Department for Business Innovation & Skills

RESEARCH

BIS RESEARCH PAPER NUMBER 81A

2011 Skills for Life Survey: Annexes

DECEMBER 2012

The views expressed in this report are the authors' and do not necessarily reflect those of the Department for Business, Innovation and Skills.

Department for Business, Innovation and Skills

1 Victoria Street

London SW1H 0ET

www.bis.gov.uk

Research paper number 81A

November 2012

Contents

Annex 1- Research design and conduct

Survey Design

The survey aimed to interview a representative sample of adults aged 16-65 resident in private households in England. This sample was designed to be comparable with that interviewed in the 2003 Skills for Life survey (SfL2003). The survey comprised a 'background' questionnaire, followed by a pre-assigned random combination of two of the three skills assessments: literacy, numeracy and ICT.

The background questionnaire was designed to collect information around the demographic, social and motivational factors related to skills Levels. Full details around the development of the questionnaire is included in Annex 3.

The design and piloting of the assessments instruments used in the survey is included in Annex 2. It details how the tools were developed and the decision to re-use the 2003 literacy and numeracy assessment tools for the purpose of comparability.

Sampling

Survey population

The sample is drawn from the population of adults aged 16-65 (inclusive) living in private residential accommodation in England. The sample is intended to be representative of this population as it was in late 2010 / early 2011.

The sample is a probability sample and therefore classical estimates of sample variance are applicable.

Sample frame

In keeping with all British probability sample surveys that employ in-person interviewing methods, the ('small user') Postal Address File ('PAF') was used as the sample frame. This is a comprehensive database of residential addresses in England. The sample was converted from one of addresses to one of adults aged 16-65 using an enumeration method.

At each sampled address, an interviewer enumerated the component households, sampling one. At the sampled household, the interviewer sought to enumerate the resident adults aged 16-65, sampling one if at least one was resident. In both cases, the interviewer used a pre-printed 'Kish' grid of random numbers to identify the sampled household/individual after listing candidates in a predetermined order.

The sampling probability is known for all survey respondents so a sampling weight (effectively the inverse of the sampling probability) has been calculated for each respondent.

1.2.3 Sample of addresses

The address sample is an implicitly stratified two-stage cluster sample. This means that

(i) a population database of area clusters ('primary sampling units') was sorted using various descriptive characteristics (the 'stratification variables'),

(ii) a systematic sample was drawn of primary sampling units ('PSU') to use in the survey, and

(iii) a systematic sample was drawn of addresses in each sampled PSU.

The primary sampling units were 'statistical wards', created by the Office of National Statistics in 2003.[1] These were used in preference to other options because modelled prevalence estimates (derived from the SfL2003) of the proportions of adults aged 16-65 with (a) Entry Level literacy, (b) Entry Level numeracy and (c) English spoken as a second language ('ESOL') were available for all but a handful of statistical wards. Consequently, these wards could be stratified using these variables (plus a region indicator).[2] It was expected that a sample stratified on this basis would have maximal statistical efficiency.

The final strata are described in Annex Table 1.1. The strata were used implicitly rather than explicitly. In other words, the primary sampling units were sorted by the stratum identifier and a single systematic sample was drawn from the whole database. Explicit stratification involves sampling separately in each stratum but this is not usually required if sampling fractions do not vary between strata (as here).

Annex Table 1.1 Strata used to sample statistical wards

Stratum	Region	Modelled prevalences
101	North East	EL literacy <0.1 and ESOL <0.02
102	North East	EL literacy <0.1 and ESOL >=0.02
103	North East	EL literacy >=0.1 and EL literacy <0.2 and ESOL <0.02
104	North East	EL literacy >=0.1 and EL literacy <0.2 and ESOL >=0.02
105	North East	EL literacy >=0.2
201	North West	EL literacy <0.1 and ESOL <0.05
202	North West	EL literacy <0.1 and ESOL >=0.05
Stratum	Region	Modelled prevalences

[1] Further details about statistical wards can be found at the ONS website http://www.ons.gov.uk/ons/guide-method/geography/beginner-s-guide/administrative/england/electoral-wards-divisions/statistical-wards--cas-wards-and-st-wards/index.html, accessed on 28.03.12.

[2] Because the prevalence estimates of Entry level literacy and numeracy were highly correlated, the latter was not used in the stratification process.

Annex Table 1.1 Strata used to sample statistical wards

203	North West	EL literacy >=0.1 and EL literacy <0.2 and ESOL <0.05
204	North West	EL literacy >=0.1 and EL literacy <0.2 and ESOL >=0.05
205	North West	EL literacy >=0.2 and EL literacy <0.3 and ESOL <0.05
206	North West	EL literacy >=0.2 and EL literacy <0.3 and ESOL >=0.05
207	North West	EL literacy >=0.3
301	Yorkshire/Humberside	EL literacy <0.1 and ESOL <0.05
302	Yorkshire/Humberside	EL literacy <0.1 and ESOL >=0.05
303	Yorkshire/Humberside	EL literacy >=0.1 and EL literacy <0.2 and ESOL <0.03
304	Yorkshire/Humberside	EL literacy >=0.1 and EL literacy <0.2 and ESOL >=0.03 and ESOL <0.1
305	Yorkshire/Humberside	EL literacy >=0.1 and EL literacy <0.2 and ESOL >=0.1
306	Yorkshire/Humberside	EL literacy >=0.2
401	East Midlands	EL literacy <0.1 and ESOL <0.05
402	East Midlands	EL literacy <0.1 and ESOL >=0.05
403	East Midlands	EL literacy >=0.1 and EL literacy <0.2 and ESOL <0.05
404	East Midlands	EL literacy >=0.1 and EL literacy <0.2 and ESOL >=0.05
405	East Midlands	EL literacy >=0.2
501	West Midlands	EL literacy <0.1 and ESOL <0.05
502	West Midlands	EL literacy <0.1 and ESOL >=0.05
503	West Midlands	EL literacy >=0.1 and EL literacy <0.2 and ESOL <0.1
504	West Midlands	EL literacy >=0.1 and EL literacy <0.2 and ESOL >=0.1
505	West Midlands	EL literacy >=0.2 and EL literacy <0.3 and ESOL <0.15
506	West Midlands	EL literacy >=0.2 and EL literacy <0.3 and ESOL >=0.15
507	West Midlands	EL literacy >=0.3
601	East	EL literacy <0.1 and ESOL <0.05
602	East	EL literacy <0.1 and ESOL >=0.05 and ESOL <0.1
603	East	EL literacy <0.1 and ESOL >=0.1
604	East	EL literacy >=0.1 and ESOL <0.05
605	East	EL literacy >=0.1 and ESOL >=0.05 and ESOL <0.1
606	East	EL literacy >=0.1 and ESOL >=0.1
701	London	EL literacy <0.1 and ESOL <0.25
702	London	EL literacy <0.1 and ESOL >=0.25 and ESOL <0.35
703	London	EL literacy <0.1 and ESOL >=0.35
704	London	EL literacy >=0.1 and EL literacy <0.2 and ESOL <0.3
705	London	EL literacy >=0.1 and EL literacy <0.2 and ESOL >=0.3 and ESOL <0.4

Annex Table 1.1 Strata used to sample statistical wards		
706	London	EL literacy >=0.1 and EL literacy <0.2 and ESOL >=0.4
707	London	EL literacy >=0.2 and ESOL <0.3
708	London	EL literacy >=0.2 and ESOL >=0.3 and ESOL <0.5
709	London	EL literacy >=0.2 and ESOL >=0.5
801	South East	EL literacy <0.1 and ESOL <0.1
802	South East	EL literacy <0.1 and ESOL >=0.1
803	South East	EL literacy >=0.1 and ESOL <0.1
804	South East	EL literacy >=0.1 and ESOL >=0.1
901	South West	EL literacy <0.1 and ESOL <0.05
902	South West	EL literacy <0.1 and ESOL >=0.05
903	South West	EL literacy >=0.1 and ESOL <0.05
904	South West	EL literacy >=0.1 and ESOL >=0.05

For the handful of statistical wards (80 out of 7,969) without modelled prevalence estimates, these were imputed[3] on the basis of (a) region and (b) household distribution across ACORN categories. ACORN is a housing segmentation developed by CACI Ltd and informed primarily (but not exclusively) by 2001 census data.[4] These wards were allocated to strata using these imputed prevalence estimates.

A total of 875 statistical wards were sampled for the survey. Each statistical ward had a sampling probability proportionate to its (single occupancy)[5] address count.

In each sampled statistical ward, a systematic sample of 24 addresses was drawn. Addresses were sorted by postcode and, within postcode, alphanumerically by first line of address. This ensured maximum spatial dispersion of addresses within each sampled statistical ward.

The total number of addresses sampled was 21,000 (875*24) from a total pool of 25,483,889. This is a sampling fraction (n/N) of 0.000825 (21,000/25,453,889).

[3] A CHAID tree (Chi-squared Automatic Interaction Detector) was formed using region and per cent in each ACORN category as predictor variables and the modelled prevalence estimate as the dependent variable. The simple class mean was imputed for those wards without a modelled prevalence estimate.

[4] ACORN stands for A Classification of Residentials Neighbourhoods.

[5] The single occupancy count treats each address equally. The alternative is the multiple occupancy count which uses other data to estimate the number of households at the address. However, the multiple occupancy count is not considered reliable in England.

The sample of addresses was an equal probability sample. The sampling probability of each address was:

p(psu) * (n/N) / p(psu) = n/N = 0.000825

p(psu) = probability of sampling the associated primary sampling unit = $(N_{psu}/N)*825$

n = total address sample size

N = total number of addresses in England

N_{psu} = total number of addresses in associated primary sampling unit

The second term [(n/N) / p(psu)] is the sampling fraction applied within each sampled statistical ward and always leads to a sample of 24 addresses. This is best demonstrated using fictitious examples (see Annex Table 1.2):

Annex Table 1.2 Demonstration of how an equal number of sampled addresses per sampled statistical ward produces and equal probability address sample

Ward	Actual address count	P(psu) *Note: $p(PSU) = (N_{psu}/N)*825$*	(n/N) / p(psu) *Note: n/N = 0.000825*	Sampled address count (n/N) / p(psu)
A	3,967	(3,967/25,453,889)*875 = 0.1364	0.006050	24
B	6,169	(6,169/25,453,889)*875 = 0.2121	0.003890	24
C	6,549	(6,549/25,453,889)*875 = 0.2251	0.003665	24
D	7,200	(7,200/25,453,889)*875 = 0.2475	0.003333	24

Although 875 statistical wards were sampled, 88 were allocated to the reserve pool, leaving 787 to be issued in the first instance. Systematic allocation to the reserve pool ensured that both the 'main' and 'reserve' pools were representative of the whole sample.

In the event, lower than expected response rates (discussed further in Section 1.2.4 below) enforced the issue of 43 reserve wards, taking the total used in the survey to 830.

1.2.4 Sample of addresses

During the fieldwork period, the address conversion rate was lower than anticipated, and it was predicted that a 36 per cent conversion rate would be achieved rather than the anticipated 40 per cent.

The decision was taken to reduce the target achieved sample size from 7,550 to 7,225, and to issue a reserve sample in order to achieve ensure the revised target was met. A further 1,027 cases were issued to achieve this. In total 19,917 cases were issued.

Survey Development and Piloting

Prior to the main stage survey, the Department for Business, Innovation and Skills (BIS) commissioned a separate research project to consider the best design options for the Skills for Life 2011 Survey (SfL2011). This research development and piloting project was conducted by the AlphaPlus Consultancy and TNS-BMRB. Full details of the research development and piloting of the project are included in Annex 2.

Fieldwork Process

Fieldwork for the survey was carried out using in-home CAPI (Computer Assisted Personal Interviewing). All interviewers working on the survey attended a face to face day long briefing conducted by the TNS-BMRB research team.

All selected household were sent an advance letter and information leaflet prior to the interviewer calling around to the household. An unconditional incentive of a book of six first class stamps was enclosed.

Only one person at the selected address could be interviewed. Where there was more than one eligible household at an address or more than one eligible person in the household, one was selected at random for the interview (using a Kish grid). Each respondent was given £10 gift voucher as a thank you for taking part. This approach mirrored that used in the SfL2003.

Fieldwork and Response Rates

Fieldwork was carried out between 10th May 2010 and 25th February 2011. In total, 7230 interviews were conducted.

In surveys such as this with a screening stage there are a number of ways of presenting response rates. Annex Table 1.3 below gives a summary of the number of households that were screened and the total achieved response rate assuming that a proportion of the unscreened households would have been ineligible had they been screened. Using this method, overall 57 per cent of assumed eligible households took part in the survey. The address conversion rate was 36 per cent.

Annex Table 1.3 Summary of screened households and response rate

	N	% of total sample	% of screened households	% of assumed eligible households
Issued Addresses	**19,917**	**100**		
Total deadwood[6]	1,956	10		
Unscreened	2,222	11		
Total screened households	**15,739**		**100**	
Ineligible for survey (no-one aged 16-65)	4,628		29	
Eligible households	11,111		71	
Total number of assumed eligible households	**12,680**[7]			**100**
Interview achieved	**7,230**			**57**

Annex Table 1.4 shows a more detailed breakdown of achieved outcomes for all issued addresses.

Annex Table 1.4 Final fieldwork outcomes for all issued addresses

	N	% of sample issued
Sample Issued	**19,917**	**100**
Deadwood	**1956**	**10**
Unscreened households	**2,222**	**11**
- All information refused	660	3
- No contact with household	1,562	8
Ineligible for survey (no-one aged 16-65)	**4,628**	**23**
Interview achieved	**7,230**	**36**
Interview not achieved	**3,881**	**19**
- Refusal by selected person	2,868	14
- Other unproductive	1,013	5

Each respondent who took part in an interview was assigned to two assessments. However, assessment data was not available for all 7,230 completed interviews. A breakdown assessment response/completion is shown in Annex Table 1.5.

[6] 'Deadwood' is out of scope and ineligible addresses.

[7] This figure is calculated by applying the survey eligibility rate of 71 per cent to the number of unscreened households and adding to the number of screened eligible households.

Annex Table 1.5 Assessment response/completion

LITERACY	**N**
Completed interviews assigned to literacy assessment	**6,049**
Assessments completed to end	**5,798**
Assessments not attempted / completed:	**251**
- Could not read English so not invited to complete assessment*	18
- Respondent had poor English / sight problems and choose not to attempt assessment*	8
- Respondent did not want to attempt / complete the assessment	62
- Technical error / interviewer error that prevented assessment completion[8]	163
NUMERACY	**N**
Completed interviews assigned to numeracy assessment	**6,053**
Assessments completed to end	**5,800**
Assessments not attempted / completed:	**253**
- Could not read English so not invited to complete assessment*	16
- Respondent had poor English / sight problems and choose not to attempt assessment*	7
- Respondent did not want to attempt / complete the assessment	64
- Technical error / interviewer error that prevented assessment completion	166
ICT	
Completed interviews assigned to ICT assessment	**2,358**
Completed at least one ICT component of the assessment	**2,084**
- Completed multiple choice component	2,074
- Completed word processing component	2,053
- Completed email component	2,047
- Completed spreadsheet component	2,028
Did not complete any of the ICT assessment	**274**
- Respondent never used a computer so not invited to complete*	200
- Respondent chose not to attempt assessment	70
- Technical error/ respondent error that prevented assessment completion	4

*These respondents were assigned the lowest Level score for the assessment – see Section 1.6.1 in this Annex for further details

[8] See Section 1.8 in this Annex for more details.

Data weighting and imputation

In order to ensure maximum comparability between SfL2011 and SfL2003, the weighting strategy in 2011 was matched to that used for SfL2003. A sampling weight was calculated for each respondent *i*, equal to the inverse of his/her sampling probability:

$1/(p(address_a) * p(household_h)|address_a * p(respondent_i)|household_h))$

This sampling weight was used as the base weight - or starting position – for an iterative sequence of 'rim weighting' to population totals. In keeping with the 2003 survey, these population totals were (a) the cross-classification of sex and age, and (b) region, and were drawn from the most recent Office for National Statistics (ONS) mid-year population estimates (2009). Annex Table 1.6 shows the population totals converted into percentages.

Annex Table 1.6 Rim weight population proportions

Population proportion	Population cell	
	Rim weight 1	
	Sex	Age
3.99%	Male	16-19
5.33%	Male	20-24
5.24%	Male	25-29
4.83%	Male	30-34
5.33%	Male	35-39
5.78%	Male	40-44
5.39%	Male	45-49
4.69%	Male	50-54
4.30%	Male	55-59
5.12%	Male	60-65
3.78%	Female	16-19
5.09%	Female	20-24
5.05%	Female	25-29
4.74%	Female	30-34
5.40%	Female	35-39
5.81%	Female	40-44
5.53%	Female	45-49
4.78%	Female	50-54
4.45%	Female	55-59
5.37%	Female	60-65

Population proportion	Population cell
	Rim weight 2
	Region
5.00%	North East
13.25%	North West
10.19%	Yorkshire/Humberside
8.58%	East Midlands
10.29%	West Midlands
10.95%	East
15.85%	London
16.07%	South East
9.82%	South West

Rim weighting was carried out separately for (i) the full sample, (ii) the sample allocated to the literacy assessment, (iii) the sample allocated to the numeracy assessment, and (iv) the sample allocated to the ICT assessments.

The weighted full sample was compared with the most recent Annual Population Survey estimates with regard to (i) broad ethnic distribution and working status (Oct 2009 – Sep 2010), and (ii) broad qualifications distribution (Jan – Dec 2009). The SfL2011 sample distributions were comparable to those in the APS in terms of work and ethnicity but the SfL2011 sample appears somewhat more educated, particularly among the over 30s.[9] Educational level is a fairly strong predictor for all three skills so there may be a small degree of non-response bias that follows from this. However, this potential bias is also apparent if the weighted 2003 survey distribution is matched to the concurrent Labour Force Survey distribution. Uncorrected sample bias is at least consistent between the two surveys.

[9] The APS and SfL education questions are not exact matches.

Annex Table 1.7 Comparisons between weighted Skills for Life 2011 data set and APS estimates

Population cell	SfL2011 (16-64)[10]	APS (16-64)	SfL2011-APS
% of men in work	76.2%	75.7%	+0.5%
% of women in work	65.1%	65.3%	-0.2%
% of men who are unemployed but 'economically active'	7.4%	7.6%	-0.2%
% of women who are unemployed but 'economically active'	6.0%	5.2%	+0.8%
% of men who are economically inactive	16.4%	17.1%	-0.7%
% of women who are economically inactive	28.9%	29.9%	-1.0%
% of 20-24s with degree	17.5%	18.5%	-1.0%
% of 25-29s with degree	33.0%	32.0%	+1.0%
% of 30-39s with degree	34.4%	31.3%	+3.1%
% of 40-49s with degree	25.6%	22.4%	+3.2%
% of 50-64s with degree	19.9%	17.4%	+2.5%
% of 20-24s with no qualifications	4.5%	7.5%	-3.0%
% of 25-29s with no qualifications	4.8%	7.9%	-3.1%
% of 30-39s with no qualifications	6.0%	8.3%	-2.3%
% of 40-49s with no qualifications	8.8%	9.9%	-1.1%
% of 50-64s with no qualifications	17.8%	19.6%	-1.8%
% of 16-19s who are white	85.2%	84.9%	+0.3%
% of 20-24s who are white	82.6%	84.2%	-1.6%
% of 25-49s who are white	83.0%	84.7%	-1.7%
% of 50-64s who are white	93.7%	93.2%	+0.5%
% of ethnic minority 16-64s who are UK born	36.2%	33.9%	+2.3%

Imputation of scores

In line with SfL2003, the assessment scores for some respondents were 'imputed' where they did not complete the assessment. For the literacy and numeracy assessments, the approach taken was identical to that in 2003 to maintain comparability: respondents who either (a) said

[10] Many of the Annual Population Survey statistics are provided for the 'working age' population (16-64 at time of writing), very slightly different from the SfL2011 population (16-65).

they could not read English or (b) assessed their reading level as 'poor' and chose not to attempt the assessments are given EL1 values for all assessments.

In addition, respondents who had never used a computer are given the lowest value for all the ICT assessments (below EL1 for multiple-choice and word processing, below EL2 for email, below EL3 for spreadsheets).

Any other cases missing a skill Level are excluded from analysis that covers that skill Level.

Margins of error

Significance testing has been carried out at the five per cent level in this report unless otherwise stated. All comparative data described in the report are statistically significant unless otherwise stated. If a difference is described as 'statistically significant' it means that it is greater than some critical value *x*. If the *true* difference is zero, the probability of observing a difference greater than *x* is five per cent.

The margins of error for the overall Level distributions for literacy, numeracy and ICT are shown in Tables 4.1, 4.4 and 4.6 in Chapter 4. Consideration of the likelihood of various magnitudes of change of literacy and numeracy Levels between 2003 and 2011 are shown in Tables 4.2, 4.3 and 4.5 in Chapter 4.

