

## DEFINITIONS OF POOR LITERACY AND POOR NUMERACY

1. Throughout the report we relate literacy and numeracy skills to three levels: Entry Level, Level 1 and Level 2. This annex aims to provide:
  - an overview of the two main surveys on which our estimates of need are based;
  - an outline of the competencies required for adults to reach each Level;
  - the relationship between the Levels used in this report and alternative national levels;
  - estimates of the scale of need;
  - the definition of functional literacy and numeracy.

### **Surveys of need**

2. The most recent surveys of the scale of need for literacy and numeracy skills in Britain are *Adult Literacy in Britain*<sup>1</sup>, which forms part of the International Adult Literacy Survey (IALS), and the latest reports from the Centre for Longitudinal Studies at the Institute of Education<sup>2</sup>, *It Doesn't Get any Better*<sup>3</sup> and *The Basic Skills of Young Adults*<sup>4</sup>.
3. The British IALS survey is the first literacy survey to be carried out in Britain on a national random sample of adults of working age. The survey was undertaken by the Office for National Statistics in 1997, and covered a sample of 3,811 adults. The survey set assessment tasks taken from a range of contexts simulating the range of activities that adults would encounter in everyday life. The survey produced measurements for three broad categories of literacy. These are:

Prose literacy	Understanding and using information from text, e.g. understanding a newspaper article.
Document literacy	Locating and using information from other formats, e.g. reading a bus timetable
Quantitative literacy	Applying arithmetic operations to numbers embedded in print, e.g working out the price of a loan from an advert.

---

<sup>1</sup> *Adult Literacy in Britain*, Office for National Statistics, 1997

<sup>2</sup> Previously based at the Social Statistics Research Unit, City University

<sup>3</sup> *It Doesn't Get any Better*, Bynner and Parsons, The Basic Skills Agency, 1997

<sup>4</sup> *The Basic Skills of Young Adults*, Ekinsmyth and Bynner, The Basic Skills Agency, 1994

4. Each of the three scales measuring these dimensions of literacy were designed to range from 0 to 500, and were grouped into five literacy levels: Level 1 representing the lowest ability range and Level 5 the highest. Individuals were graded at one of 5 levels, from very low (level 1) to very high (level 5), depending on how they performance in the tasks. To be placed at a particular respondents had to perform tasks at that level correctly and consistently. The definition of consistent performance was set at 80%.
5. The British results of IALS showed that around 22% of adults had very low literacy levels. The figures for quantitative literacy, a proxy for numeracy skills, showed that 23% of adults in Britain had very low skills.
6. The *Centre for Longitudinal Studies* has carried out a series of studies of adults' basic skills for the Basic Skills Agency. The findings come from two birth cohort studies. The first is the National Child Development Study (NCDS) which comprises a sample of over 17,000 people born in a single week in 1958. The other study, known as the 1970 British Cohort Study (BCS70), is similar in form, beginning with a sample of over 17,000 people born in a single week in 1970.
7. The most recent survey, *It Doesn't Get Any Better*, was carried out on a 10% sample of NCDS cohort members. It included a basic skills assessment, which comprised a set of functional literacy and numeracy tasks designed by the National Foundation for Educational Research (NFER). The tasks were grouped at different levels corresponding to the Basic Skills Agency (BSA) Basic Skills Standards. Each question was coded as correctly answered, incorrectly answered or not attempted, and these scores were grouped into four ability categories: "very low", "low", "average" and "good". The results were as follows:

**Table A1: Levels of literacy and numeracy among 37 year olds, based on CLS research**

<b>Skills levels</b>	<b>Literacy %</b>	<b>Numeracy %</b>
Very low	6	23
Low	13	25
Average	38	25
Good	43	27

Source: *It Doesn't Get any Better*, 1997

8. Since the assessment tasks used in the NCDS survey were aligned to the BSA Standards, these figures provide an indication of performance that can be related to them. The survey found that people in the very low groups were generally below Entry Level in the skills they had acquired, and those in the low groups had skills at Entry Level, but were not fully competent at Level 1.

