	Type of employer/provider
PROG	Full programme type
NVQ_LEV	Level of NVQ qualification for this Learning Aim
ACHIEVE	Outcome completeness (e.g. whole/part (G)NVQ gained)
NVQ_CMP	NVQ Completed Date
FRM_CMP	Framework completed date
LEV_ACH	(G)NVQ Level gained
SOC	SOC code
TSCSEC	TSC Occupational Sectors

**10.4.8** By combining these variables into one dataset we would be able to include information about type of learner, size, type, scope and nature of provider, and indicators of quality.

## 10.5 Building the dataset

**10.5.1** Building the dataset by combining data from several sources can be problematic. It is important that all data has the providers' unique identifier so that they can be merged precisely.

**10.5.2** We are unsure as to the versions of the most up-to-date datasets. For example, we are unclear whether the latest ILR data (version 23) will be available before the end of January. It is important that all datasets are received which include the providers' unique identifier before the end of January.

## 10.6 Analysis

**10.6.1** In respect of the statistical analysis, an important factor is that we would be dealing with the population of providers rather than a sample. This means that we don't have to test the significance of relationships from the sample as they might apply to the population as a whole.

**10.6.2** Given the large number of cases, we would primarily use regression analysis. Although some of the curriculum inspection grades would necessarily reduce the number of cases (for example, whilst every provider would have a quality assurance grade not all would have an engineering grade). If this were a problem we would consider using other techniques.



## **10.7 Conclusions**

**10.7.1** The dataset described in this report would form the core dataset to be analysed in the study. We will also be undertaking interviews with providers and stakeholders and if these discussions identify any other sources of data then they could be included as well.

## 11 Annex E - bibliography

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