Technical functioning of the tools

In SfL2003 there was an issue in which the data for some entire assessments was not captured known as 'data non-capture'. Further detail of this is included in Annexes 4 and 6. The source of this bug remains unknown, but to safeguard against the possibility of a repeat in SfL2011, a 'security wrapper' was used to surround the software and report on any errors in its operation or errors involving modification of the core software from 2003. No instances of data non-capture were apparent in the 2011 survey.

In the 2011 survey, a small number of assessments were not completed due to a technical error/interview error. For the literacy assessment 163 assessments were not completed for this reason as were 166 numeracy assessments. All such cases were investigated individually as they arose during fieldwork. The majority of these uncompleted assessments were due to the assessment not loading correctly, or the assessment closing prematurely. Whilst a 're-launch' process was included in the interview (where an interviewer could re-load an assessment if it did not load correctly the first time around – at 'QRESTARTL' and 'QRESTARTN' in the background questionnaire), in these cases interviewer error prevented the assessments being reloaded.

For the ICT assessment four cases of respondent/technical error were reported that prevented completion of the whole assessment. These cases were also investigated on a case by case basis as they arose. Three of these cases were accidental error by the respondent /interviewer (for example when the interviewer handed the laptop to the respondent and the accidental pressing of the mouse/screen causing the assessment to close). There was only one case where the interviewer reported technical failure that prevented the whole assessment from being attempted.

Annex 2- Development and piloting of the Skills for Life Survey tools

2.1 Summary

- In 2002/3 the Department for Education and Skills (DfES) commissioned a survey into the standard of adult basic skills in all adults aged between 16 and 65 who were normally resident in England. The Skills for Life 2003 Survey (SfL2003) was conducted by the partnership of the British Market Research Bureau (BMRB, now TNS-BMRB), the Centre for Developing and Evaluating Lifelong Learning (CDELL) in the School of Education at the University of Nottingham and Bradford Technology Ltd (BTL) on behalf of the Department. The CDELL team developed the skills assessments used in the survey in conjunction with BTL who wrote the software that enabled the assessments to be conducted via laptop computers. BMRB developed the background questionnaire, carried out the interviews, and undertook most of the data analysis.

- Then, in 2009 the Department for Business, Innovation and Skills (BIS) commissioned a research development and piloting project to consider the best design options for a new Skills for Life survey which was planned to be conducted in 2010/11 (Skills for Life 2011 Survey (SfL2011)). The research development and piloting project was conducted by TNS-BMRB and the Alpha*Plus* Consultancy. Members of Alpha*Plus* had also been involved in the development of the skills assessments used in the 2003 survey in their capacity as Special Lecturers in the School of Education at the University of Nottingham.

- The main objectives of the research development and piloting project were to:

  1. consider how to improve on the design of SfL2003 for the research tools that would be used in the proposed SfL2011, whilst ensuring comparability of analysis of data (for literacy and numeracy only);
  2. revise, develop and pilot research tools for use in SfL2011, including literacy and numeracy assessment tools, an Information and Communication Technology (ICT) assessment tool and a contextual and attitudinal questionnaire;
  3. produce a specification to be used for commissioning SfL2011;
  4. report on the pilot findings to inform the implementation and running of the main-stage SfL2011.

- The research findings confirmed the suitability of the new piloted tools but for reasons of absolute comparability with SfL2003, the decision was taken to re-use the literacy and numeracy assessments used in 2003. The security wrapper produced for the 2009 research development and piloting study to protect against occasional data non-capture issues experienced in SfL2003 was retained for SfL2011. The research findings also confirmed the suitability of the piloted ICT tool and a decision was taken to include that in SfL2011.

- The literacy, numeracy and ICT survey tools were designed to take a maximum of 25 minutes each to complete. The literacy and numeracy assessments are adaptive, selecting and presenting questions based on the scoring of candidates' responses to previous questions. This approach reduces the overall assessment time, and helps to maximise the number of questions that challenge candidates (without being too easy or difficult) improving completion rates.

- The literacy and numeracy assessments contain some items that were in use in Key Skills tests at the time and others written from scratch. While the numeracy assessment covers a relatively broad range of the curriculum, the literacy assessment only covers reading and a small number of elements of writing. The skills of speaking, listening and much of writing are not assessed (a feature common to most Skills for Life assessments). All items are objective and computer-marked, and multiple choice questions are used exclusively in numeracy and extensively in literacy.

- The ICT assessment is in four separate sections – assessments of word processing, email and spreadsheet skills and a set of 15 multiple choice questions assessing other ICT skills such as internet use. All items in the ICT assessment were written from scratch with consideration of the nature of assessment activities included in contemporary ICT skills assessments such as Functional Skills.

2.2 Short review of the 2009/10 pilot project

In 2002/3 the Department for Education and Skills (DfES) commissioned a survey into the standard of adult basic skills in all adults aged between 16 and 65 who were normally resident in England. The Skills for Life 2003 Survey (SfL2003) was conducted by the partnership of the British Market Research Bureau (BMRB, now TNS-BMRB), the Centre for Developing and Evaluating Lifelong Learning (CDELL) in the School of Education at the University of Nottingham and Bradford Technology Ltd (BTL) on behalf of the Department. The CDELL team developed the skills assessments used in the survey in conjunction with BTL who wrote the software that enabled the assessments to be conducted via laptop computers. BMRB developed the background questionnaire, carried out the interviews, and undertook most of the data analysis. The official report on SfL2003 was published in October 2003.[11]

Then, in 2009 the Department for Innovation, Universities and Skills (DIUS), a predecessor to the Department for Business, Innovation and Skills (BIS) commissioned a research development and piloting project to consider the best design options for a new Skills for Life survey which was conducted between May 2010 and February 2011 and is referred to throughout the report as the Skills for Life 2011 Survey (SfL2011). The research development and piloting project was conducted by TNS-BMRB and the Alpha*Plus* Consultancy. Members of Alpha*Plus* had also been involved in the development of the skills assessments used in the 2003 survey in their capacity of Special Lecturers in the School of Education at the University of Nottingham.

[11] Williams, J., S. Clemens, S. Oleinikova, and K. Tarvin (2003) *The Skills for Life Survey: a National Needs and Impact Survey of Literacy, Numeracy and ICT skills*. Department for Education and Skills Research Report 490, available online at: https://www.education.gov.uk/publications/eOrderingDownload/RR490.pdf, accessed on 28/03/12.

The main objectives of the research development and piloting project were to:

- consider how to improve on the design of SfL2003 for the research tools that would be used in the proposed SfL2011, whilst ensuring comparability (for literacy and numeracy only) with analysis used in SfL2003;
- revise, develop and pilot research tools for use in SfL2011, including literacy and numeracy assessment tools, an Information and Communication Technology (ICT) assessment tool and a contextual and attitudinal questionnaire;
- produce a specification to be used for commissioning SfL2011; and
- report on the pilot findings to inform the implementation and running of the main-stage SfL2011.

The research development and piloting project was carried out in three phases.

2.2.1 Research development and piloting project phase 1: review of the possible assessment tools

The main activities in Phase 1 were to:

- review the literacy and numeracy assessment tools used in SfL2003;
- review the ICT tool used in SfL2003;
- consider what other assessment tools might be suitable for the planned SfL2011;
- present recommendations for the assessment tools to be used in SfL2011;
- develop for use in SfL2011: literacy and numeracy assessment tools (based primarily on the existing Skills for Life Initial Assessment tools)[12] and an ICT assessment tool using the Real Applications Test Environment (RATE) technology;
- develop a contextual background and attitudinal questionnaire;
- develop and present recommendations for the SfL2011 sample design;
- investigate and report on the options available for comparative analysis with the Organisation for Economic Co-operation and Development (OECD) Programme for the International Assessment of Adult Competencies (PIAAC) and also with a survey of offenders in custody or those in the community;

[12] Skills for Life Assessment Tools Library, available online at: http://archive.excellencegateway.org.uk/page.aspx?o=toolslibrary, accessed 28/0312.

- conduct technical reliability tests on the interviewing software platform in order to check its reliability prior to piloting the literacy, numeracy and ICT assessment tools proposed for use in SfL2011.

Review of the literacy and numeracy assessment tools used in SfL2003

The literacy and numeracy assessment tools used in SfL2003 were constructed (in 2001 and 2002) from a selection of items drawn from the paper-based Key Skills items in Communication and Application of Number. All of these items were multiple choice. The Core Curriculum for literacy and numeracy was not then available and hence the tools were based upon the Key Skills standards, although for the purposes of SfL2003 the authors had endeavoured to align them as far as possible to the National Standards using the descriptors published by the Qualifications and Curriculum Authority (QCA) in 2000.[13]

Each tool was underpinned by a bespoke adaptive algorithm. This was made up of an initial screening stage, followed by two further stages for literacy and six for numeracy. The performance of the respondents was tracked item by item and stage by stage, so that the difficulty of the items presented to a respondent at the later stages depended upon their performance at previous stages. Adaptive testing was deemed essential (although it introduced complexities in test performance analysis) in order to reduce the amount of time required to reach an accurate Level assessment.

When the SfL2003 tools were reviewed, a number of potential issues were reviewed:

1. As mentioned above, the tools are based on the Key Skills Standards, as the Skills for Life Core Curriculum was not available at the time. Since then, the Skills for Life Core Curriculum[14] has been released and then revised in 2009 (although with only limited amendments). In addition, the bank of National Tests for Key Skills and Skills for Life (the effective standard for attainment at Levels 1 and 2) has been through several iterations and those in use today differ in many respects to those used in 2001. Taken together, all of these changes mean that some of the tests on which the SfL2003 tools are based might no longer be regarded as satisfactory today because they no longer satisfy the most recent standards.

2. The SfL2003 tools consist entirely of multiple choice questions, and hence are able to assess only a relatively narrow section of the curriculum. For example, it is not possible to assess Speaking and Listening at all through multiple choice testing (as 'Speaking and Listening' is regarded as a single holistic skill involving speaking in response to listening, i.e. participating in a conversation), nor can Writing be properly assessed. Developments in

[13] Department for Education and Skills (2001) *Adult Literacy Core Curriculum including Spoken Communication*, available online at: http://rwp.excellencegateway.org.uk/resource/Adult+literacy+core+curriculum/pdf/, accessed on 28/03/12, and Department for Education and Skills (2001) *Adult Numeracy Core Curriculum*, available online at: http://rwp.excellencegateway.org.uk/resource/Adult+numeracy+core+curriculum/pdf/, accessed on 28/03/12.

[14] Department for Education and Skills (2001*) Adult Literacy Core Curriculum including Spoken Communication*, available online at: http://rwp.excellencegateway.org.uk/resource/Adult+literacy+core+curriculum/pdf/, accessed on 28/03/12.

Department for Education and Skills (2001) *Adult Numeracy Core Curriculum*, available online at: http://rwp.excellencegateway.org.uk/resource/Adult+numeracy+core+curriculum/pdf/, accessed on 28/03/12.

assessment since that time have considerably broadened the range of topics that can be assessed.

3. Only limited trialling of the tools had been possible at the time of the 2003 survey due to time constraints under which the tools had been developed.

4. A report by the National Research and Development Centre (NRDC) had raised questions about some aspects of the design of the tools, particularly in terms of adherence to the standards (which were available when the NRDC report was published in 2005 - see point 1 above), coverage, and the issues of authenticity raised by the exclusive use of multiple choice questions. [15] In summary, the main comments on the 2003 **literacy** assessments were as follows:

- alignment with the national standards could be characterised as broad and fragmentary, rather than being precise at an element-by-element level;
- the Level 1 and 2 literacy (and numeracy) items were taken from the Key Skills tests, and in the process adapted from paper-based to computer-based format;
- some Entry Level items were adaptations of Level 1 items from the Key Skills tests – hence these items were doubly adapted, not only from paper-based to computer-based format, but also from one Level to another;
- there was no extensive trialling of the items in their new format;
- as with many of the other instruments discussed in the review, the measure of 'literacy' was in fact largely a measure of reading, since the assessment of writing is confined to matters such as components of grammar rather than prose; and
- the quality of the items was variable.

The comments on the **numeracy** assessments included the following points:

- common sense knowledge, rather than numerical knowledge, was required sometimes, for example about the likely time of day for a particular activity;
- sometimes a hint was signalled, usually indicating that there could be more than one right answer;
- the ordering of items in terms of their content was bewildering and confusing. One item used a picture of metal brackets, which reappeared several items later. In another item key words were in upper case letters in a text and in lower case letters in the question. Many of the items were contextualised using characters, but sometimes the assessment-taker was asked to imagine him or herself in a certain situation. This lack of consistency was potentially confusing for those taking the assessment;
- many of the items required an understanding of the conventions of assessment. A bar-chart of a doctor's incoming telephone calls, with the task of choosing the true statements from the false ones in a list, required a particular understanding that the question meant 'true in terms of this chart in this assessment';
- the choice of a fridge-freezer to fit into a space in a kitchen design might well be a real-life task, culminating in the need for just such a drawing and set of information as the assessment presented, but the context itself was so different, not least in terms of the

[15] Brooks, G., K. Heath, and A. Pollard (2005) *Assessing Adult Literacy and Numeracy: a Review of Assessment Instruments*. National Research and Development Centre for Adult Literacy and Numeracy, available online at: http://www.nrdc.org.uk/publications_details.asp?ID=23#, accessed on 28/03/12.

time-scale, that it was hard to say it felt real. Moreover, it implied a certain economic status, which could be exclusive; and

- considerable reading skill and capacity to select relevant material was required, some of it verging on document literacy, without the distinction from quantitative literacy being made.

5. The technology on which the SfL2003 tools were developed is now obsolete which would largely prevent any major modifications to the assessment tools (although in fact the intention to use the tool for comparability made substantial modifications to the tools undesirable in any event).

6. Finally, and most critically, since 2003 new assessment tools have been developed and trialled extensively. They have been used widely and proven to be good measures of the Skills for Life Levels. These tools also address many of the concerns noted above, particularly that they assess a somewhat broader spectrum of the literacy and numeracy core curricula and do not rely exclusively on objective items but also offer some constructed response items.

More information about the literacy and numeracy assessment tools is provided in the SfL2003 report.

Review of the alternative literacy and numeracy assessment tools for SfL2011

As an alternative to the 2003 tools, the research development and piloting project reviewed the Skills for Life Initial Assessment Tools that had been commissioned and developed for the Adult Basic Skills Strategy Unit (ABSSU), later to become the Skills for Life Strategy Unit (SFLSU), between 2004 and 2007. Based upon the Skills for Life standards, these tools have been extensively trialled with a wide-ranging population, in terms of age, background and educational experience and are designed to take approximately 20-25 minutes to complete, and in that sense seemed to be well suited for a national survey.

Software modifications were made to the literacy and numeracy Initial Assessment tools to allow them to be used for the 2010 research study. These modifications included:

- amendments to allow the tools to be integrated into the TNS-BMRB survey delivery environment, and to record assessment results data which the TNS-BMRB data collection service could deliver;

- correction of errors identified in five items in the original literacy tools;

- modification where necessary to support surveyor response entry (rather than candidate response entry as in the original version); and

- consideration of whether and how to modify the cut scores for assigning levels within the adaptive algorithm.

These modified versions were then used in the research development and piloting project alongside the 2003 tools in order to allow BIS to make an informed choice as to which tool to use in SfL2011.

2.2.2 Research development and piloting project phase 2: piloting

The major activity in Phase 2 of the research development and piloting project was to conduct a pilot survey with a sample group of around 1000 interviewees using the:

- pre-existing 2003 literacy and numeracy assessments;
- the alternative Skills for Life Initial Assessment literacy and numeracy tools;
- the RATE (Real Applications Test Environment) ICT assessment tool used in SfL2011.

The purpose of the pilot survey was to:

- generate a conversion function for use in SfL2011 which would allow results from the alternative Skills for Life literacy and numeracy assessments to be calibrated against results from SfL2003;
- assess the suitability of the proposed RATE ICT assessment tool for use in SfL2011;
- pilot the proposed RATE ICT assessment tool in order to test its technical reliability and functionality; and
- conduct a dress rehearsal of the full survey with a small sample in order to quality assure the research instruments and assess issues such as interview length, question order and how the various elements of the survey might 'hang together'.

The pilot survey for literacy and numeracy was completed successfully with the planned number of interviews being conducted, the interviews running to length and no significant technical issues emerging with the operation of the assessment tools or the background questionnaire.

As mentioned above however, the questions and tasks in the RATE ICT tool, had no historical statistical data that could be used to validate the outcomes. As it was developed specifically for SfL2011, it was therefore considered necessary to obtain baseline data against which the outcomes of the pilot could be analysed and calibrated. The method and results for this activity are described in Section 1.6 of this Annex.

Following the analysis of the outcomes of the validation exercise and the pilot conducted by TNS-BMRB, a small number of amendments were made to the ICT tool. Three multiple choice questions, one task on word processing, three email tasks and three spreadsheet tasks were all revised as a result of the pilot survey which revealed that these particular items and tasks performed relatively poorly, due, for example, to a weak distractor or other deficiencies. Overall, however, the conclusion from the validation exercise was that the assessment tool was capable of providing a valid measure of respondents' ICT skills Levels.

2.2.3 Research development and piloting project phase 3: key findings

The key decisions to be taken by BIS in respect of the forthcoming SfL2011 were therefore as follows:

- whether to use the alternative Skills for Life literacy and numeracy assessment tools

developed for the research pilot (the recommended option of the research team) or to re-use the SfL2003 tools with all their consequent recorded shortcomings, and

- whether the new RATE ICT assessment tool had performed sufficiently well to be used in SfL2011.

Based on the conversion function pilot part of the research development and piloting survey, provisional formulae had been produced for converting an individual's performance on the alternative Skills for Life literacy/numeracy assessment tools into an *estimate* of what his/her performance would have been had he/she taken the SfL2003 assessment tools. The purpose of these formulae was to consider the possibility of using the alternative assessments in SfL2011, in order to provide more up to date assessments of Skills for Life, but still allowing reliable comparisons to be drawn with the profile of skills in the nation in 2003.

For both literacy and numeracy, around 500 individuals aged between 16 and 65 had tackled both the 2003 and Skills for Life alternative assessments and the results provided an understanding of the likely correlation between the two assessments. In summary, the correlation between the SfL2003 tools and the alternative Skills for Life tools was reasonably high (correlation co-efficient of 0.5), and initial plans were made for SfL2011 to include a mix of respondents taking both tools so as to improve confidence in the conversion function and to ensure the most up-to-date assessment of Skills for Life.

Ultimately, however, the decision was taken to use the SfL2003 tools in SfL2011. There were two main reasons for this:

1. Although the correlation between the alternative Skills for Life assessment performance and SfL2003 assessment performance is substantial for both literacy and numeracy, it was felt that in order to have full confidence in the conversion formula, the correlation needed to be *very* high.[16] Even with the addition of some other information beyond simple overall Level, there was still a considerable amount of uncertainty in the models. As explained above, the Skills for Life tools (particularly for literacy) test a wider range of skills than the SfL2003 assessments – listening, for example - and also include constructed response item types (particularly useful for assessing topics such as spelling and grammar). These factors, along with other aspects of test reliability were seen to account for the correlation not being as high as would be liked.

2. The very low sample sizes for some of the Entry Level divisions suggested that a simpler three or four Level conversion (Entry Level or below, Level 1, Level 2 or above) would be more robust, and might be worth the sacrifice in fine-grainedness. Although, this would not allow time-series comparison across the full skill Level distribution covered in SfL2003. Ultimately, the decision to use the SfL2003 assessment tools in SfL2011 was based on the view that the time-series trend comparisons between 2003 to 2011 were key, and potentially may not be shown if the assessments used in both surveys did not contain identical assessment content.

The performance of the new RATE ICT assessment was however deemed satisfactory and the decision was taken to include that assessment in SfL2011.

[16] A correlation coefficient in the area of between 0.7 and 0.8.

Full details about the literacy, numeracy and ICT tools that were used in SfL2011 are included in the next section of this Annex.

2.3 Introduction to the 2011 literacy and numeracy assessment tools

The SfL2011 literacy and numeracy assessment tools were originally developed for SfL2003, and they were used again unchanged for SfL2011. They were constructed from a selection of items drawn from the paper-based Key Skills items in Communication and Application of Number tests. All of these items were multiple choice in their original form, and all items in the 2003 assessment tools are multiple choice.

Each of the two 2003 assessments was designed to assess from Entry Level 1 (or below) up to Level 2 (or above) and to take no more than 25 minutes to complete. The assessments were administered using a laptop computer, with the interviewer – not the interviewee – operating the computer to record the responses. Hence the respondent was not required to have any experience or knowledge of using a computer in order to complete the literacy and numeracy assessments.