**Abridged basic skills standards**

<b>Reading Skills</b>	<b>Entry Level</b>	<b>Level 1</b>	<b>Level 2</b>
Read and understand text in the form of letters, written instructions, manuals, notes, orders etc.	<p>Read and understand simple text (up to six sentences or one paragraph)</p> <p>Follow simple instructions (up to 6 steps, one per step)</p>	<p>Read and understand a variety of text (e.g. a letter up to one page long, short features in a newspaper or magazine)</p> <p>Follow written instructions – each step could contain up to 3 short sentences</p>	<p>Choose and use appropriate materials from more than one source, e.g manuals, brochures, textbooks</p> <p>Understand the purpose and meaning in a text and make a judgement from the information</p>
Read and understand graphical material such as tables, signs, charts, labels, plans, maps etc	<p>Get the main idea from a simple source, (e.g safety signs with a single message)</p> <p>Find specific pieces of information from simple tables (no more than 2 variables)</p>	<p>Understand and act on a graphical source up to one page long (e.g. a town map, price list, sign with multiple messages)</p> <p>Find information from complex tables, with at least 2 variables and with additional sources/keys)</p>	<p>Select material from more than one graphical source (e.g complex tables, plans)</p>
Use reference systems such as filing systems, libraries, databases	Use a simple list	Consult a reference source to obtain simple information (e.g. Yellow Pages, dictionary)	<p>Use a reference system to find specific information e.g. library, computer file, filing system</p> <p>Organise material into a given reference system – alphabetical, numerical or date order and use the system created.</p>

<b>Writing Skills</b>	<b>Entry Level</b>	<b>Level 1</b>	<b>Level 2</b>
Write accurate letters, notes, reports or messages	Write short simple notes or letters conveying up to two separate ideas	Write reports, letters or notes conveying up to four separate ideas	Write material in a specialised format (e.g formal letters, contracts, leaflets, CVs)
Complete forms or other pre-formatted documents	Fill in a basic form (e.g. write an order form, booking slip, receipt)	Complete a simple form (e.g. application form, time-sheet, claim form)	Complete an open-ended form requiring detailed information (e.g. accident report form, job application)
Write about ideas, feelings and experiences.	Short, simple pieces up to two paragraphs.	Personal writing in several paragraphs, e.g descriptions of people or places, letters.	Write effectively to convey ideas, feelings and experiences in a variety of styles e.g. short stories, poems, newspaper articles.

Numeracy Skills	Entry Level	Level 1	Level 2
Using money in everyday situations, using till, calculator or ready reckoner as necessary	Make cash or other transactions of up to seven similar items at a time, give or check correct change if necessary	<p>Make cash and non-cash transactions of up to 20 items at a time, give or check correct change and calculate simple discounts.</p> <p>Share payments equally between 4-12 people.</p>	<p>Make cash and non-cash transactions of any number of items at a time and calculate complex discounts from percentages and fractions. Check and give documentation, change and receipts.</p> <p>Share payments between a minimum of 4 people where costs are not shared equally.</p>
Calculate lengths, areas, weights or volumes accurately using appropriate tools, e.g. rulers, calculators etc.	Simple calculations on familiar items in either metric or imperial units, e.g. calculating areas of rectangles from lengths in the same whole unit	Calculations on items of unfamiliar or irregular shape in either metric or imperial units	Calculations on items of complex or composite shape, use scale drawings, convert between metric and imperial units.
Make and monitor schedules or budgets in order to plan the use of time and money	Plan and monitor small amounts of time and money (up to 7 days or £250)	Plan and monitor amounts of time, money or expenditure (up to 4 weeks or £2000)	Plan and monitor large amounts of time money or spending (over 4 weeks or up to £20,000)
Keep records in numerical or graphical form	Record simple numerical information (e.g. count and report on small batches, quantities between 25 and 1000)	<p>Find the appropriate information and make a simple record based on it (e.g. simple stock taking)</p> <p>Extract, use, report or present information from/on tables, pie charts, bar charts, pictograms and line graphs</p> <p>Round numbers up or down and report the information orally or in writing</p>	<p>Find the appropriate information from several complex sources and make a record based on it.</p> <p>Choose appropriate tables and charts on which to present information including tables with more than 4 columns, a bar chart or pictogram (up to 3 variables, 4-8 reports), and line graphs</p>