In the 2003 numeracy assessment each question is multiple choice, with four possible responses and typically some graphical stimulus material to accompany the question stem. Questions are marked either as right or wrong and then weighted for their Level. Candidates are awarded a final assessment Level based on their total score on the items attempted being compared with cuts cores/Level boundaries for each Level. Most items are discrete – unrelated to the previous and subsequent items – although a small number of items use a common source resource (for example, a graph). The items are designed to be as terse as possible, with short stems and clear graphic images, to minimise reading effort for the learner. Nevertheless, the numeracy assessment relies on candidates having basic literacy, as the questions are presented in English, and the respondent has to read the questions on the computer screen. A respondent who cannot read would not be able to score highly on the numeracy assessment (they would be able to answer some items, as some had no text or a very small amount), even if their basic maths was reasonable. The numeracy assessment was devised to assess 'practical numeracy' in the everyday sense, and this does generally require a degree of literacy as well.

The 2003 literacy assessment also uses a predominance of multiple choice questions but there are also a small number of objective questions of different types (drop down menus, drag and drop items, etc.). Most items are worth one mark but a number of items (for example where a candidate has to make several responses in a paragraph of text) are worth more than one mark. Most of the items are grouped into clusters, with a single source resource and a number of questions based on it. With the reading required for the source resource, several questions have to be based on it in order for the assessment duration to be acceptable. Where single items are used which do not appear to be in a cluster, this is usually because several clustered items from the paper test source have been compiled into a single (multi-mark) item on screen in the 2003 assessment.

Each assessment was underpinned by a bespoke adaptive algorithm. This was made up of an initial screening stage, followed by two further stages for literacy and six for numeracy – subsequent sections of this Annex describe how these algorithms work in detail. The performance of the respondents was tracked item by item and stage by stage, so that the difficulty of the items presented to a respondent at the later stages depended upon their performance at previous stages. Thus the score on each batch of items determined which

further batch each assessment-taker was routed to next. Movement across difficulty Levels, therefore, could be up or down from stage to stage, with the final reported Level depending upon pre-defined scores.

Whilst the incorporation of the algorithm added complexity to the assessment design and results analysis, it provided benefits which proved important in SfL2003. In particular, the assessments achieved a reliable result more quickly than a linear assessment, making it possible to undertake the survey in a single sitting. Further, because the level of challenge was maintained (candidates tend to receive questions close to their level of competence, i.e. not too many questions that are much too easy or hard) high levels of assessment completions/learner engagement with the assessment were observed during trials and the 2003 main stage survey.[17]

2.4 The literacy assessment tool

Information about the selection of items for the assessment tool is included in Chapter 14 of the report, and in Annex 4 of the Skills for Life 2003 survey report.

2.4.1 Assessment design considerations

Much learning and teaching of literacy with adults in England is now based on the Adult Literacy Core Curriculum (Basic Skills Agency, 2001, and revised in 2009 by BIS). This curriculum is presented in five Levels – Entry Levels 1, 2 and 3 to Levels 1 and 2.

Levels 1 and 2 contain content corresponding to the Key Skills Communication Levels 1 and 2 specifications (QCA, 2000) that is broadly comparable in technical demand to limited aspects of GCSE English. A main aim of SfL2011 was to produce national estimates of the proportions of the adult population of England currently at each of these Levels, which could then be presented by age, sex, location and socio-economic grouping.

In devising the literacy survey, the assessment developers had to consider:

- the full range of literacy ability that was likely to be encountered - ranging from individuals who might have difficulty even with forming familiar words, up to those who were of degree standard in English;
- that some respondents may not particularly want to take part in the assessments;
- that some respondents were likely to become discouraged by questions that were too demanding;
- that the assessment should be presented on computer and be computer-marked;
- that the Key Skills tests at the time covered a very limited number of aspects of literacy and did not, for example, cover speaking and listening skills or actual writing skills;

[17] Williams, J., S. Clemens, S. Oleinikova, and K. Tarvin (2003) *The Skills for Life Survey: a National Needs and Impact Survey of Literacy, Numeracy and ICT skills*. Department for Education and Skills Research Report 490, available online at: https://www.education.gov.uk/publications/eOrderingDownload/RR490.pdf, accessed on 28/03/12: pg. 228,239.

- that the assessment should be capable of revealing and responding to the 'spiky profile' of competence that is common to many learners; and

- that the time available to undertake the literacy part of the survey was to be no more than 25 minutes.

The literacy assessment developers were also instructed to produce an assessment:

- which used multiple choice items taken, in the case of Levels 1 and 2, from previously set paper-based QCA Key Skills Communication/Basic Skills literacy tests. This was to ensure that the items used were 'tried and tested';

- which developed new items to assess adults operating at Entry Level 3 or below. These items had to mirror those at Levels 1 and 2 and also be multiple choice; and

- which would, as far as possible, enable respondents to operate at their own standard, thus avoiding unnecessary stress/discomfort so as to maximise completion rates.

2.4.2 Assessment development

The task in developing the literacy tool was to:

- select potentially useable Key Skills Level 1 and Level 2 items from existing QCA test papers;

- devise an algorithm which would enable an adaptive assessment;

- consider ways of extracting information so that spiky profiles might be produced for individual respondents; and

- produce an initial screening assessment which would quickly place respondents at Entry Level 3 or below.

The team was particularly concerned to ensure that the items selected from previous QCA tests papers covered as wide a range of literacy skills as possible and that collections of items should be as balanced as possible across the three broad Levels (i.e. Entry Levels, Level 1 and Level 2).

It was decided that the quickest way to establish standards of competence would be to devise an adaptive survey that would enable respondents to operate at about their own standard. The team also thought it important that respondents were not required to answer questions well above their standard of ability.

In devising the algorithm for literacy, the CDELL team considered many alternative solutions and finally decided on a framework that would begin with a number of screening questions beginning at Entry Level 1 and becoming progressively more difficult. This would enable weaker adults to move quickly from screening to further Entry Level questions. Other adults would continue to Levels 1 or 2.

Two further layers or banks of questions then follow in the algorithm, each providing opportunities to sift and refine the final judgements of a respondent's ability. Each layer consists of a number of items assessing a range of different Reading and Writing skills. Marks are computer aggregated for each bank of questions and the respondent routed to the next level of difficulty and layer according to her/his performance. A cut-off mark in each of the banks is used to determine whether the respondent goes up a level of difficulty, down a level of difficulty or stays at the same level of difficulty, and in the case of the final bank to assign a Level.

The design team considered an algorithm that would enable respondents to move up, down or across after each item/question (as in the numeracy assessment, for example, and as is common in adaptive assessments generally) but considered this would be inappropriate for literacy as a more holistic profile of skills at each layer was required. To move a respondent up or down on the basis of a single spelling question for example, seemed unnecessary and likely to be unreliable.

2.4.3 Establishing mark thresholds for levels of difficulty

Each question was given a 'mark' (in most cases, one mark per item) and a respondent's aggregate performance for each batch or 'layer' of questions determined where they were subsequently routed at each stage. A simple aggregate threshold mark was used based as close as possible to 70 per cent to route respondents upwards. If a respondent answered more than 70 per cent of questions correctly in a layer, she/he went up a level of difficulty. If she/he answered between 40 per cent and 69 per cent correctly she/he stayed at the same level of difficulty, and if she/he scored 39 per cent or less she/he was routed down a level of difficulty (slightly wider routing was used for the assignment of Level in the final stage). The authors based the thresholds on their experience of key skills and basic skills testing, where similar threshold marks are used for literacy/communication. The National Tests tend to use pass marks of around 50-60 per cent, whereas it was felt for a survey tool that the competence level should be raised to 60-70 per cent.

2.4.4 Assessment algorithm

Annex Figure 2.1 overleaf describes how the 2003 literacy assessment functions.

2.4.5 The origin of items used in the literacy assessment

Most of the questions for literacy are based on a scenario (a piece of reading matter, with or without images).The number of items based on each context depends on its length - the longer the text, the more questions that are asked. All items used to assess Levels 1 and 2 were based on questions used previously in QCA Key Skills/Basic Skills literacy tests. However, it must be stressed that very few of these items could be used without any adaptation because:

- questions change in appearance once put onto a computer screen (although Skills for Life tests in 2011 are largely taken on screen, no tests were delivered on screen at the time the 2003 literacy assessment was designed);
- some scenarios (question stems) were too lengthy to fit onto a single screen and had to be shortened; and
- the use of the computer enabled more efficient use of multiple choice options, for example, by using drop-down boxes.

Brand new questions were devised for Entry Level 3 and below, although a number of ideas and contexts taken from Level 1 were used with simplified the language and reduced amounts of text.

Annex Figure 2.1 The literacy assessment algorithm

Key to algorithm diagram

A block of questions. Candidates attempt all questions in the block before an adaptive routing decision is made.

An item worth one mark, with the number showing the item ID.

An item worth four marks.

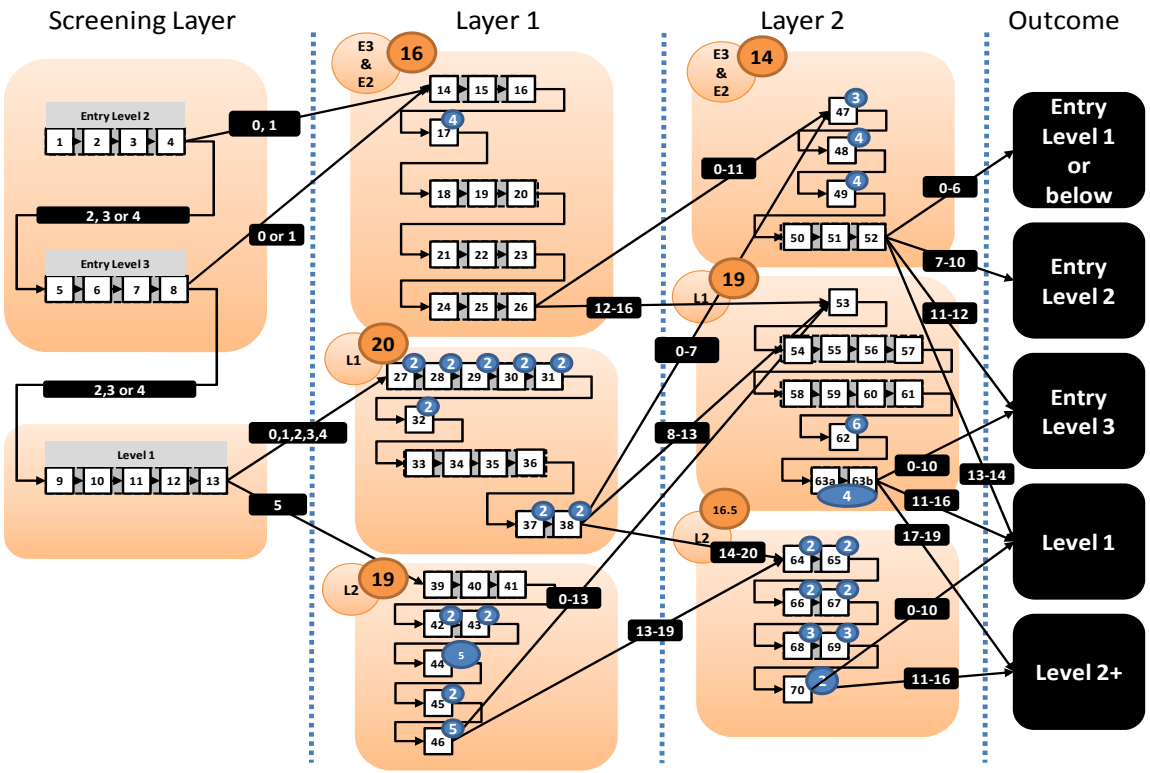
A cluster of items, using the same source material

A cluster of items, all at the same level
(where the level isn't specified for a cluster, items are of different levels)

An adaptive routing decision, showing the route taken from one block to the next for a candidate number achieving a particular score on the block (0 or 1 mark in this case).

The maximum marks available for a block

The level awarded to a candidate based on the final adaptive routing decision



It was assumed that all Level 1 and Level 2 items were sufficiently valid and reliable based on the performance data available for them from their use in Key Skills tests. In an attempt to produce as broad and as balanced a survey as possible, selection of items was made on the basis of the skills criteria being assessed, the context, a need to create variety, appropriateness for converting to screen-based use and the number of items based on a scenario/stem.

For every question selected, the design team recorded its origin (QCA paper and date), the number of the question in the original test, the basic skills criterion each item addresses and the number of marks available, all shown in Annex Table 2.1.

Each row in the table is a separate question (although some questions are clustered). The first part of the screen number (numbered 1-70) corresponds to question numbers in Annex Figure 2.1. The remaining codes (e.g. RR101) are writer codes with the first part, e.g. 'RR10' corresponding to the cluster and the second part "1" corresponding to the question. The Question Reference and Curriculum Reference provides Adult Core Curriculum topic references, for example, Rw/E2.2.[18]

[18] Department for Education and Skills (2001*) Adult Literacy Core Curriculum including Spoken Communication*, available online at: http://rwp.excellencegateway.org.uk/resource/Adult+literacy+core+curriculum/pdf/, accessed on 03/11/11.

Annex Table 2.1: Items in the 2003 literacy assessment

Screen Number	Assessment Phase	Level	Question Reference and Curriculum Reference	Question Source	Max marks
1 RR101	Screening	Entry Level 2	RR.10 Writing Common Spellings Rw/E2.2	None available	1
2 RR102			RR.10 Writing Common Spellings Rw/E2.2		1
3 RR103			RR.10 Reading Trace main events Rt/E2.1		1
4 RR104			RR.10 Reading Vocab. Rw/E3.1		1
5 BB101		Entry Level 3	BB.10 Reading Skim/scan Rt/E3.1	None available	1
6 BB102			BB.10 Writing Spelling Ww/E3.1		1
7 BB103			BB.10 Writing Spelling Ww/E3.1		1
8 BB104			BB.10 Reading Interrogat4e Text Rt/E3.4		1
9 MY111		Level 1	MY.11 Writing Spelling Ww/L1.1	None suitable	1
10 MY112			MY.11 Writing Spelling Ww/L1.1		1
11 MY113			MY.11 Reading Rt/L1.1		1
12 MY114			MY.11 Reading Vocab Rw/L1.1		1
13 MY115			MY.11 Reading Vocab. Rw/L1.1		1
14 BB21	Layer 1	Entry Level 2	BB.2 Reading Extract info. Rw/E2.1	None available	1
15 BB22			BB.2 Reading Extract info. Rw/E2.1		1
16 BB23			BB.2 Reading Recognise purpose of text Rt/E2.2		1
17 BB3			BB.3 Writing Grammar/spelling Ww/E2.1		4
18 BB41		Entry Level 3	BB.4 Reading Recognise instructions Rt/E3.3	None available	1
19 BB42			BB.4 Reading Relate images to print Rt/E3.3		1
20 BB43			BB.4 Reading Obtain specific info. Rt/E3.8		1
21 BB51			BB.5 Reading Identify purpose of text Rt/E3.2		1
22 BB52			BB.5 Reading Trace main events Rt/3.1		1
23 BB53			BB.5 Reading using titles Rt/E3.4		1
24 BB62			BB.1 Writing Spelling Ww/E3.1		1

Screen Number	Assessment Phase	Level	Question Reference and Curriculum Reference	Question Source	Max marks
25 BB63		Entry Level 3	BB.1 Writing Spelling Ww/E3.1		1
26 BB61			BB.1 Reading Rt/E3.1 Trace main events		1
27 RR11		Level 1	RR.1 Writing Grammar Ws/L1.1	May 2001	2
28 RR12			RR.1 Writing Sentences/conjunctions Ws/L1.1	Q 8, 10, 11, 12	2
29 RR13			RR.1 Writing Spelling Ww/L1.1		2
30 RR14			RR.1 Reading Text comprehension Rt/L1.1		2
31 RR15			RR.1 Reading Extract main points Rt/L1.1		2
32 RR2			RR.2 Writing Logical sequencing Wt/L1.3	June 2001 Q23	2
33 RR31			RR.3 Writing Word recognition Ww/L1.1	March 2001	1
34 RR32			RR.3 Writing spelling Ww/L1/1.1	Q 6, 7, 8	1
35 RR33			RR.3 Writing Spelling Ww/L1.1		1
36 RR34	**Layer 1**		RR.3 Writing Spelling Ww/L1.1		1
37 RR41			RR.4 Writing Spelling Ww/L1.1	Jan 2001	2
38 RR42			RR.4 Reading Extract info. Rt/L2.1	Q 25, 26	2
39 MY11		Level 2	MY.1 Writing Reading text Rt/L2.1	June 2001	1
40 MY12			MY.1 Writing Sequencing Ww/L2.1	Q 3, 4, 5	1
41 MY13			MY.1 Writing Spelling Wt/L2.3		1
42 MY21			MY.2 Reading Comprehension Rt/L2.2	June 2001	2
43 MY22			MY.2 Writing Language Wt/L2.5	Q 37, 38	2
44 MY3			MY.3 Writing Grammar Ws/L2.4	May 2001 Q 7-11	(3.75) 5
45 MY4			MY.4 Writing Language Wt/L2.6	Dec 200 Q 30	2
46 MY5			MY.5 Writing Spelling Wt/L2.3	Nov 2000 Q 33-37	5
47 BB6		Entry Level 2	BB.6 Reading Using images Rt/E2.4	None available	3
48 BB7			BB.7 Writing sentences and conjunctions Ws/E2.1	None available	4
49 BB8			BB.8 Writing Punctuation Ws/E2.3	None available	4
50 BB91		Entry Level 3	BB.9 Reading and sequencing Rt/E3.4	None available	1
51 BB92			BB.9 Reading Extract information Rt/E3.8		1
52 BB93	**Layer 2**		BB.9 Reading Extract info Rt/E3.8		1
53 RR5		Level 1	RR.5	Jan 2001 Q 8	1
54 RR61			RR.6 Reading Using images Rt/L1.3	Oct 2002	1
55 RR62			RR.6 Reading Identify main points Rt/L1.3	Q 9-12	1
56 RR63			RR.6 Reading Identify main points Rt/L1.3		1

Screen Number	Assessment Phase	Level	Question Reference and Curriculum Reference	Question Source	Max marks
57 RR64			RR.6 Reading Using images Rt/L1.3		1
58 RR71			RR.7 Reading Identify main purpose of text Rt/L1.2	June 2001 Q 9-12	1
59 RR72			RR.7 Reading Identify key points Rt/L1.3		1
60 RR73		Level 1	RR.7 Writing Spelling Ww/L1.1		1
61 RR74			RR.7 Writing Using images Rt/L1.3		1
62 RR8			RR.8 Writing Punctuation Ws/L1.1	Nov 2002 Q 16, 17	6
63a and b RR9	**Layer 2**		RR.9 Reading Extract information	None Available	4
64 MY61			MY.6 Reading Extract info timetables Rt/L2.1	Jan 2001 Q 1, 2	2
65 MY62			MY.6 Reading Extract info timetables Rt/L2.1		2
66 MY71		Level 2	MY.7 Writing Conjunctions Ws/L2.1	May 2001 Q 8, 37	2
67 MY72			MY.7 Writing Conjunctions Ws/L2.1		2
68 MY81			MY.8 Reading Read critically Rt/L2.5	May 2001 Q28-30	3
69 MY82			MY.8 Reading Read critically Rt/L2.5		3
70 MY9			MY.9 Writing Punctuation Ws/L2.3	None Available	2.5

2.4.6 Classification

Each literacy item is classified according to one of five curriculum topics:

- Elements of composition [Wt]
- Comprehension [Rt]
- Spelling [Ww]
- Reading and word recognition [Rw]
- Grammar and punctuation [Ws]

In Annex Table 2.1 above, the coding shows the topic code, the item Level, and the subtopic coding based on the original Skills for Life Core Curriculum.

2.4.7 Marking

The answers are marked automatically by the computer and the respondent is moved through the Levels according to the marks they obtain on each previous block of questions (as shown in Annex Figure 2.1, with the cut scores for each transfer shown in the black boxes), so that the calculation of the final Level is made by the assessment software.

2.5 The numeracy assessment tool

Information about the selection of items for the assessment tools is included in Chapter 14 of the report and in Annex 4 of the Skills for Life 2003 survey report.[19]

2.5.1 Design considerations

The main aim of the numeracy assessment developed for SfL2003 was to produce national estimates of the proportions of the adult population of England currently at each of the five Levels (Entry Levels 1-3, and Levels 1 and 2) which could then be presented by age, sex, location and socio-economic grouping, so as to act as evidence for future comparisons and to inform future educational and training planning and interventions aimed at raising literacy and numeracy Levels in England.

In devising the numeracy survey, the team had several considerations in mind:

- the full range of numeracy ability was likely to be encountered – ranging from individuals who might have difficulty even with working with two digit numbers, up to those who were of degree standard in mathematics;
- respondents would have no reason to co-operate with the survey apart from an altruistic one, personal interest and a modest complimentary payment on completion;
- for many respondents, their previous experience of working with mathematics might well have been unpleasant, making them reluctant to take part and likely to be easily discouraged by questions that were too demanding;
- in addition, experience from adult numeracy students suggested that many respondents would show a 'spiky profile' of competence – perhaps, for example, quite comfortable with arithmetic of money, but having difficulties with percentages, in interpreting graphs or working with metric units. The style of survey would need to be able to respond to such profiles;
- the survey was to be carried out using multiple choice items presented to respondents by laptop computers; and
- finally, the time available to undertake the numeracy part of the survey was to be no more than 25 minutes (a major challenge given the breadth of topics and range of Levels to be covered).

2.5.2 Assessment development

As for the literacy assessment, a proportion of the items at the upper two Levels were required to be closely based on items previously used in adult numeracy assessments, adapted to fit the survey requirements and screen layout. All items for the Entry Levels were newly written.

[19] Williams, J., S. Clemens, S. Oleinikova, and K. Tarvin (2003) The Skills for Life Survey: a National Needs and Impact Survey of Literacy, Numeracy and ICT skills. Department for Education and Skills Research Report 490, available online at: https://www.education.gov.uk/publications/eOrderingDownload/RR490.pdf, accessed on 28/03/12.

Items used in other numeracy surveys such as IALS (International Survey of Adult Literacy)[20] and PISA (Programme for International Student Assessment)[21] were also taken into account in the design of the numeracy assessment.

Small-scale piloting took place with groups of adult numeracy students and their tutors, enabling improvements to the wording and presentation of items to be carried out. Each item was then re-checked against the Core Curriculum statements for Levels above and below the intended Level of the item to ensure that the item best fitted its intended Level.

2.5.3 Assessment algorithm

Respondents were presented with items in seven groups or 'steps'. Each of these seven steps targets different aspects of numeracy. In the first step, all respondents met the same four items, two at Entry Level 1 and one each at Entry Levels 2 and 3.These were deliberately chosen so as to present familiar and straightforward tasks to all respondents.

Based on their performance, respondents were then directed to one of three overlapping groups of five items, forming Step 2, with items ranging from Entry Level 1 to Level 2. Depending on their performance on these, the algorithm takes respondents to two items of an appropriate Level in Step 3; these range from two at Entry Level 1 to two at the top Level (Level 2). Again, depending on their performance on these, the algorithm takes respondents to two appropriate items in Step 5. This is repeated up to Step 7 so that each respondent encounters 19 items in all, from a total of 48 items altogether.

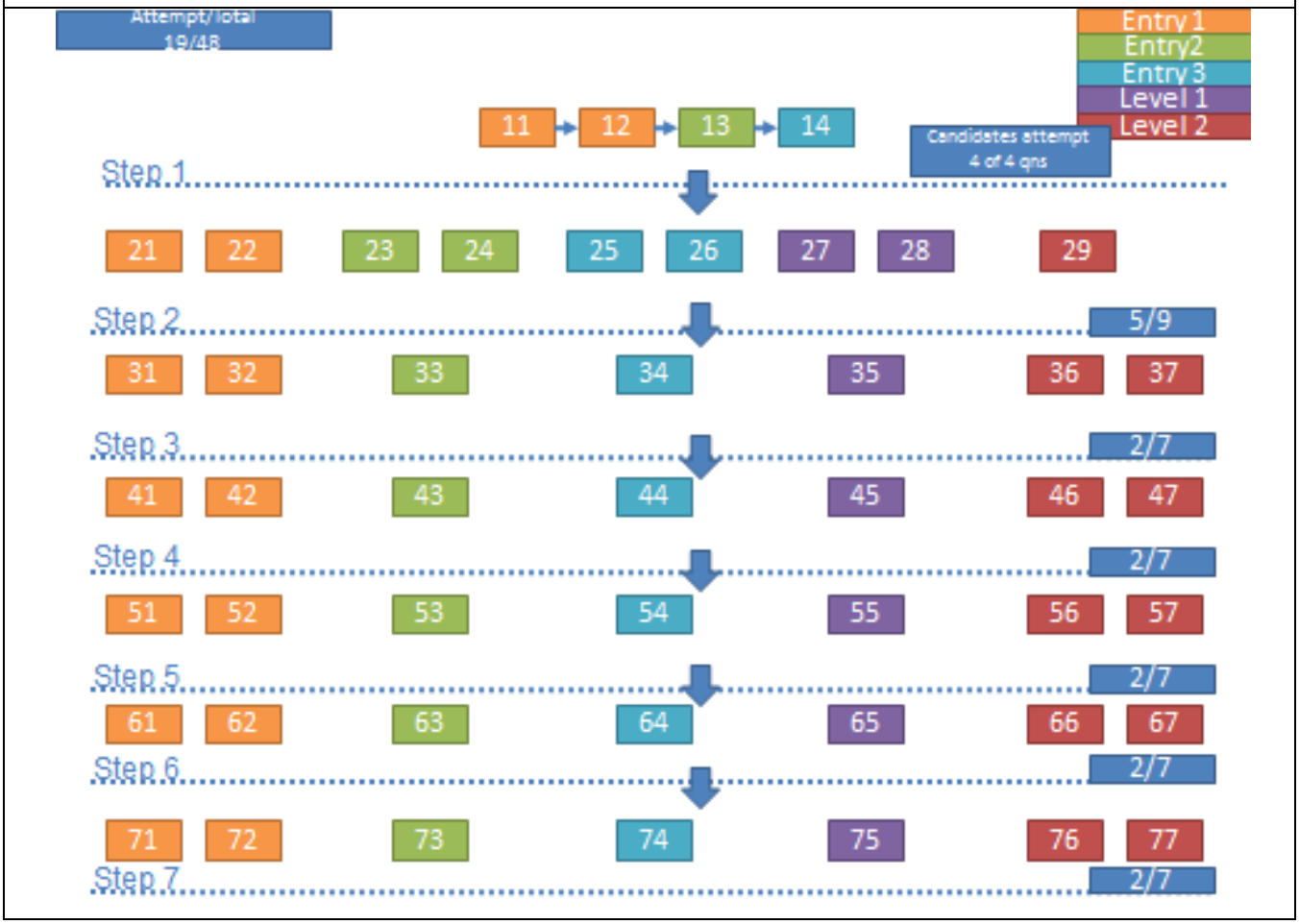
Note that the items are not numbered sequentially. The first part of the number is the stage, and the second is the sequence. So Item 21 is the first item in the second stage.

This is described in Annex Figures 2.2, 2.3 and 2.4.

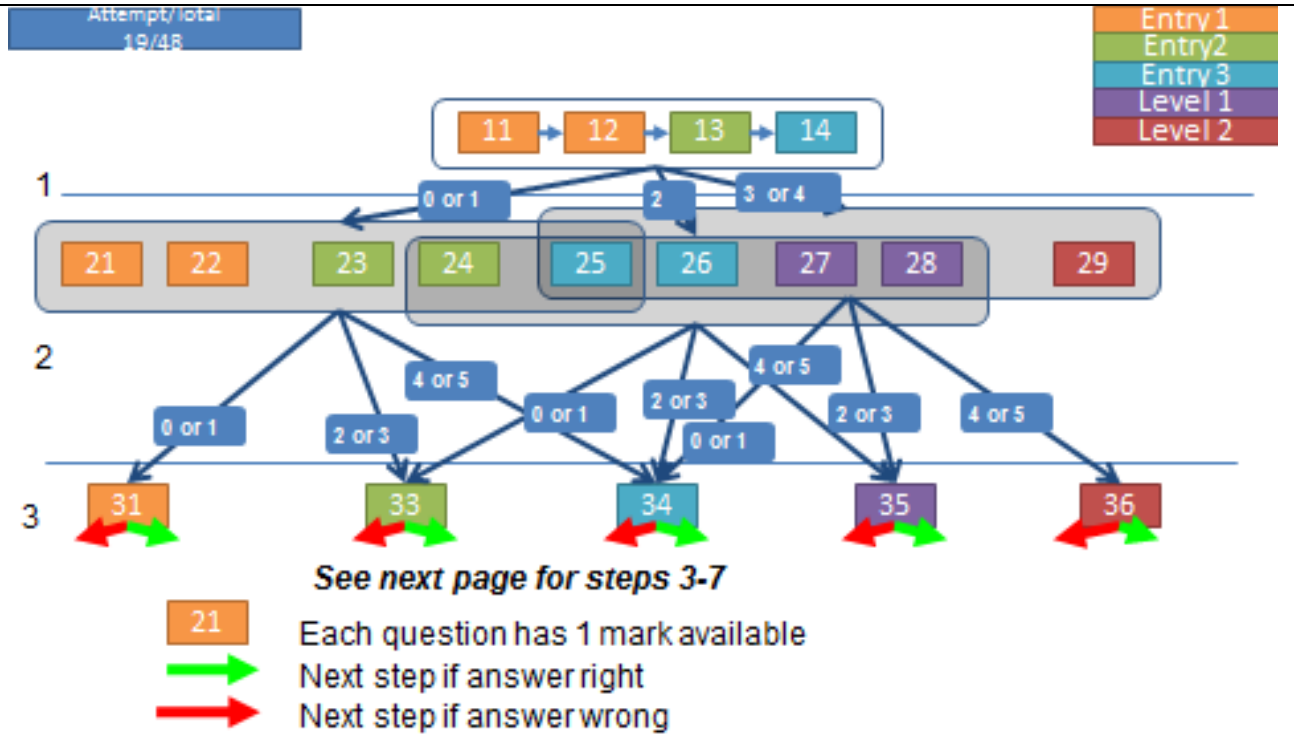
[20] Kirsch, I. S. (2001) *The International Adult Literacy Survey (IALS): Understanding What Was Measured*. Educational Testing Service Research Report, available online at: http://www.ets.org/Media/Research/pdf/RR-01-25-Kirsch.pdf, accessed on 28/03/12.

[21] Further information is available online at: http://www.pisa.oecd.org/pages/0,2987,en_32252351_32235731_1_1_1_1_1,00.html, accessed on 15/03/12.

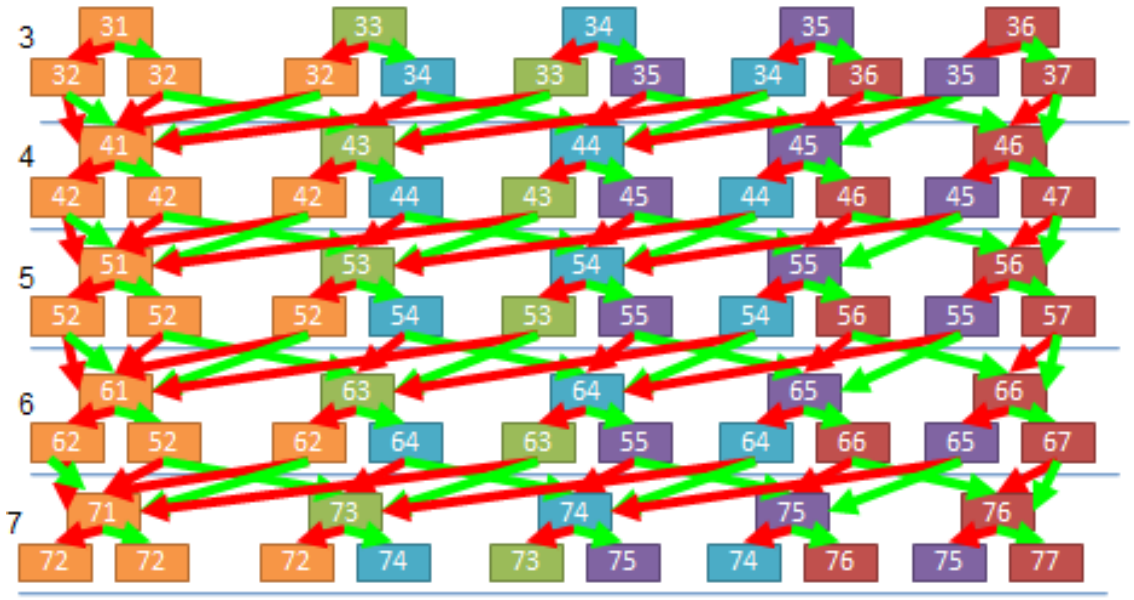
Annex Figure 2.2 Numeracy assessment structure showing 48 items with their Levels and the number attempted at each step.



Annex Figure 2.3 Numeracy assessment algorithm for steps 1-3



Annex Figure 2.4 Numeracy assessment algorithm for steps 3-7



2.5.4 Establishing mark thresholds for Levels

Individuals would be likely to have performed at different standards of competence on different topic areas. Thus, many respondents' performance records would show a series of correct responses to a set of items set at different levels.

Several options were considered with regard to determining the overall Level. For example:

- Would the overall Level be best measured by the degree of difficulty of the final two items successfully tackled – that is, by performance at Step 7 (essentially the model used for the literacy assessment)?

- Or should it be based on mean or median performance on the final ten items from Steps 3 to 7?

- Or should it be based on summing overall performance (scoring 1 for a correct Entry Level 1 response up to 5 for a correct Level 1 response)?

In all, five alternative schemes for setting overall Level were trialled and these were compared against detailed analysis of individuals' performances from 189 respondents' results.

The method finally chosen was to sum overall performance, as this took into account all aspects of the respondent's performance, noting that, unlike literacy, the numeracy assessment covers a broad range of topics and so performance is unlikely to be unidimensional. This led to the setting of threshold scores for minimum scores to achieve a particular Level. These thresholds were carefully chosen after scrutiny of individual performances from the first 412 respondents and of the performance of individual items. Thus the few items which turned out to have very low or very high facility levels could be allowed for, while final decisions on thresholds for the five Levels of performance could be deferred until after the data collection had been completed.

The starting assumption was that a respondent at a given Level could be expected to respond correctly to at least 60 per cent of the items encountered at that Level (corresponding to pass rates in the Key Skills numeracy assessments at the time) and to nearly all items designed for lower Levels.

Thus for instance, in setting the Level 2 or above threshold, the starting point was to assume that respondents would respond correctly to all the nine items in Steps 1 and 2 (all but one at Levels below Level 2), and then to assume a score of 60 per cent of the maximum for the remaining Level 2 items encountered.

The total score for all-correct on the first nine items is 26 [1+1+2+3 (Step 1)+ 3+3+4+4+5 (the top five items in Step 2)].The respondent then could for example have scored 5 +5 (Step 3) +5 +0 (Step 4) + 0 + 4 (Step 5) + 4 +0 (Step 6) + 4 + 5 (Step 7), giving a further 32, so making a total of 58.

The developers started with 56 as being the lowest score for a Level 2 respondent. They then picked out some respondents who had scored 55, 56, 57 and 58 and looked at what they actually got right and wrong. This led them to refine the minimum score for a Level 2 response to 57. Thus, the grade threshold for Level 2 was refined in a similar manner to the way in which GCSE grade thresholds have been set – that is by a careful scrutiny of overall performance of a sample of candidates in the immediate neighbourhood of the proposed grade threshold,

taking into account the actual records of candidates as they moved between levels of difficulty. A similar process was used for the other grade thresholds, which are shown in the Annex Table 2.2.

Annex Table 2.2 Marks per item and Level thresholds in the numeracy assessment

	Entry Level 1 or below	Entry Level 2	Entry Level 3	Level 1	Level 2 or above
Marks for each question attempted	1	2	3	4	5
Level Thresholds	0-17	18-29	30-43	44-56	57-76

To confirm this method of estimating Levels, Levels were then re-calculated using Level estimates based on performance on the 'final ten' and 'final eight' items. Overall proportions using the three methods were found to be very close to each other.

2.5.5 The origin of items used in the numeracy assessment

All of the 28 Entry Level items were written afresh in 2001, since no assessment items at these Levels were available to the team. For the 20 Level 1 and 2 items, past Key Skills test papers were carefully reviewed in order to find possible items which could be included in the seven steps.

At Levels 1 and 2, the item writers had to adapt ideas and items from the Key Skills test items rather than use the original items themselves. This was because of:

- the need for items to be fitted into the particular layout of the on-screen items;
- the need to allow for items to be accessible through language and layout to respondents who may have been working at a level of difficulty below the design level of the item, because of the adaptive nature of the assessment;
- the need for items to conform to the pattern and themes of steps; and
- the need to simplify layout and language as much as possible to compensate for the lack of voice-over.

However, seven Level 1 and 2 items were based on Key Skills test items as shown in Annex Table 2.3.

Annex Table 2.3 Item reuse from Key Skills Application of Number (Aon) tests in the numeracy assessment

Item number	Item Source	Item Source question ID
Item 29	Level 2 Key Skills Aon Test May 2001	Q 8
Item 45	Level 1 Key Skills Aon Test November 2000	Q 2
Item 46	Level 2 Key Skills Aon Test November 2000	Q 14
Item 47	Level 2 Key Skills Aon January 2001	Q 33
Item 55	Level 2 Key Skills Aon Test March 2001	Q 11
Item 76	Level 2 Key Skills Aon Test November 2000	Q 17
Item 77	Level 2 Key Skills Aon Test January 2001	Q 9

Annex Table 2.4 shows the Levels and topics covered by items in the assessment.

Annex Table 2.4 The Levels and topics covered by items in the numeracy assessment

	ITEM NUMBERS					
Step number and topic(s)	**Entry Level 1**	**Entry Level 2**	**Entry Level 3**	**Level 1**	**Level 2**	**Number of questions respondent is presented with**
Step 1 Basic money calculations	11 12	13	14			4
Step 2 Whole number calculations and time	21 22	23 24	25 26	27 28	29	5
Step 3 Measures and proportion	31 32	33	34	35	36 37	2
Step 4 Weight and scales	41 42	43	44	45	46 47	2
Step 5 Length and scaling	51 52	53	54	55	56 57	2
Step 6 Charts and data	61 62	63	64	65	66 67	2
Step 7 Money calculations	71 72	73	74	75	76 77	2
Total number of items at this Level	14	8	8	7	11	
Total number of items						19 (48)

Annex Table 2.5 below describes the topic(s) that each question covers. This is a simplified version of the Skills for Life Numeracy Core Curriculum and was undertaken as part of the 2011 survey as the original classifications made in the 2003 survey have not been retained. Each item is considered to assess one (and only one) of the following topics:

1. Number

2. Shape and Space – Common Measures

3. Shape and Space – Shape and Space

4. Handling Data

Annex Table 2.5 The Levels and detailed topics covered by items in the numeracy assessment

Item	Level	Topic (adult core curriculum)	Curriculum Classification
11	E1	Recognise and select coins	2
12	E1	Order and compare numbers up to 10	1
13	E2	Calculate costs and change	1
14	E3	Round sums of money for approx. calculations.	2
21	E1	Relate familiar events to times of day	2
22	E1	Counting whole numbers up to 10	1
23	E2	Read and understand time	2
24	E2	Multiply using single digit whole numbers	1
25	E3	Read measure and record time	2
26	E3	Divide 2 digits by 1 digit, interpret remainders	1
27	L1	Calculate using time	2
28	L1	Find parts of whole number quantities/measurements	1
29	L1	Calculate measure and record time in diff. formats	2
31	E1	Read and write numbers up to ten	1
32	E1	Order and compare numbers up to ten	1
33	E2	Add and subtract 2-digit whole numbers	1
34	E3	Compare weights using standard units	1
35	L1	Calculate ratios and direct proportions	1
36	L2	Ratios and direct proportions	1
37	L2	Ratios and direct proportions	1
41	E1	Describe and compare weight of items	2
42	E1	Interpret + - x and ÷ in practical situations	1
43	E2	Read estimate and measure weight	2
44	E3	Read estimate and compare weight	2
45	L1	Add and subtract common units in same system	2
46	L2	Estimate measure and compare weights	2
47	L2	Calculate with units within same system	2
51	E1	Describe and use comparisons for sizes	2
52	E1	Subtracting items up to 10	1
53	E2	Read estimate and compare length	2
54	E3	Read estimate and compare length	2
55	L1	Convert units of measure	2
56	L2	Calculate with units of measure between systems	2
57	L2	Recognise and use common 2D reps. of 3D objects	3
61	E1	Extract simple information from lists	4

Annex Table 2.5 The Levels and detailed topics covered by items in the numeracy assessment

62	E1	Extract simple information from lists	4
63	E2	Extract information from block graphs	4
64	E3	Make numerical comparisons from bar charts	4
65	L1	Extract and interpret information	4
66	L2	Find median mean and mode	4
67	L2	Extract data from line graphs	4
71	E1	Add single digits with totals up to 10	1
72	E1	Subtract single digits up to 10	1
73	E2	Count reliably up to 20 items	1
74	E3	Add, subtract sums of money using decimal notation	2
75	L1	Find simple % parts of quantities and measurements	1
76	L2	Calculations with money/fractions/proportion	1
77	L2	Evaluate one number as fractions/percentage of other	1

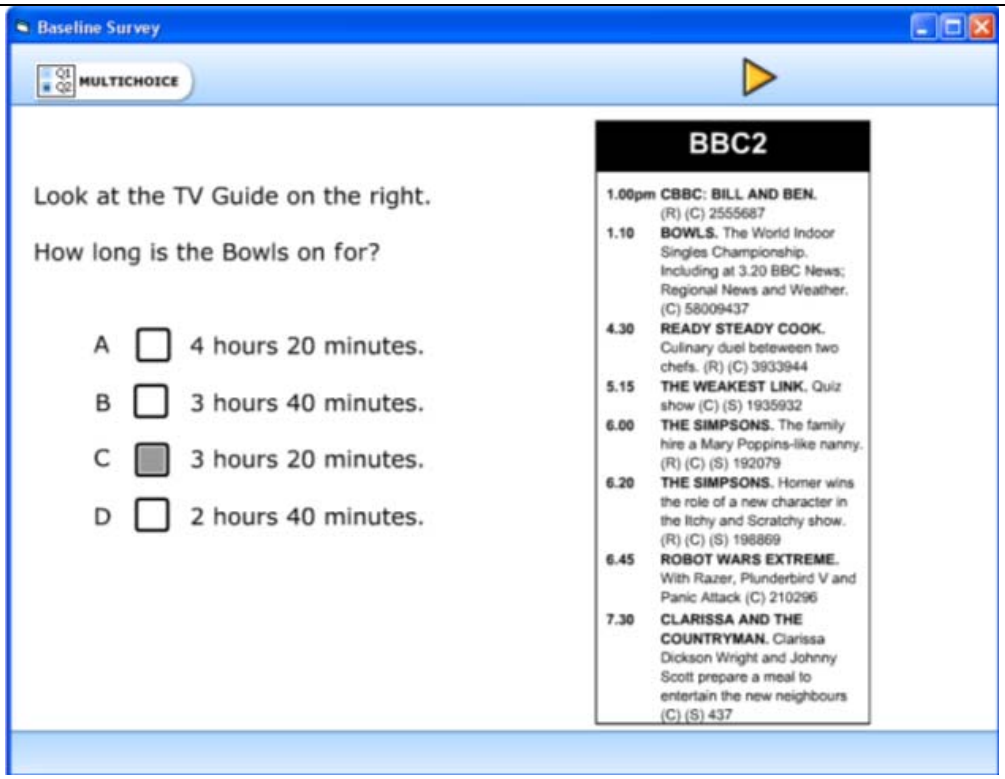
2.5.6 Marking

As with the literacy assessment, the answers are marked automatically by the computer. For numeracy however the respondent is moved through the levels of difficulty according to the marks they obtain question by question, so that the computation of the final Level is also computer generated.