<b>Oral Communication Skills</b>	<b>Entry Level</b>	<b>Level 1</b>	<b>Level 2</b>
Give information to other people on the telephone or face to face	Give information on a single topic to one familiar person	Give information on several topics to unfamiliar people in a formal or semi-formal situation	<p>Explain or describe things to people in order to help them</p> <p>Put and justify a case orally to one other person</p>
Getting information from other people on the telephone or face to face	Getting information on a single topic from one familiar person	Getting information on several topics from unfamiliar people	Find, select and use appropriate information from several people to solve a problem

### ***Relationship between different frameworks***

9. It is also possible to relate the BSA Basic Skills Standards very approximately to the levels used in the QCA National Framework of Qualifications, and in the National Curriculum in schools. The NCDS results thus have the advantage of allowing us to make some broad estimates of how adults' basic skills needs fit into the national framework. This kind of mapping can never be perfect, but the broad equivalencies are as follows:

**Table A2: Equivalent National Levels**

<b>BSA Standards</b>	<b>QCA National Framework of Qualifications</b>	<b>Equivalent Vocational Qualification</b>	<b>Equivalent Level in Schools</b>
Entry	Entry	-	National Curriculum Level 2
Level 1	Foundation	Level 1 NVQ	National Curriculum Level 4
Level 2	Intermediate	Level 2 NVQ	GCSE grades A-C

10. It is not easy to establish equivalence between the IALS and NCDS surveys, since the two reports define basic skills in different ways, with different underlying conceptual frameworks and varying thresholds for defining competency. However, the Office for National Statistics suggest that tasks rated at Level 1 in IALS broadly relate to those rated at Entry Level, and some of the tasks rated at Level 1, of the BSA Standards.

### ***Scale of need***

11. The two surveys reach broadly similar conclusions about the scale of need for literacy, defined as 19% with poor literacy in the NCDS survey compared to 22% in IALS. There is, however, a discrepancy between the findings for the scale of need for numeracy – 48% in the NCDS survey compared to 23% in the IALS survey. We have chosen to use the NCDS figures as our guide for the approximate numbers of adults with numeracy difficulties, for the following reasons:
- the IALS research tested quantitative literacy skills, which is only a proxy for numeracy ability;
  - since IALS was attempting to measure competence across the full ability range, very few tasks were used to distinguish those at the lower end of ability compared to the NCDS research;

- the IALS classification, due to its underlying statistical framework, tends to ‘push’ the sample into four similar quartiles, which may partly explain the similarity between the prose and quantitative literacy results.
12. Therefore, based on the survey evidence outlined above, our baseline throughout the report is that some 20% of adults have low literacy skills. We refer to these adults throughout the report as being “at Entry Level” or “below Level 1”. Extrapolating from the rough mapping of equivalencies set out in Table A2, this means that these adults have not yet acquired the literacy skills required to achieve a Key Skills qualification in Communication at Level 1, or the skills required to be at Level 4 of the National Curriculum.
  13. From the NCDS research we can estimate that roughly one third of the 20% (or 6% of all adults) have very low literacy. We refer to these adults as being “below Entry Level”. Broadly, these adults do not have the literacy skills required to meet the standards set by a qualification such as Wordpower at Entry Level, or to carry out the Entry Level tasks set out in the basic skills standards table.
  14. We can estimate from the NCDS research that as many as 48% of adults have low numeracy. As before, we refer to these adults as being “at Entry Level” or “below Level 1”. As with literacy, a rough exercise suggests that these adults do not have adequate numeracy skills to achieve a Key Skills qualification in the application of number at Level 1.
  15. Approximately half of these adults (or 23% of all adults) have very low numeracy. Throughout the report we refer to such adults as being “below Entry Level”. As before, these adults will not have adequate numeracy skills to meet the standards of a qualification such as Numberpower at Entry level.
  16. Our focus in the report is on the 1 in 5 adults with low literacy, and the 1 in 5 adults with very low numeracy. Since by far the majority of the adults in this group have difficulties with both literacy and numeracy, this corresponds to some 7 million adults in England.