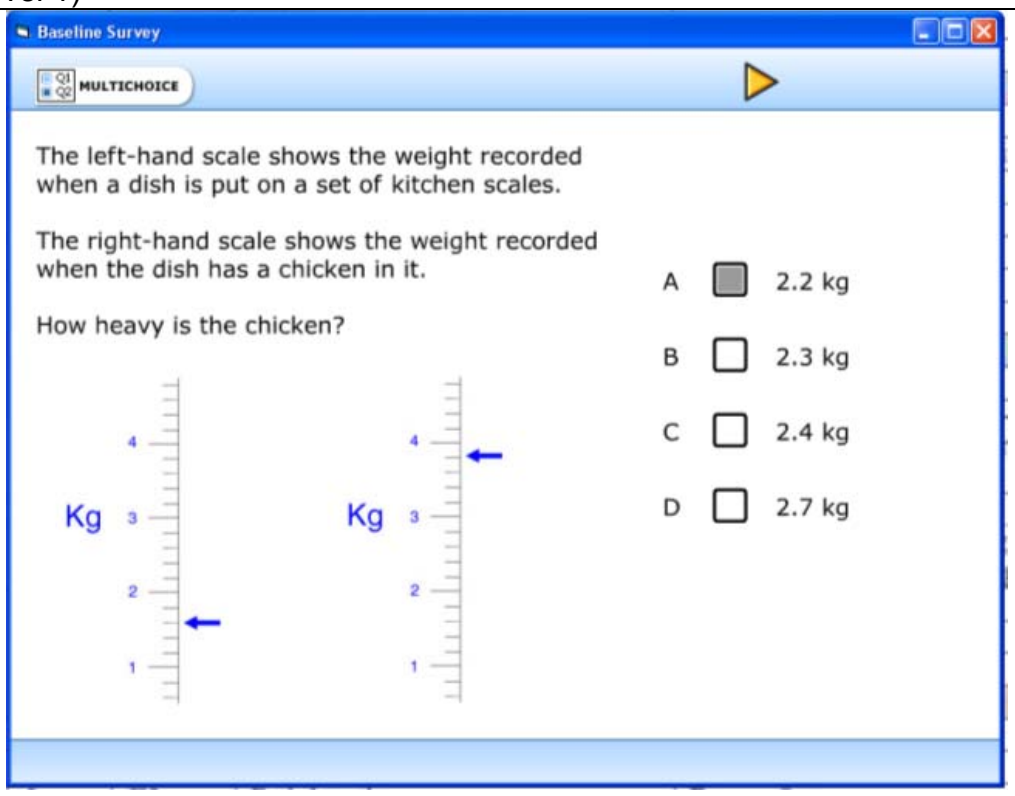
2.5.7 Items with context

Chapter 15 of the report discusses two numeracy items which require a significant amount of reading in order to answer the question correctly, which raises the issue of contamination. For information, copies of the two items are included in Annex figure 2.5 in the form as seen by the respondent (except that the correct answers are completed in the screenshots provided).

Annex Figure 2.5 Numeracy assessment items 27 and 47



Item 27 (Level 1)



Item 47 (Level 2)

2.6 Amendments made to the literacy and numeracy tools for use in SfL2011

When the literacy and numeracy tools were used in SfL2003, there were some intermittent faults which affected data capture and recording for a small number of respondents, particularly on the literacy assessments. This fault did not affect the outcome Level that the candidate was awarded, but it did mean that results for particular items, while taken into account for routing, were not recorded. These faults were elusive, and although changes to the software were made at the time which improved matters, it was not clear that the fault had been fully resolved (largely due to the compressed timetable of SfL2003).

The 2009 research developing and pilot project planned from the outset to re-use the tools from SfL2003 at least for comparison purposes and production of the conversion function pilot (and possibly for SfL2011), which inevitably raised some concerns about both the technical reliability of the tools themselves and their compatibility with the operating system under which they were to be employed. An investigation of the impact of the data non-capture issue which affected the SfL2003 survey is presented in Annex 6.

It was clear that the software on which the two 2003 tools was built was obsolete – with the software tools to modify it no longer available, allowing only modification 'by hand' with the accompanying risks to reliability that that would involve.

So, in order to guard against previous problems re-emerging or new issues arising as a result of re-using old software on the modern hardware, operating systems and survey platform the project team undertook to:

1. provide a complete software check that data was recording properly, using a setting as close to the live environment as possible. This involved carrying out extensive bench testing followed by use on the TNS-BMRB survey laptops to identify any errors;

2. investigation of the need to renovate the tools as necessary to work with the new TNS-BMRB services and operating systems given that their survey platform had changed substantially since 2003 (in the end this was not required as the software operated satisfactorily);

3. review the algorithms in order to verify their operational reliability (no change required);

4. restrict any modifications to the absolute minimum necessary, both in the interests of maintaining their integrity and of ensuring that they provided a robust baseline for purposes of comparability.

The following checks to the assessment tools were, therefore, carried out by BTL Group Ltd, the software developer of the literacy and numeracy assessments used in the 2011 and 2003 surveys:

- full algorithm testing;
- functionality testing;
- answering every question both correctly and incorrectly;
- ensuring that every question visited was written back to the text file; and

- mapping the information supplied by TNS-BMRB against the algorithm to identify and rectify any anomalies that might appear.

To ensure comparability with SfL2003, none of the items in the literacy and numeracy tools were changed.

A further consideration was that the technology in which the tools were developed is no longer being supported. This too precluded the possibility of attempting any radical amendment. However, problems with two questions (MY115 and RR4) in the literacy assessment, for which marks were not being recorded properly, were resolved.

For clarity, to ensure comparability with SfL2003 none of the items in the literacy and numeracy tools used were changed for the 2009 research development and piloting project or SfL2011. The administration of SfL2011 and the routing of the Background Questionnaire was also the same as in 2003 to further aid comparability.

In addition, development work was done on both tools so that should data non-capture occur, and/or access to the files where data is written be restricted, a warning message would appear. This would inform the interviewer that data had stopped recording. A checker facility was inserted that produces an onscreen pop up alerting the interviewer to an error over data non capture.

In order to assist data checking, functionality was also added to the 2011 SfL tools so that three files were produced at the end of each of the numeracy and literacy assessments. These files were:

1. UniqueID.txt – this file shows the individual scores that a learner got for each question and the path they took through the algorithm (in flat text).

2. UniqueID_Details.txt – this file shows the overall Level that was assigned (in flat text).

3. UniqueID_Log.xml – this file shows exactly what answer the learner gave (in XML).

At the end of SfL2011, results for 12 tests (0.1 per cent of the 12,100 tests undertaken) included data writing anomalies. Whether the data write problems were adequately resolved during the late stages of SfL2003 or as a result of the software modifications above cannot be known for certain, but in any event data non-capture has played no part in SfL2011.

2.7 Design of the 2011 ICT Assessment

2.7.1 Review of the 2003 ICT survey

In the ICT component of the SfL2003, approximately 4,500 individuals undertook a two-part assessment. The first part was an assessment of knowledge consisting of 26 multiple choice items, the second a simple assessment of practical skills and the ability to apply knowledge.

In common with the literacy and numeracy components of the survey, the ICT multiple choice assessment employed a routing algorithm to channel respondents through different groups of items in response to individual performance on each section of the assessment. For the ICT assessment, the routing algorithm exposed 26 items from a total of 58. The purpose of the routing algorithm was to assign a Level to each respondent ranging from Entry to Level 2.

It is important to note that no nationally recognised or agreed standards existed at that time which described people operating at Entry Levels in the use of ICT. For this reason the notional Entry Levels were only used as a basis for producing suitable questions for the survey. In terms of assigning operating levels to respondents, only three levels were applied: Entry Level, Level 1 and Level 2. A proportion of respondents fell below Entry Level and were recorded as such.

The practical assessment was undertaken only by those respondents who stated in response to a preliminary questionnaire that they had previously used a computer, amounting to 3,602 from the total of 4,561.

The practical assessment comprised 22 separate tasks. These tasks were designed to:

- assess basic skills using the keyboard and mouse, and
- assess basic competence in working with:
    - features of the (Windows) user interface;
    - an elementary text processor; and
    - an elementary spreadsheet application.

The tasks were designed to be progressively more demanding in terms of skill and/or knowledge of techniques.

The assessment of practical skills was constrained by the limited facilities of the assessment environment which was unable to support extended tasks requiring a sequence of operations. The interfaces and facilities provided by the elementary user applications were not comparable in scope or capability to those provided by real office applications.

2.7.2 The 2009 ICT pilot study

As a preliminary to the planned SfL2011, a pilot study was undertaken. For the ICT component the primary purposes were to:

- review the SfL2003 ICT assessment tool;
- revise, develop and pilot a new ICT assessment tool based on the Real Applications Test Environment (RATE) technology (the SfL2011 ICT assessment);
- conduct technical reliability tests on the interviewing software platform in order to check its reliability prior to piloting the ICT assessment tool proposed for use in SfL2011;
- carry out a pilot survey with the proposed 2011 ICT assessment tool in order to test its reliability, functionality and the validity of the proposed assessment questions and tasks; and
- validate the SfL2011 ICT assessment.

The new ICT assessment tool

In the years between SfL2003 and SfL2011 there have been major advances in the assessment of ICT. The development of a Real Applications Test Environment (RATE) technology has enabled the delivery and automatic marking of advanced on-screen ICT task-based assessments. This technology employs real applications that are typical of modern office type applications in appearance, facilities and capability.

This technology was used to support an assessment covering three skill areas:

- word processing;
- working with spreadsheets; and
- emailing.

Using the technology, respondents were required to undertake common tasks set in credible contexts using real ICT applications, typical of standard commercial applications.

The real applications used in the SfL2011 ICT assessment are visually and functionally similar but not identical to Microsoft Word, Outlook and Excel.

The pilot ICT assessment

In addition to the practical tasks, there was a multiple choice component of 15 questions. The main reasons for including this were to:

1. cover parts of the Skills for Life standards that do not require practical tasks to assess them;
2. cover internet usage, which was deemed impractical in terms of design and cost to implement as a practical assessment; and
3. provide some Entry Level topics for people without any practical skills.

The limited range of knowledge addressed in the multiple choice assessment did not afford the same opportunities for adopting an algorithmic approach as was the case with the literacy and numeracy core curricula, hence respondents were shown all 15 questions.

Unlike the literacy and numeracy assessments, there was no requirement in the case of ICT to be able to compare performance in 2011 with performance in 2003. This was primarily due to the considerable differences between the SfL2003 and SfL2011 ICT assessment tools, which make comparisons invalid. It was also anticipated that greatly improved and more realistic practical tasks would enable more meaningful estimates of operational Levels to be determined from SfL2011 results than was possible from SfL2003 results, and that this would be used to establish a new baseline for future surveys.

Validating the ICT assessment tool

Unlike the literacy and numeracy assessments, which had been trialled extensively as part of their development process, the ICT assessment was developed specifically for SfL2011. There

was, therefore, no historical statistical data that might be used to validate the outcomes of the pilot phase. Consequently, it was considered necessary to obtain some baseline data against which the outcomes of the pilot phase could be analysed and calibrated. Two activities were conducted in order to achieve this.

1. An Expert Review Group was convened to undertake a standard-setting study to recommend 'cut scores', i.e. cut-off boundaries for each of the defined Skills for Life Levels (Entry Level 1 to Level 2) for each of the four ICT components (multiple choice, word processing, spreadsheet, email) being assessed. The Expert Review Group comprised John Hammond – mainly responsible for the drafting of the National Standards for ICT; Mark Reader – ASDAN Chief Examiner for ICT; Mike Bagley – ICT Tutor at Plymouth College; and Keith Jeram – author of the ICT Skills for Life 2011 survey assessment.

2. A small scale pilot within which learners from a college and an adult learning centre took the ICT assessment in order to compare their performance against tutor judgements of their Level.

Each of the four expert reviewers worked through the assessment and reached their own provisional conclusions about cut scores for each of the Levels, approaching the task from their own different experience and perspectives. The findings and conclusions of the experts were compared and following detailed discussions they produced a set of recommended cut scores for each component of the ICT assessment. The experts were also asked to record their comments on questions that they considered could be improved or clarified by a change of wording. Along with all the other findings to emerge from the pilot study, these comments were taken into account in refining the ICT assessment tool for use in SfL2011.

The second activity involved assessing 34 learners working in the two centres across the range of Skills for Life Levels from Entry Level 1 to Level 2. The assessment tool used was identical to that used in the pilot survey. Respondent Level, as measured by the tool, was cross tabulated against the Level judged by the tutor at which the respondent was operating in the Skills for Life curriculum.

The current working Level in the ICT Skills for Life curriculum as reported by tutors was generally the same as (12/34) or higher than (18/34) the assessment result. In four cases (out of 34) it was lower. Cross tabulations of component results with current Levels of working showed a similar pattern to that of assessment result and current level of working. This does not mean that the ICT assessment underestimates a learner's Level. The tutors' judgements were their own *estimates* as to each learner's current Level of working, without reference to any prior assessment, and evidence from the Universities and Colleges Admissions Service (UCAS) for example, shows that teacher estimates are notoriously unreliable. For example, of predicted A Level results, 50 per cent are incorrect subject by subject, and 90 per cent incorrect across three subjects.

A statistical analysis of the results showed nothing to suggest that the assessment results were wayward. There was reasonable agreement between them and current Levels of working. As a result of the Expert Review Group and trials results, three multiple choice questions, one task on word processing, three email tasks and three spreadsheet tasks were all amended. The pilot survey showed that they performed relatively poorly and they were amended in order to rectify the apparent fault, for example, by replacing a weak distractor.

The conclusion from the validation exercise was that the assessment tool is capable of providing a valid measure of respondents' ICT skills Levels.

2.8 Relationship of ICT assessment tasks to the Skills for Life ICT standards

Information about the selection of items for the assessment tool is included in Chapter 14, Sections 14.19, 14.19.1 and 14.20 of the report.

2.8.1 Assessment specification – multiple choice question assessment

The multiple choice component of the assessment was designed to provide a gentle introduction to the assessment process (although respondents were not obliged to take this component first) and to test areas of knowledge outside of the practical domain. Use of a web browser, which could in principle have been tested practically, was also dealt with in this component again largely because of the time constraint for the interview and the cost and challenge of developing an authentic 'use of internet' assessment component.

For the multiple choice component, the respondent was required to select answers and navigate the assessment using the mouse and/or keyboard.

The design and presentation of the multiple choice questions followed closely the specification developed over several years for similar questions used in the national ICT Key Skills tests. That is, four short optional answers, ordered by length or value as appropriate, with a stem no longer than one or two short sentences. The only notable difference to the Key Skills tests being the opportunity afforded by on-screen presentation to use colour. Annex Table 2.6 lists the multiple choice questions by number, topic and Skills for Life reference.

Annex Table 2.6 Multiple choice question curriculum references

Question Number	Topic	Level	Skills for Life curriculum references
1	Recognise text message on mobile phone	E1	3.1, 4.1
2	Safe practice - breaks	E1	2.1
3	Recognise social networking sites from names, e.g. Facebook, Twitter, MySpace	E1	3.1
4	Recognise hotspot	E1	1.2
5	Know purpose of password/PIN	E2	2.2
6	Recognise web address	E2	4.1
7	Recognise web page links	E2	4.1
8	Know purpose of Forward/Back buttons	E3	4.1
9	Understand copyright issues	E3	4.3
10	Know purpose of proof reading	L1	7.1
11	Know purpose of password	L1	2.4
12	Recognise wildcard	L1	4.2
13	Use multiple search criteria	L2	4.2
14	Know purpose of a scanner	L2	6b.1
15	Know purpose of mail merge	L2	6.2

2.8.2 Assessment specification – practical tasks

The Skills for Life Levels specify user skills in active terms: what it is that an adult IT user at a given Level is able to do in individual, community and employment activities. An important consideration therefore was to provide an assessment environment that would enable respondents to demonstrate what they were able to do, using tools with familiar features, in realistic everyday contexts.

Three user applications were employed to determine respondents' practical skills: a word processor, a spreadsheet and a mailer (email application). For each application, respondents were asked to carry out specified tasks set in credible everyday contexts.

Annex Tables 2.7, 2.8 and 2.9 present outline descriptions of the practical tasks. Section 2.9 includes screenshots of the multiple choice questions and practical tasks.

Annex Table 2.7 Word processor task curriculum references

Task	Question	Word processor	Level	Skills for Life curriculum references
	1	*Read text from the screen. Start application	Entry 1	4.1, 1.1, 1.2, 3.1
Task 1	1	Enter brief text	Entry 1	1.1, 6.
	2	Press Enter key to confirm	Entry 1	7.1
Task 2	1	Amend text	Entry 1	6.2
	2	*Amend text by pressing Enter key	Entry 1	6.2
	3	Use the mouse to invoke a specified menu option. Use the Undo menu option to restore text amended in 2 above	Entry 2	1.1, 1.3
Task 3	1	Locate specified entry in list. Correct errors in text (in list)	Entry 2	4.1, 1.1, 1.2, 6.2
Task 4	1	Use the **Open File** dialog to open a specified file.	Entry 3	2.1
	2	Cut and paste text using menus, keyboard shortcuts or mouse drag-&-drop (respondent choice)	Entry 3	6a.1
	3	Use **Find** menu to locate specified text.	Entry 3	4.2
	4	Save a file	Entry 3	2.1
Task 5	1	Spell check a document	Level 1	7.1
	2	Format selected text (font size, bold, italic, colour)	Level 1	6a.4
	3	Insert a specified image file into a document	Entry 3	6b.1
	4	Format an image	Entry 3	6b.1
	5	Select an image and change its dimensions using handles	Level 1	6b.1
Task 6	1	Create a simple table and enter text	Level 1	6a.5
	2	Move text into a table	Level 1	6a.5
	3	Insert a text box with specified text wrap format	Level 2	6b.1, 6b.2
	4	Enter text and position text box (develop and organise)	Level 2	6b.2
	5	Insert information into a header or footer	Level 2	6a.2
	6	Save a file with a new name	Level 1	2.1

* Not marked by system

Annex Table 2.8 Email task curriculum references

Task	Question	Mailer	Level	Skills for Life curriculum references
Task 1	1	Receive email	Entry 1	1.2, 5.1
	2	Open and read a specified email	Entry 2	5.1
	3	Identify and delete a spam email	Entry 3	5.1
Task 2	1	Reply to an email	Entry 3	5.1
	2	Send an email	Entry 3	5.1
	3	Forward an email	Level 2	5.1
	4	Send an email	Entry 3	5.1
Task 3	1	Create a new email	Entry 3	5.1
	2	Add an attachment to an email	Level 2	5.1
	3	Send an email	Entry 3	5.1
	4	Add a new contact to an address book	Level 2	5.2
	5	Sort emails in alphabetical order	Level 1	6d.1

Annex Table 2.9 Spreadsheet task curriculum references

Task	Question	Spreadsheet	Level	Skills for Life curriculum references
Task 1	1	Enter a specified value into a specified cell	Entry 3	6c.1
Task 2	1	Edit a date	Entry 3	6c.1
	2	Select and format the content of a range of cells	Entry 3	6a.3
	3	Use the autosum button to sum values in a vertical range of cells.	Entry 3	6c.1
Task 3	1	Format the values in a range of cells to display a specified number of decimal places	Level 1	6c.2
	2	Enter a formula containing a single arithmetic operator, e.g. =C11*D11 into a specified cell	Level 1	6c.1
Task 4	1	Enter a formula using a single arithmetic operator.	Level 1	6c.1
	2	Sort a block of data in a spreadsheet on one column heading	Level 1	6d.1
	3	Create a simple chart in a spreadsheet	Level 1	6c.3
Task 5	1	Use the mouse to adjust the width of a column or the height of a row	Level 2	6c.2
	2	Use an absolute cell reference in a formula	Level 2	6a.1
	3	Replicate a formula to a specified range	Level 2	6c.1

2.9 Description of the ICT assessment tool

2.9.1 Overview of the assessment system

Operating environment

The defining requirement for the ICT assessment tool was that it should operate in the Microsoft Windows environment. The laptops that would be used to deliver the assessment were Panasonic model CF-T2 with a 12.1 inch screen operating at a native resolution of 1024 x 768 pixels and running the Windows XP operating system.

At the time of the survey, Microsoft Windows operating systems had an approximately 90 per cent share[22] of the total operating systems market. For the great majority of computer users, the environment provided by the Windows operating system family will be familiar. Users of machines running different operating systems, notably Apple Mac with an approximate market share of 5 per cent at this time, would also find many aspects of the Windows operating system environment familiar.

User applications running under a Windows operating system have many features directly provided by the operating system, most notably the overall 'look and feel'. Hence features such as colour schemes, menu structures, toolbars, scroll bars, context menus etc. have common appearances and behaviours from one application to another. Features such as dialog boxes for Save, Open and Print are common to all user applications and are provided to the application directly by the operating system, as are file management and printing services. Modern user applications do not interact directly with the hardware of the machine, but utilise services provided by the operating system. This all contributes strongly to coherence between different user applications and supports the transferability of skills and knowledge.

An application designed to measure ICT user skills that is running under a Windows operating system must provide a user experience that conforms to the norms of the environment and the expectations of the user, otherwise it is likely to interfere unnecessarily with the expression of user skills. The tool should provide the user with applications that have familiar functions and user interfaces, and ways of working that have become practically standard must be supported.

Simulated applications

Simulation of office-type user software (i.e. lookalikes of word processing, spreadsheet, email applications, database software applications etc., but without many of the capabilities) is typically undertaken where costs rule out the provision of the real thing (usually because of numbers of users) or there is a requirement to interact in particular ways with the user. In this instance that would be to identify and mark user actions. There are, however, considerable difficulties facing the developers of simulated applications.

To simulate completely all the features of a modern office application would require just as much work as would be required to create the real thing, and developing a modern office application requires thousands of man hours, a team of people and considerable expertise. For these

[22] PC Advisor, 2nd December 2008, http://www.pcadvisor.co.uk/news/software/107858/microsoft-windows-market-share-slashed-by-apple/, accessed 28/03/12

reasons simulations typically lack many features and do not provide 'standard' interfaces or behaviours. Simulations are not usually developed using the type of development tools used for real applications and as a result are often not able to utilise services provided by the operating system.

Most importantly, simulations are usually not able to do the essential job of an application, which is to create, open, edit and save files in standard formats. For example, nearly all commercial spreadsheet applications are able to open, edit and save a file created in Microsoft Excel; the .xls file format having become a de-facto standard format. A simulated spreadsheet application will not be able to do this. If it could, it would be a real application and would have all the underpinning complexity of a real application. A typical simulated spreadsheet application will present a grid on screen into which values can be entered and possibly simple formulae, but essential spreadsheet features such as the ability to replicate formulae with full address updating and correct handling of absolute and relative references will not be there. Neither will it provide the many functions and formats that are standard in real applications.

The above considerations ruled out the use or development of simulated applications.

Real applications

Real applications can offer the functionality and familiarity required and most commercial office-type application suites would be suitable in those respects. There are also open source suites which would provide all the necessary functionality, in this case for no up-front cost. [23]

Difficulties arise though when considering how to:

1. capture and mark user actions; and
2. present instruction text for the assessment tasks to the respondent.

Standard user applications are designed to enable the user to create output in the form of files. They are tools designed for a purpose and cannot readily be modified or adapted to suit different needs.

In addition to requiring applications of a standard form, it was also necessary to be able to automatically monitor and identify the respondent's actions in real time, map those actions on to the specified assessment tasks, capture details of the actions and award marks accordingly. This data needed to be logged as respondents worked through the tasks and all needed to be done in a way that was completely transparent to the respondent and did not interfere with the normal operation of the application.

The primary difficulty with using any of these office applications is being able to interact closely with the application in the background to monitor in detail what the user is doing. In the normal use of these applications there is no requirement to do this and hence no provision is made to enable it to be done easily. An exception is the Microsoft Office suite which provides object models for Word and Excel that could enable the applications to be monitored at the required level. However, this approach was ruled out by the cost of providing these applications on every

[23] For example, Open Office, The Apache Software Foundation. More information is available online at: http://www.openoffice.org/, accessed 28/03/12.

laptop used to interview respondents. The technical feasibility of this route was not explored fully for that reason.

The second requirement - to be able to display instruction text to the respondent - also presents difficulties. Ideally, the instruction text should be displayed on-screen and integrated with the assessment tasks. Regular applications do not offer easy means of doing this.

Software components

The market for commercial off-the-shelf software components has existed for at least the past twenty years and many companies now offer mature, sophisticated products.

The use of software components in the construction of a larger application is analogous to the way personal computers are built from a collection of standard components: memory chips, Central Processing Units (CPU), motherboards, keyboards, pointing devices, disk drives, monitors, etc. Because all of the interfaces between these components are standardized, it is possible to mix components from many different manufacturers in a single system.

Software components designed for the Windows environment conform to certain technical standards that enable them to be readily integrated into larger software developments, where all the functionality provided by the components can be exposed and utilised.

Software components have several features that make them attractive to software developers:

1. sophisticated functionality can be purchased for very much lower cost than in-house development;
2. most components are sold royalty-free, meaning that the functional elements can be distributed as part of a larger application to any number of end users for no additional fee to the supplier;
3. the best components can provide functionality that rivals that of commercial stand-alone applications;
4. components are designed to be integrated into larger developments and can be configured to provide a bespoke interface to suit the needs of the application; and
5. components provide programming interfaces that enable low-level, transparent monitoring of the user's actions.

This last feature is essential to the development of a monitoring and marking system for skills assessment.

The RATE system

Work undertaken for the Scottish Qualifications Authority in 2006/07 established the technical feasibility of a component-based approach to ICT skills assessment. A Real Applications Test Environment (RATE) was developed at that time that allowed user application skills to be assessed in the areas of word processing, spreadsheet, email, database and vector drawing. In the years since then the functionality provided by the best components has improved markedly.

For SfL2011, the kernel of the RATE system was utilised, together with the latest components and a redeveloped monitoring and marking system, to meet the project requirements to assess practical user skills in the areas of word processing, spreadsheet and email.

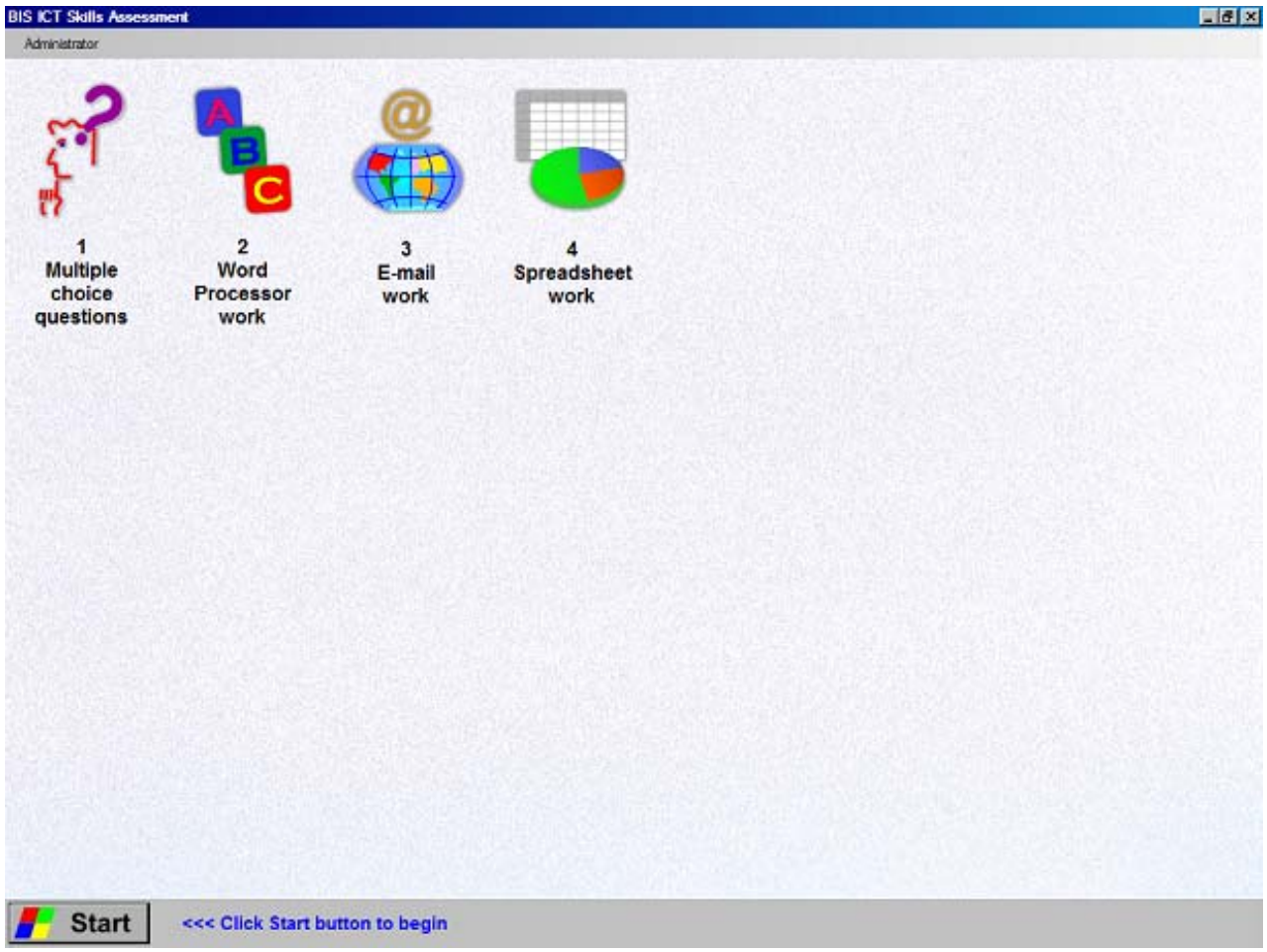
In its final form the assessment tool made use of components sourced from the following countries: Canada, Germany, the UK, Ukraine and the USA.

2.9.2 The assessment tool in use

The assessment tool was operated by the respondent via a 'desktop' which provided access to the three applications via icons and menus. The multiple choice assessment was integrated into the package and also launched from the desktop by the respondent.

A 'desktop' screen was used to provide the respondent with access to the four components of the assessment. This is shown in Annex Figure 2.6.

Annex Figure 2.6 Desktop for the ICT assessment



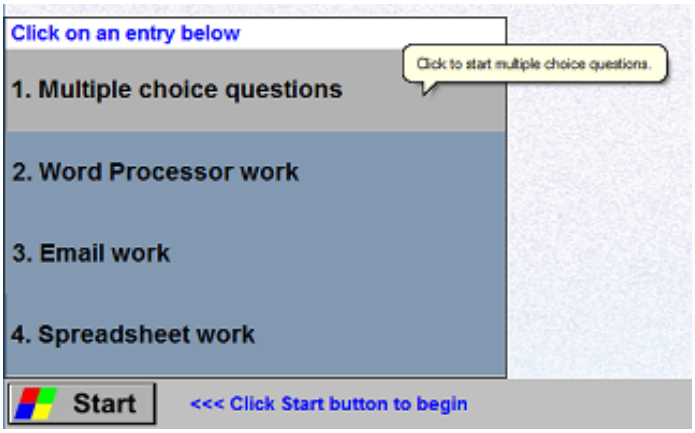
The 'Start' button exposed the menu shown in Annex Figure 2.7 from which any component of the assessment could be started by a mouse click, or by pressing the corresponding number key on the keyboard.

A double-click on any one of the desktop icons could also be used to launch the corresponding assessment component.

While respondents were not obliged to work through the assessment in any particular order, the

suggested order was multiple choice questions, word processing, email, spreadsheet.

Annex Figure 2.7 Selection of task



2.9.3 The ICT assessment multiple choice questions

Annex Figures 2.8 to 2.22 show each question as it would appear on screen with the correct option (key) shown selected. The images are not all shown to the same scale.

On screen, an option is selected either by clicking the mouse with the cursor anywhere over an option text or option letter, when the mouse cursor would appear as shown here,

or by entering an option letter (a, b, c, d) via the keyboard.

An answer can be changed at any time and it is possible to return to a question via the assessment navigation buttons. These are shown here 

and appear on screen below the question.

Annex Figure 2.8 Multiple choice question 1 (Q1. Entry 1, SfL ref: 3.1, 4.1)

Question 1

The screen of this mobile phone is showing a

A contacts list

B text message

C website address

D telephone number

Annex Figure 2.9 Multiple choice question 2 (Q2. Entry 1, SfL ref: 2.1)

Question 2

When using a computer for a long time you should

A move your chair away to keep your arms straight

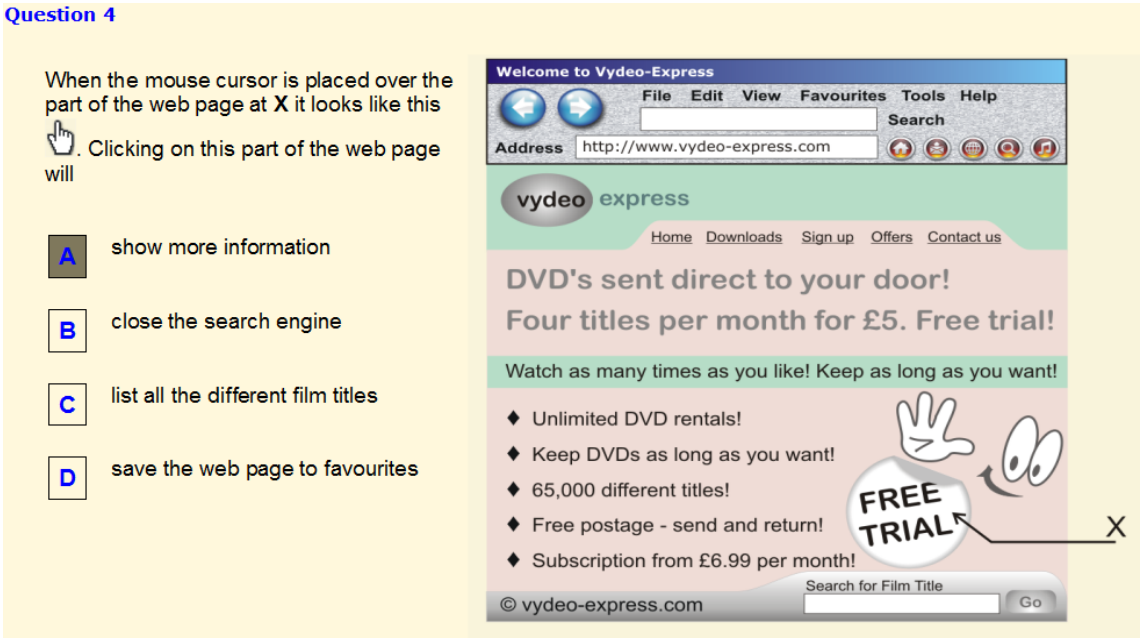
B work for at least 3 hours before taking a break

C take a short break at least once every hour

D use the mouse more than the keyboard

Annex Figure 2.10 Multiple choice question 3 (Q3. Entry 1, SfL ref: 3.1)

Annex Figure 2.11 Multiple choice question 4 (Q4. Entry 1, SfL ref: 1.2)



Annex Figure 2.12 Multiple choice question 5 (Q5. Entry 2, SfL ref: 2.2)

Question 5

A PIN and card is needed to get money from a cash machine.
The PIN should be

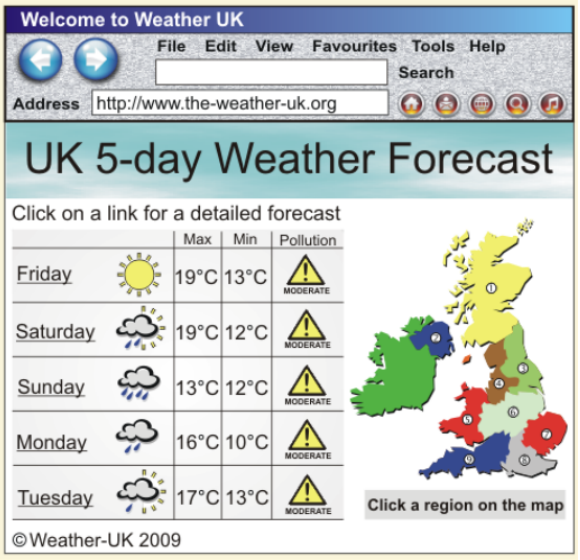
- A written on the card
- B numbers and letters
- C known only by the card owner
- D very easy to guess, like the number 1234

Annex Figure 2.13 Multiple choice question 6 (Q6. Entry 2, SfL ref: 4.1)

Question 6

The picture shows a website. The address of this website is

- A © Weather-UK 2009
- B Welcome to Weather UK
- C UK 5-day Weather Forecast
- D http://www.the-weather-uk.org

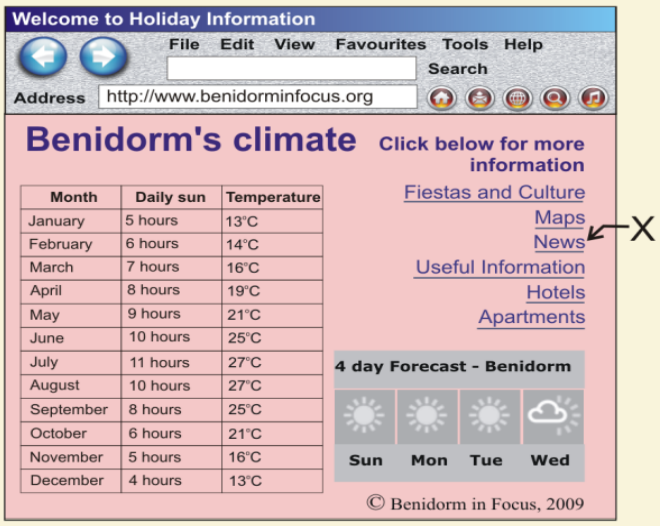


Annex Figure 2.14 Multiple choice question 7 (Q7. Entry 2, SfL ref: 4.1)

Question 7

Clicking at **X** displays another web page.
The feature at **X** is a

- **A** link
- **B** wildcard
- **C** search engine
- **D** web page address



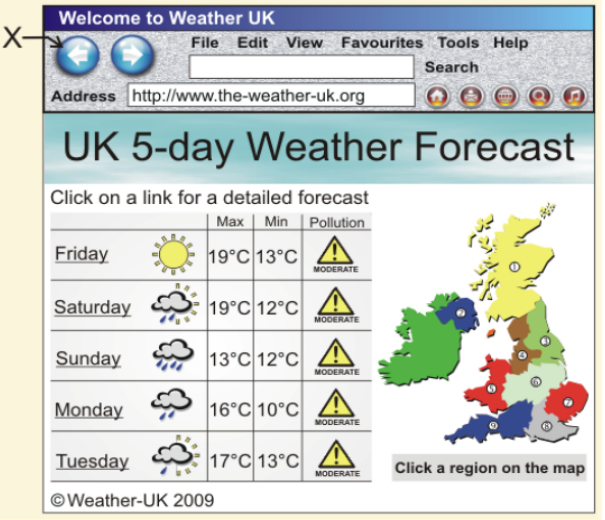
Month	Daily sun	Temperature
January	5 hours	13°C
February	6 hours	14°C
March	7 hours	16°C
April	8 hours	19°C
May	9 hours	21°C
June	10 hours	25°C
July	11 hours	27°C
August	10 hours	27°C
September	8 hours	25°C
October	6 hours	21°C
November	5 hours	16°C
December	4 hours	13°C

Annex Figure 2.15 Multiple choice question 8 (Q8. Entry 3, SfL ref: 4.1)

Question 8

During a session on the internet the Back button, shown at **X**, can be used to

- **A** return to web pages already viewed during this session
- **B** close the browser window
- **C** open a dialogue box
- **D** follow a link



Annex Figure 2.16 Multiple choice question 9 (Q9. Entry 3, SfL ref: 4.3)

Question 9

Information that is protected by copyright

- A is always completely correct
- B can be freely copied and used
- C can only be used with permission
- D needs a password to be able to use it

Annex Figure 2.17 Multiple choice question 10 (Q10. Level 1, SfL ref: 7.1)

Question 10

To make sure this document is accurate and makes sense it should be

- A formatted
- B proof read
- C saved to a file
- D looked at using print preview

NEWTON COLLEGE
12 New Street, Newton, N1 9RS

Wanted: IT Assistant for 1st October
Salary £10,602 - £13,815

Duties to include:
- Processing students' details on computer
- General office tasks

The person appointed will have recent experience of work in a college and will be a competent IT user.