### ***Functional literacy and numeracy***

17. This focus is based on our working definition of functional literacy and numeracy. We believe that for most people, functional literacy is equivalent to the achievement of Level 1 of the BSA standards, and that functional numeracy requires numeracy skills at Entry Level. Of course, adults above this functional level may have difficulties in certain contexts. However, once they achieve a functional level they reach a “take-off” point from which they should be able to access mainstream education or vocational training.

18. This definition is based on research that suggests that higher level literacy is required more often than higher level numeracy, both in everyday life<sup>5</sup> and in the workplace. For example, with respect to employment, research suggests that those with low and very low literacy become increasingly less likely to be in full-time employment than those with better skills. However, with respect to numeracy, it is only those with very low skills that are marked out as having particular difficulty in maintaining employment<sup>6</sup>. Research into the basic skills needed at work also shows that, whilst the average requirement for reading and writing skills is at Level 1, numeracy skills are required at about entry level.<sup>7</sup>
19. We recognise that in specific contexts, and in specific occupations, the level of skills required to function effectively will be higher. For example, in a number of occupations, it will be important to improve the numeracy of employees to level 1 standard. Furthermore, in future, the skills required to be functional in work and society are likely to increase.

## **Level 2**

20. At a number of points in the report we refer to skills at Level 2. By this we mean, broadly, the literacy or numeracy required to meet the standards of a key skills qualification at Level 2, or, very roughly, the underlying literacy/numeracy required to achieve GCSE grades A\*-C. Though the achievement of Level 2 is not the focus of our report, a proportion of the adults improving their basic skills will rightly be aiming for Level 2 skills. This is why some of our recommendations relate to opportunities for these learners.

---

<sup>5</sup> *Basic Skills in Everyday Life*, The Basic Skills Agency, 1994

<sup>6</sup> *It Doesn't Get Any Better*, Bynner and Parsons, The Basic Skills Agency, 1997

<sup>7</sup> *Basic Skills and Jobs*, Institute for Employment Studies, The Basic Skills Agency, 1993

## **EVIDENCE AND CONSULTATION**

We are grateful to all those listed in this Annex who submitted evidence, or met with members of the Working Group.

**1. *Written evidence:***

Adult Dyslexia Organisation  
A J Baxter (dyslexia teacher)  
A M Coward (Yeovil College)  
A Pelleschi (Headteacher)  
Anne Faloon (Leeds College of Technology)  
Association of Colleges  
B Mirzai (Adult Education teacher)  
BE Consultancy  
Bilston Community College  
Bournemouth & Poole Further Education College  
Bradford and Ilkley Community College  
Bristol Youth Education Service  
The British Chambers of Commerce  
BBC Education  
British Dyslexia Association  
British Educational Communications and Technology agency (BECTa)  
Calderdale College  
Carlton Television  
Channel 4 Television  
City & Council of Swansea  
City & Guilds  
City and Islington College  
The Community Self Build Agency (CSBA)  
Core Skills Development Partnership, Birmingham  
D Watford (Yeovil College)  
Dearne Valley college  
Debbie Cross (student)  
Department of Health  
Derbyshire County Council  
Dorset Careers  
Durham County Council  
The Dyslexia Institute  
Equal Opportunities Commission  
Essential Skills service, Yeovil College  
Francis White  
Further Education Development Agency  
Geoff Kirkby (student)  
Gloucestershire County Council Education Department  
Greater Peterborough Chamber of Commerce, Training & Enterprise  
Heather McKay (Edge Hill University College)  
Highbury College, Portsmouth  
Humberside Training and Enterprise Council