Closing date for applications: 4 August

Annex Figure 2.18 Multiple choice question 11 (Q11. Level 1, SfL ref: 2.4)

Question 11

In order to enter some web pages you need to know the

- A wizard
- B password
- C search words
- D copyright protection

Annex Figure 2.19 Multiple choice question 12 (Q12. Level 1, SfL ref: 4.2)

Question 12

The search criterion *.doc will find all files with

A date of copyright (doc) in the file

B a word processor format

C a wildcard in the name

D the file extension .doc

Annex Figure 2.20 Multiple choice question 13 (Q13. Level 2, SfL ref: 4.2))

Question 13

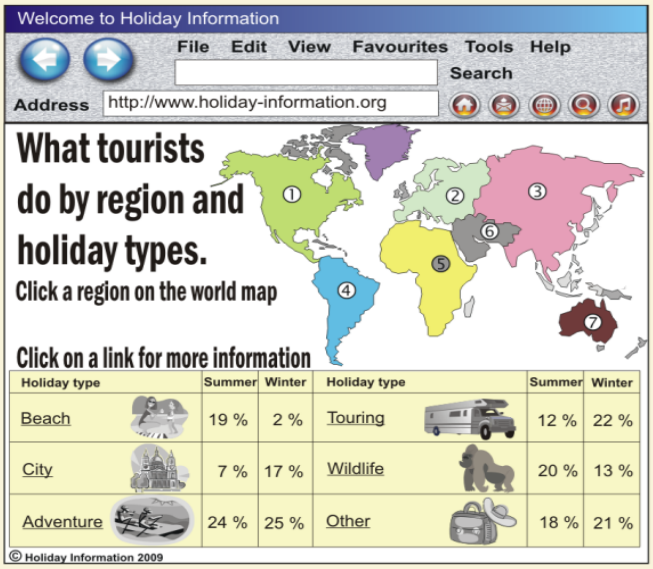
To locate this website easily using a search engine, a suitable search phrase is

A summer holidays

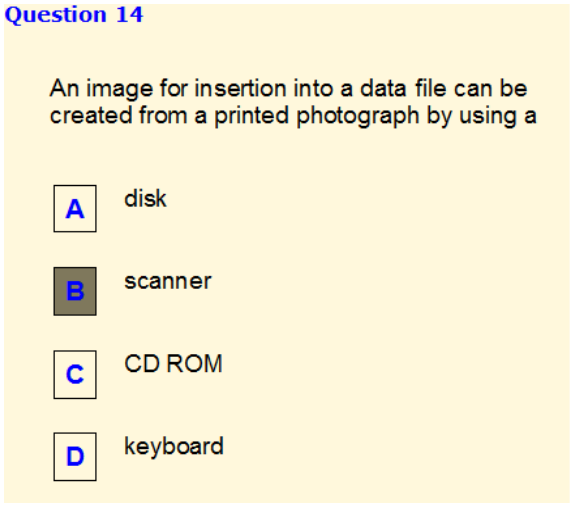
B holiday types

C hotspots

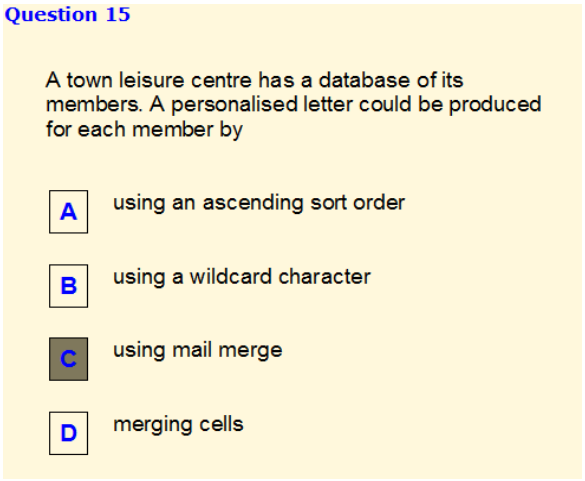
D touring



Annex Figure 2.21 Multiple choice question 14 (Q14. Level 2, SfL ref: 6b.1)



Annex Figure 2.22 Multiple choice question 15 (Q15. Level 2, SfL ref: 6.2)



2.9.4 The ICT assessment word processing tasks

Annex Figures 2.23 to 2.28 show each task as it would appear on screen with the tasks completed or partially completed, as appropriate.

The layout of this screen is common to all the application tasks with the task instructions appearing in the panel to the left. At the top of the screen is a set of drop-down menus specific to the application, with below it a toolbar, again specific to the application. These features are fully functional. Below and to the right is a toolbar providing standard font and paragraph formatting. Again, all parts of this are fully functional.

Tasks are presented in sequence of pages, with tasks becoming progressively 'harder'. The respondent is able to work on tasks in any order and can move freely between the task pages using the 'next' and 'back' buttons. Responses can be changed and answers modified at any time while within the application. When a correct response is made the available mark is awarded at that time. Should the response subsequently be changed to an incorrect one, the

mark previously awarded for the correct response will be retained. Conversely, an incorrect response can be changed to a correct response at any time and the available mark will be awarded. Note that a respondent cannot return to a component once it is completed.

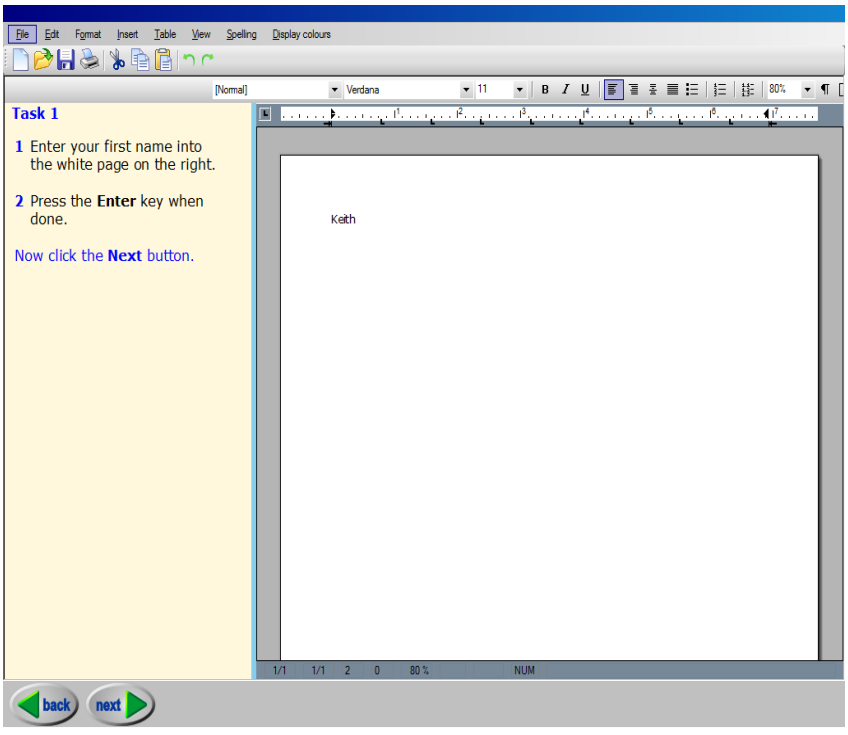
There is no follow-on between task pages, each being based on a unique context. There may be follow-on within a single task, for example if the task is to insert and format an image, the marks available for formatting are dependent upon an image being inserted.

To the right of the instruction pane is a document page with ruler at the top and status bar at the bottom. Right-clicking on the page exposes a standard context menu (not shown).

The instruction panel is not editable. The vertical blue bar separating it from the document can be dragged to the left or right with the mouse. This can be used to change the size and zoom of the word processing document and the task instructions.

The 'Display colours' menu allows the respondent to select from a number of pre-set colour schemes. This was one of the access modifications made following the pilot stage, along with text alternatives to graphic content and keyboard shortcuts.

Annex Figure 2.23 Word processing task 1

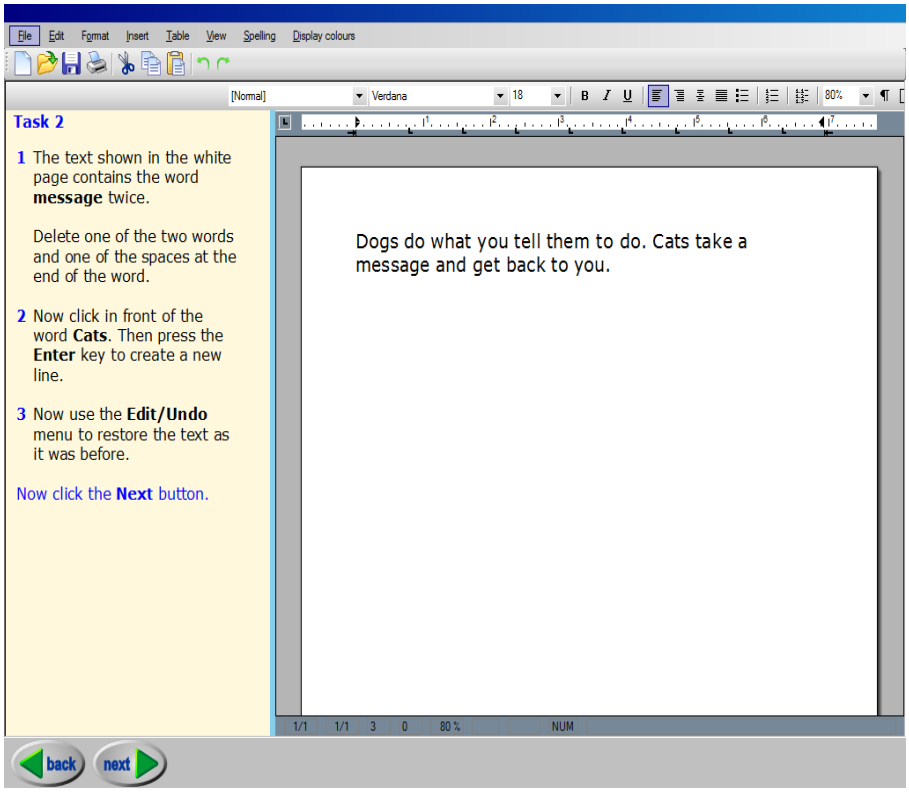


For the first task (Annex Figure 2.23), the respondent was asked to enter a name into the document page and press the Enter key. Both actions were automatically marked in the background. The mark available for the text entry was awarded for any text entry, content not being taken into account for this task.

Tasks 2 and 3 essentially test understanding and use of drop-down menus. In this case, any action that was restored by using the Edit/Undo menu (or the Undo button bar button) was marked as correct.

Annex Figure 2.24 shows the outcome of Task 2: the word processor page is shown after correct editing (a second instance of the word 'message' and associated leading or trailing space has been removed).

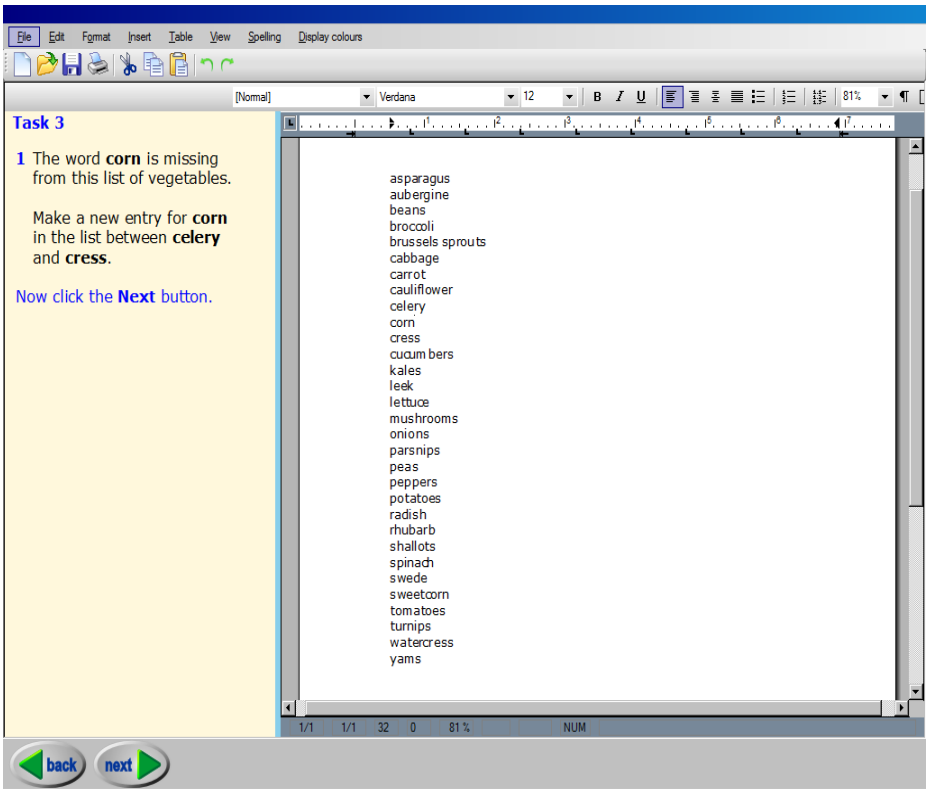
Annex Figure 2.24 Word processing task 2



The Undo action can also be invoked using the 'standard' keyboard shortcut 'Ctrl+Z'. This shortcut is shown with the Undo menu option.

Annex Figure 2.25 shows the outcome of Task 3. The word processor page is shown with the word 'corn' entered into the list at the correct position. The task marking takes account of both the text entered and its position in the list.

Annex Figure 2.25 Word processing task 3

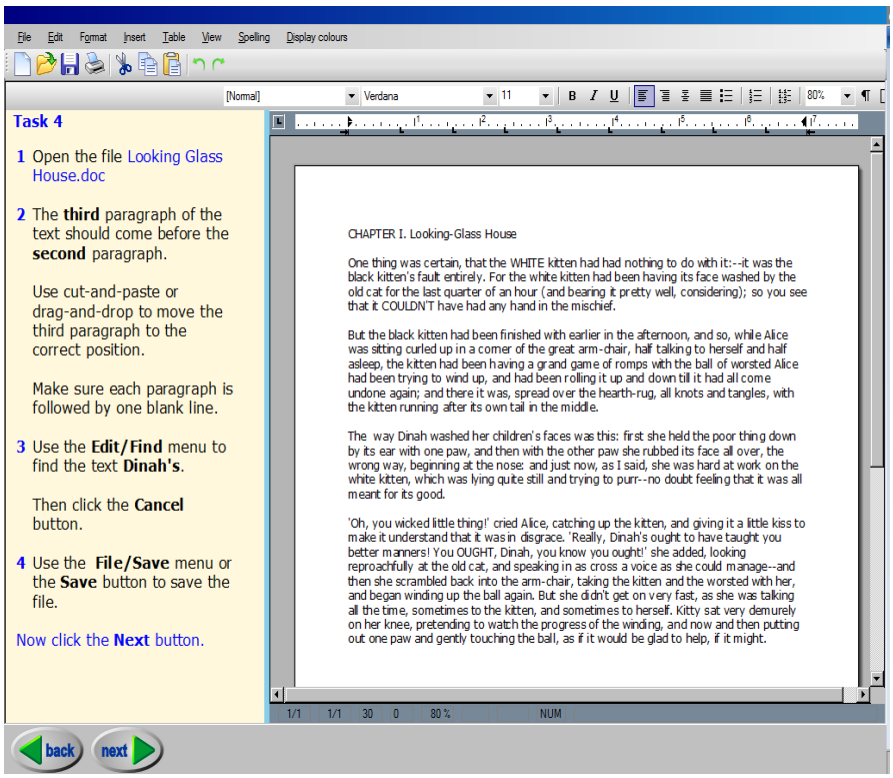


Task 4 is illustrated in Annex Figure 2.26. The word processor page is shown with the correct file opened (Looking Glass House.doc) and the text amendments made.

Task 4 question 2 required a paragraph to be moved. This can be accomplished by selecting the text and dragging with the mouse, or by using the cut-and-paste functions. Cut and Paste actions are available from the Edit menu or from a right-click context menu. The 'standard' keyboard shortcuts, 'Ctrl+C' and 'Ctrl+V' can also be used.

Task 4 question 3 tested the ability to open and use a 'Find' dialog box.

Annex Figure 2.26 Word processing task 4



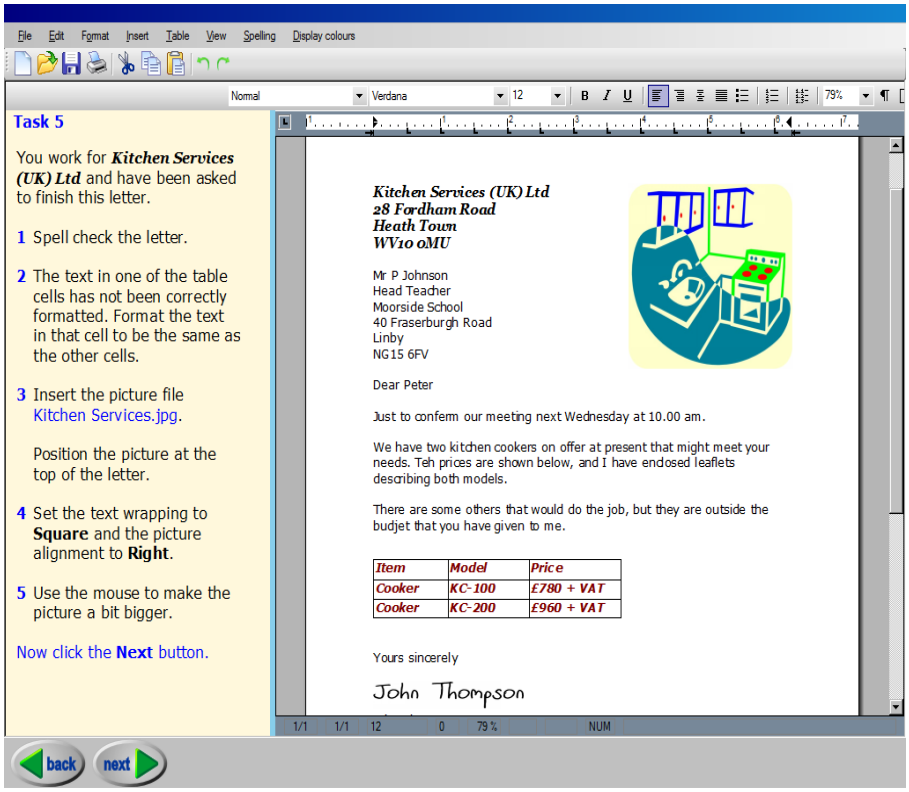
Annex Figure 2.27 (Task 5) shows the word processor page with all editing completed, but with the three spelling errors in the original text not corrected.

Formatting text can be done via the Edit menu, a context menu, or the word processor button bar. The ‘standard’ keyboard shortcuts ‘Ctrl+B’, ‘Ctrl+I’, ‘Ctrl+U’ can also be used.

A picture inserted from file can be positioned by dragging and resized in the usual way using ‘handles’. Formatting is done via a dialog invoked from the Format/Picture menu. This enables position, size, alignment, borders and text wrapping to be selected.