Independent Television Commission  
Ingrid Thorstad  
Institute of Education, University of London  
Institute of Personnel and Development  
Julie Matthews (student)  
Keighly College  
Kent Training and Enterprise Council  
Lancashire Area West Training and Enterprise Council (LAWTEC)  
The Learning Freeway, Havering Adult College  
Lewisham College  
Link into Learning, Cornwall  
Literacy Research Group, Lancaster University  
London Chamber of Commerce and Industry  
London Language and Literacy Unit  
Lorna Hayward (Adult Education/English for Speakers of Other Languages teacher)  
Manchester Local Education Authority  
Medway Council  
Mid Essex Adult Community College  
Mr F.H Waite (student)  
National association for teaching English and other Community Languages to Adults  
National Association of Citizens Advice Bureaux  
National Institute of Adult Continuing Education (NIACE)  
NCH Action for Children  
Newham Council  
Nicola Beglin (part-time basic skills tutor)  
Norfolk County Council Education Department  
North and West Essex Community College  
North East Lincolnshire Adult Education  
North Lincolnshire adult Education Service  
Norwich City College  
Oaklands College  
PLANWEL (software training and development centre)  
Read on – Write Away!, Derbyshire  
Research and Practice in Adult Literacy (RAPAL)  
Richard Hopkins (Pheonix Rising)  
Rowley Regis College  
S O'Dwyer  
Sheffield College  
Skill: National Bureau for Students with Disabilities  
South Tyneside College  
Southampton City College  
Stockport English Language Service  
Suffolk County Council Education Department  
United Kingdom Reading Association  
University of Hull  
University of Lincolnshire & Humberside  
Walsall College of Continuing Education  
West Sussex County Council  
Westminster Adult Education Service  
Workers Educational Association

**2. Oral evidence was provided by:**

- Andrew Smith MP, Minister for Employment, Welfare to Work and Equal Opportunities, Department for Education and Employment
- The Further Education Funding Council
- The Training Standards Council
- OFSTED
- The Qualifications and Curriculum Authority
- The Local Government Association
- The TEC National Council
- Dr. Tom Sticht, President and Senior Scientist, Applied Behavioural and Cognitive Sciences, Inc., University of California

**3. Members of the Group consulted the following individuals:**

- Eileen Allen, Senior Education Officer, Independent Television Commission
- Nick Carey and colleagues, City & Guilds
- John Cridland, Confederation of British Industry
- Jane Drabble, Director of Education, BBC
- Ruth Spellman, Investors in People UK
- Moira Wallace, Jon Bright, Social Exclusion Unit

**4. The following organisations attended feedback meetings:**

- Association of Colleges
- BBC
- BECTa
- British Dyslexia Association
- Campaign for Learning
- Channel 4
- City & Guilds
- FEDA
- FEFC
- HM Prison Service, Education Services
- NIACE
- OFSTED
- QCA
- TEC National Council
- Training Standards Council

**5. Learner Focus Groups**

Four focus groups were held with adults on basic skills programmes in four areas of the country. The sites of the focus groups were chosen to reflect a range of programmes. Learners from the following programmes were consulted:

- Warrington Collegiate Institute
- Norfolk County Council
- Tower Hamlets College

- Maidstone prison

## 6. ***Expert Seminar***

In July 1998 a seminar was held to gain the views of basic skills practitioners. The following individuals attended this seminar:

- Yasmin Akbar-Shah, Tower Hamlets College
- Maureen Beckwith, Havering Adult College
- Nadine Cartner, Association of Colleges
- Lorraine Collins, Hillingdon Adult Education Service
- Jay Derrick, City and Islington College
- Fiona Frank, Lancaster Employee Development Consortium
- Chris Hopwood, Wakefield College/National Support Project for FE Colleges
- Henry Kelly, South Tyneside College
- Ian Livingstone, Barnsley College
- Miriam Sampson, Highbury College, Portsmouth
- Sue Southwood, Ford Motor Company

## **REFERENCES**

We found the following publications particularly helpful in writing this report:

### **A Official**

#### **i) Department for Education and Employment**

Department for Education and Employment, *Adult and Community Learning Fund: Prospectus*, (DfEE, 1998)

Department for Education and Employment, *Excellence in Schools*, (DfEE, 1997)

Department for Education and Employment, *Further Education for the New Millenium*, (DfEE, 1998)

Department for Education and Employment, *The Learning Age: a renaissance for a new Britain*, (DfEE, 1998)

Department for Education and Employment, *TECs: Meeting the Challenge of the Millenium: Consultation Paper*, (DfEE, 1998)

Department for Education and Employment, *University for Industry: Engaging people in learning for life – Pathfinder Prospectus*, (DfEE, 1998)

Literacy Task Force, *The Implementation of the National Literacy Strategy*, (DfEE, 1997)

Numeracy Task Force, *Numeracy Matters: The Preliminary Report of the Numeracy Task Force*, (DfEE, 1998)

#### **ii) Other**

Department of the Environment, Transport and the Regions, *Building Partnerships for Prosperity: Sustainable Growth, Competitiveness and Employment in the English Regions*, (DETR, 1997)

The Education and Training Action Group for Wales, *An Education and Training Action Plan for Wales: A Draft for Consultation*, (Manweb plc, 1998)

The Further Education Funding Council, *Basic Education: Curriculum Area Survey Report*, (FEFC, 1998)

House of Commons Select Committee on Education and Employment, *Sixth Report: Further Education*, (HMSO, 1998)

HM Prison Service, Education Services, *Focus on Education within Prisons: Briefing for All Party Parliamentary Group on Adult Education*, (HM Prison Service Regime Services, 1998)

Kennedy, H., *Learning Works: Widening participation in further education*, (FEFC, 1997)

National Advisory Council for Education and Training Targets, *National Learning Targets for England for 2002*, (DfEE, 1998)

National Advisory Group for Continuing Education and Lifelong Learning, *Learning for the Twenty-First Century*, (DfEE, 1997)

National Skills Task Force, *Towards a National Skills Agenda*, (DfEE, 1998)

Office for National Statistics, *Adult Literacy in Britain*, (ONS, 1997)

Office for Standards in Education, *The Annual Report of Her Majesty's Chief Inspector of Schools 1996/97*, (OFSTED, 1998)

Organisation for Economic Cooperation and Development / Human Resources Development Canada, *Literacy Skills for the Knowledge Society*, (OECD, 1997)

Qualifications and Curriculum Authority, *Literacy and Numeracy in the Workplace*, (QCA, 1997)

Qualifications and Curriculum Authority, *Implementation of the Dearing Review of Qualifications for 16-19 Year Olds*, (QCA, 1997)

Social Exclusion Unit, *Bringing Britain together: a national strategy for neighbourhood renewal*, (HMSO, 1998)

## **B Basic Skills Agency**

ALBSU/Gallup, *The Cost to British Industry: Basic Skills and the Workforce*, (ALBSU, 1993)

ALBSU, *Parents and their Children*, (ALBSU, 1993)

The Basic Skills Agency, *Staying the Course*, (BSA, 1997)

The Basic Skills Agency, *Quality Standards for Basic Skills Programmes*, (BSA, 1997)

The Basic Skills Agency/National Foundation for Educational Research, *Family Numeracy Adds Up*, (BSA, 1998)

Bynner, J., and Parsons, S., *It Doesn't Get Any Better*, (BSA, 1997)

Bynner, J., and Parsons, S., *Does Numeracy Matter?*, (BSA, 1997)

Bynner, J., and Parsons, S., *Use It or Lose It?*, (BSA, 1998)

Bynner, J., and Parsons, S., *Influences on Adult Basic Skills* (BSA, 1998)

Carr-Hill, R., Passingham, S., Wolf, A., and Kent, N., *Lost Opportunities*, (BSA, 1995)

Ekinsmyth, C., and Bynner, J., *The Basic Skills of Young Adults*, (BSA, 1994)

Institute for Employment Studies, *Basic Skills and Jobs*, (ALBSU, 1993)

Kambouri, M., and Francis, H., *Time to Leave?: Progression and Drop Out in Basic Skills Programmes*, (ALBSU, 1994)

National Foundation for Educational Research, *Family Literacy Lasts*, (BSA, 1997)

WMEB Consultants and Ross, K., *Basic Skills Training at Work: A Study of Effectiveness*, (ALBSU, 1995)