The Spelling menu, or the ‘standard’ keyboard shortcut F7, invokes a spell checker. This is supported by a 250,000 word English dictionary and displays a list of suggested replacements for misspelled words and the usual replacement options. Misspelled words can be automatically identified in the text by wriggly red underlines if required.

Annex Figure 2.27 Word processing task 5

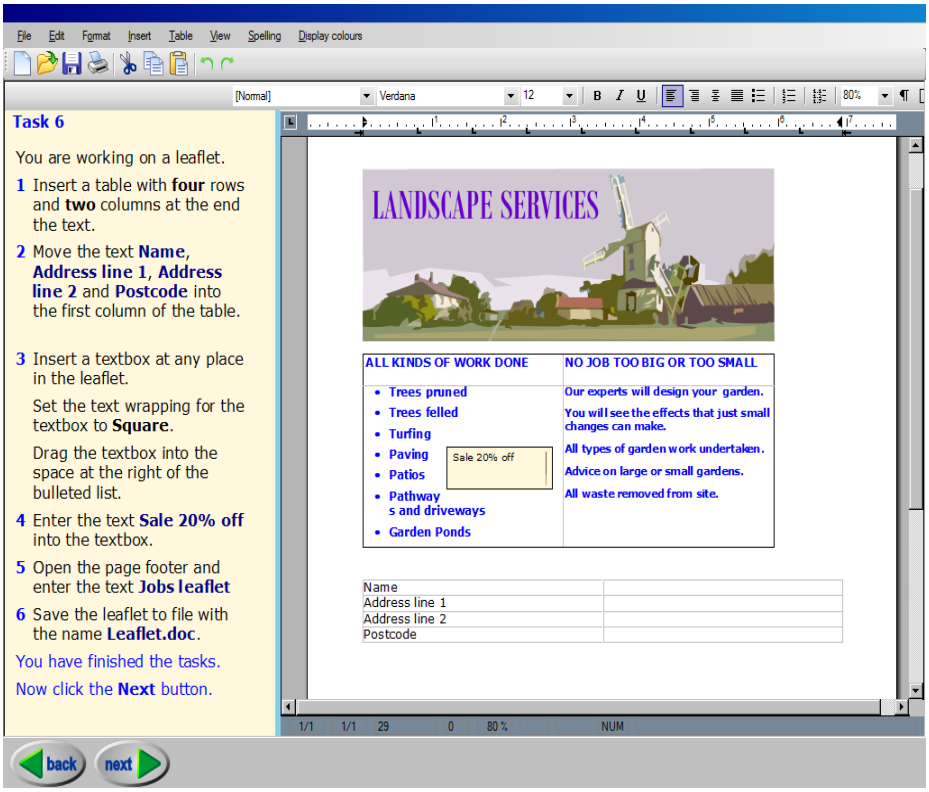


Annex Figure 2.28 (Task 6) shows the word processor page with all editing completed. The page footer is off the screen.

As presented to the respondent, the address text was not in a table. The respondent had to create the table and move the address text into it.

Task 6 question 6 required use of the File/Save-as menu to open the Windows Save dialog and name and save the file to a folder.

Annex Figure 2.28 Word processing task 6



Task 6 is the final word processing task.

2.9.5 The ICT assessment email tasks

The mailer is a fully functioning email client. It does not communicate with the outside world as that would not have been practical. A virtual email server is used to handle sending and receiving messages.

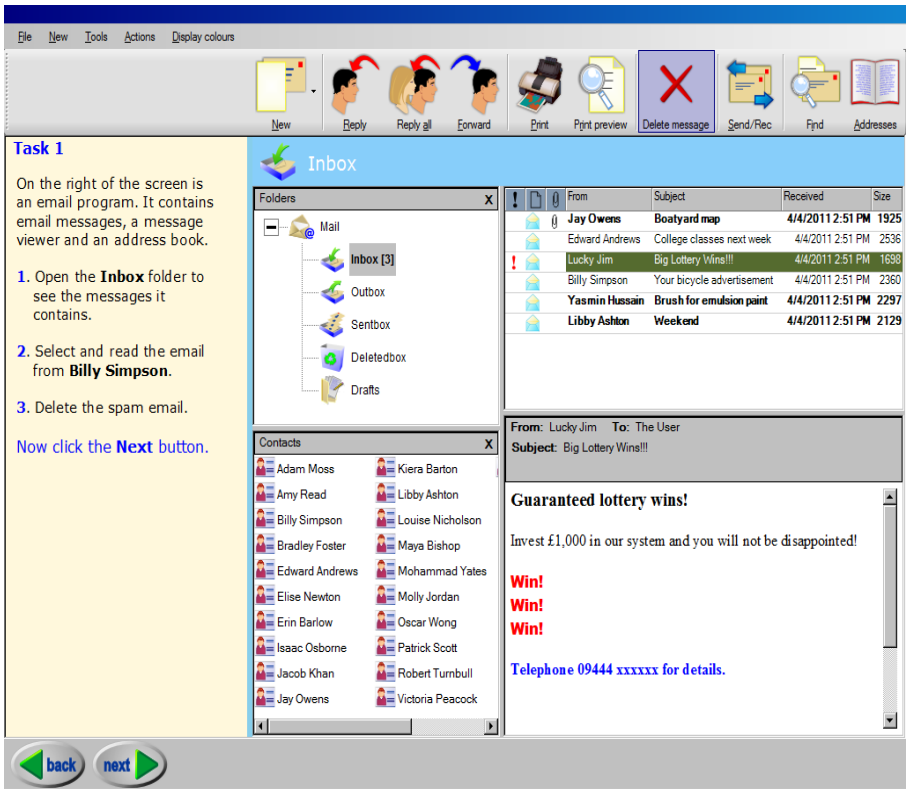
The mailer enables new, reply and forward messages to be created in html, rich text or plain text formats. Files can be attached to outgoing messages.

When the respondent first opens the Inbox a number of unread messages are displayed. These each have a date/time stamp that shows the message was received at some time earlier on the day of the assessment. This adds incidental realism to the situation.

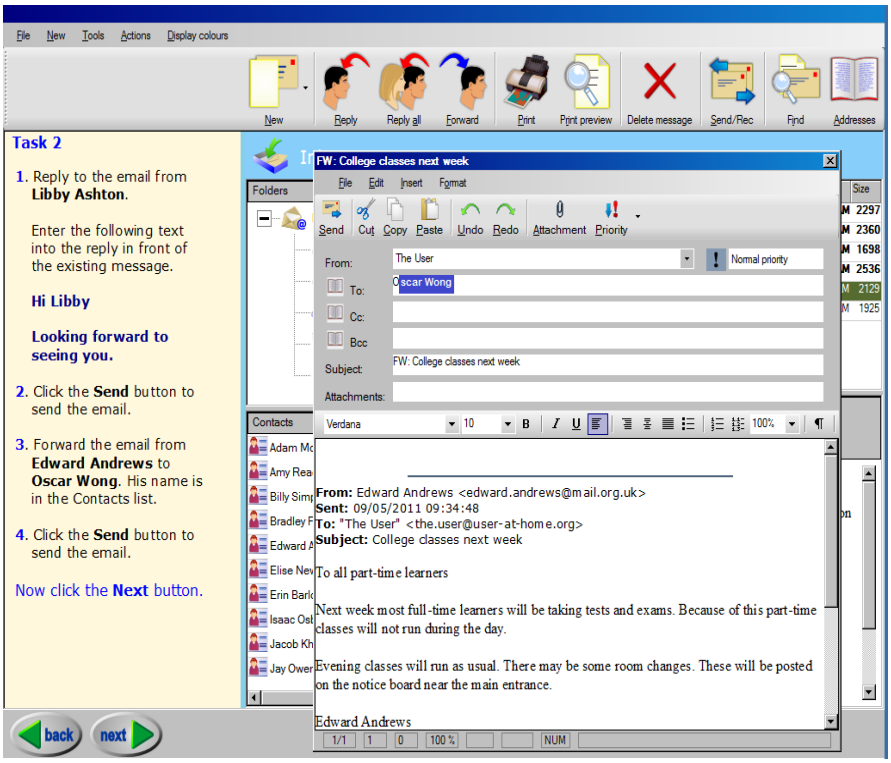
Annex Figures 2.29 to 2.31 show each tasks as it would appear on screen with the tasks completed or partially completed, as appropriate. The date/time stamp on the messages shows that the assessment was run on 4/4/2011.

In Annex Figures 2.29, the mailer is showing the Inbox messages. The email from Billy Simpson has been opened and the spam email is selected prior to deleting. The respondent is then required to move the deleted message to the Deleted box folder.

Annex Figure 2.29 Email task 1



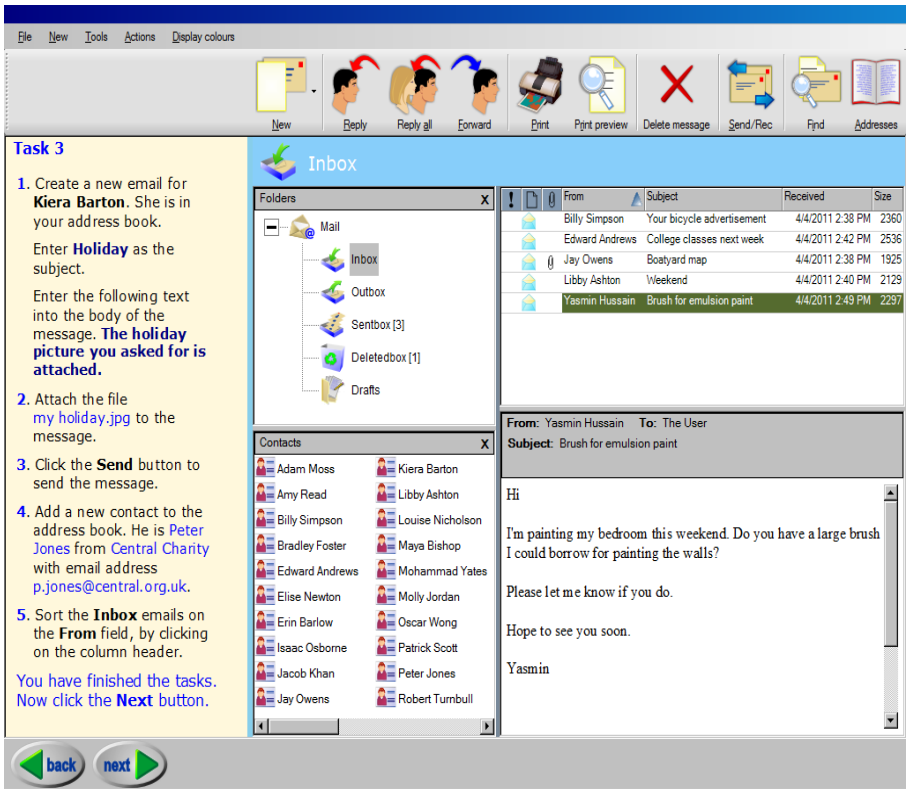
Annex Figure 2.30 Email task 2



Annex Figure 2.30 shows the forward email for Task 2 question 3 to Oscar Wong partially completed. The respondent has entered 'O' into the 'To' box and the mailer is offering automatic completion of the name, as Oscar Wong appears in the contact list.

Annex Figure 2.31 shows the final set of email tasks. The dialog to create a new email is similar to the Forward email dialog shown in the previous image. The Attachment button displays a standard Windows file dialog, allowing the required image file 'my holiday.jpg' to be selected and attached to the new message.

Annex Figure 2.31 Email task 3

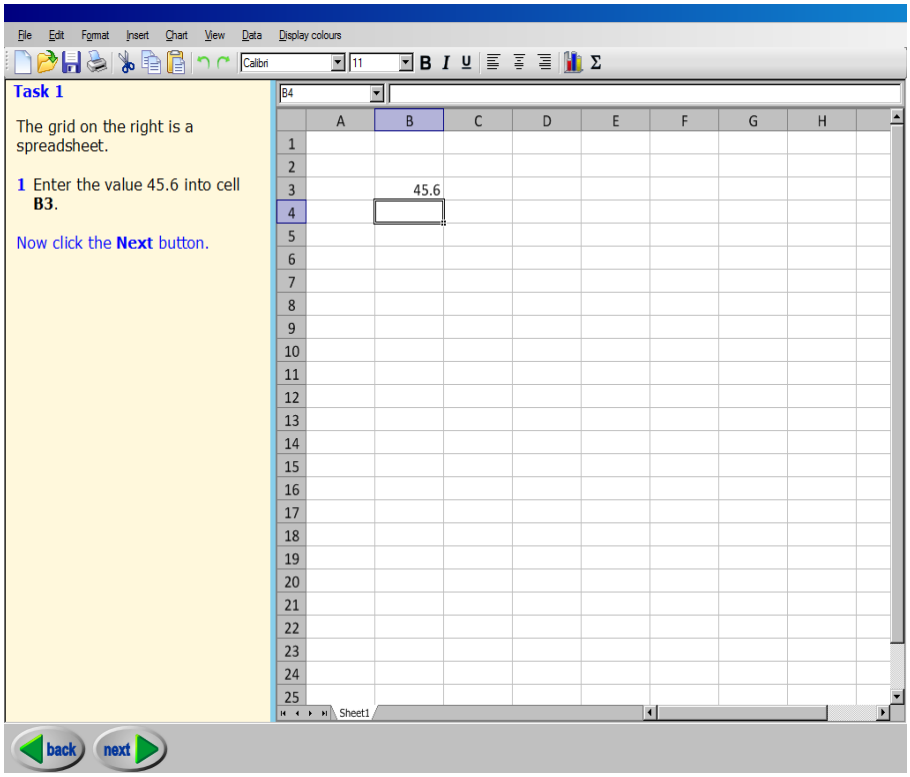


2.9.6 The ICT assessment spreadsheet tasks

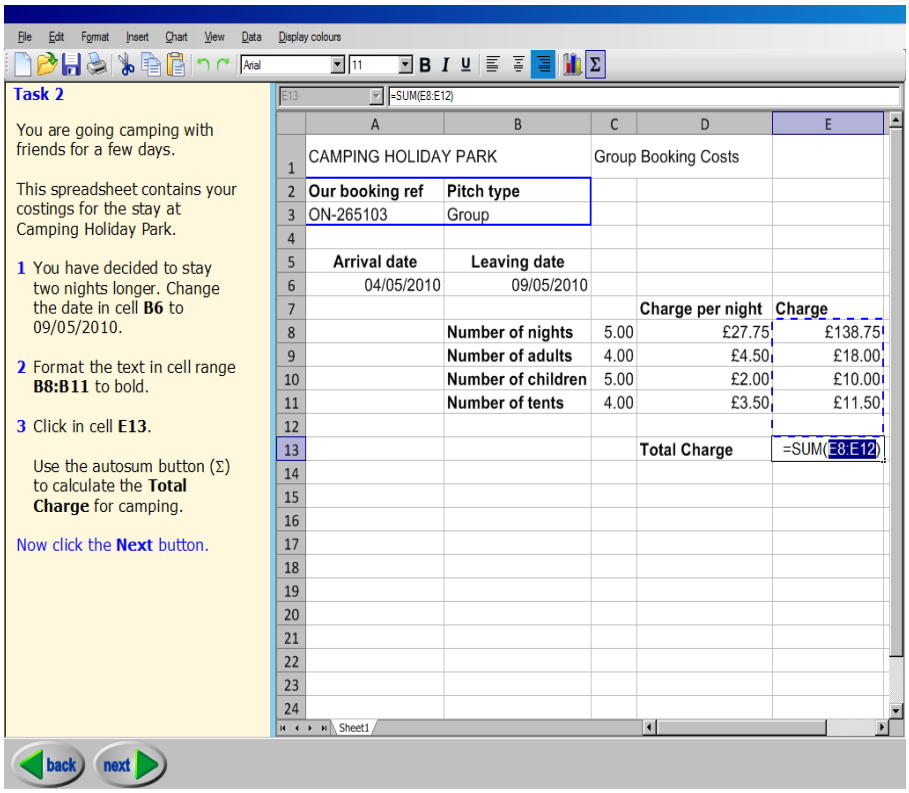
Annex Figures 2.32 to 2.38 shows the spreadsheet tasks as they would appear on screen with the tasks completed or partially completed, as appropriate.

A cell value or a formula can be entered into the selected cell via the keyboard in the usual way, as illustrated in Annex Figure 2.32. A cell can be selected by clicking it or by using the arrow keys to move the cell highlight. Cell values and formulas can also be entered via the formula bar.

Annex Figure 2.32 Spreadsheet task 1



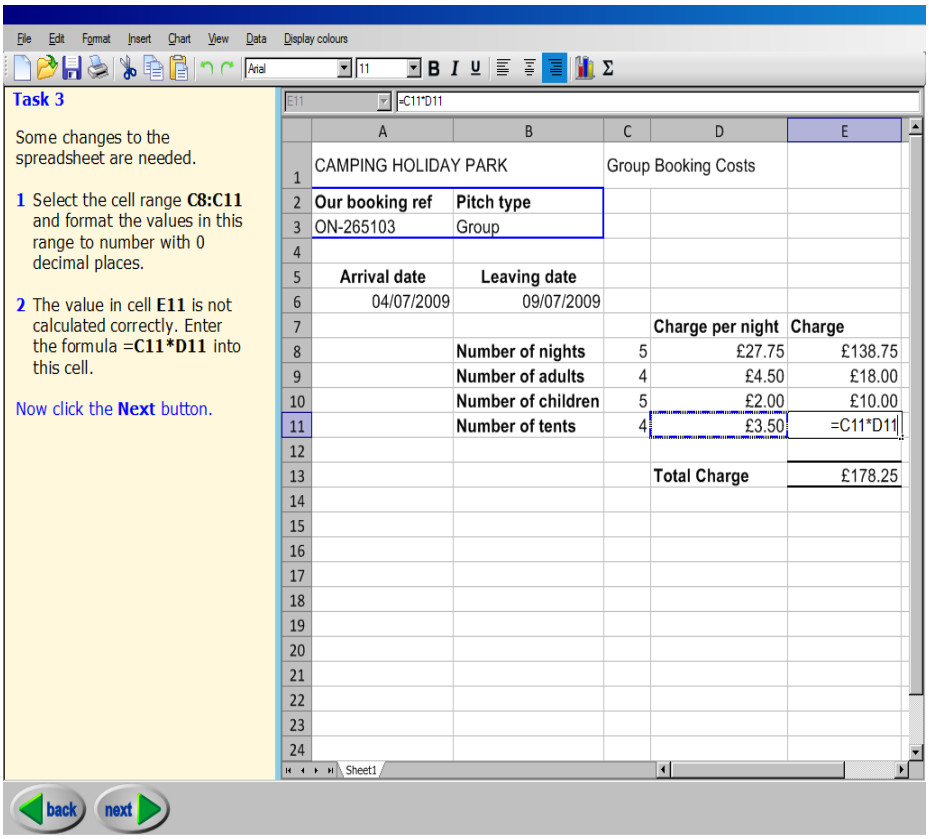
Annex Figure 2.33 Spreadsheet task 2



Annex Figure 2.33 shows questions 1 and 2 of Task 2 completed. As with the word processor, text formatting can be done via the Edit menu, the button bar, a context menu or by the 'standard' keyboard shortcuts. In question 3, the autosum button is used to total the values in the range E8:E12. Clicking the autosum button automatically enters the SUM function formula into the selected cell and outlines an adjacent range containing number values with 'marching ants'. Pressing the Enter key completes the entry. The selected range can be changed by clicking and dragging in the worksheet. This behaviour is very similar to that seen in Microsoft Excel. The respondent could also enter the formula manually to obtain the mark for the formula.

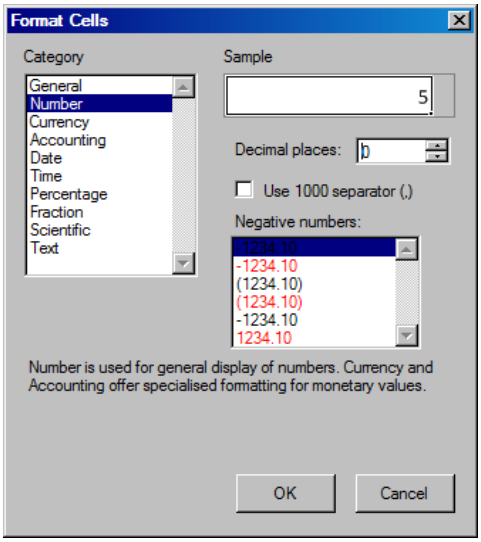
Annex Figure 2.34 presents the third task. The worksheet is shown with Task 3 question 1 completed and question 2 partially completed. Cell references and ranges in formulas can be entered manually or by using the mouse. Clicking in a cell enters the cell reference, clicking and dragging enters the selected range.

Annex Figure 2.34 Spreadsheet task 3



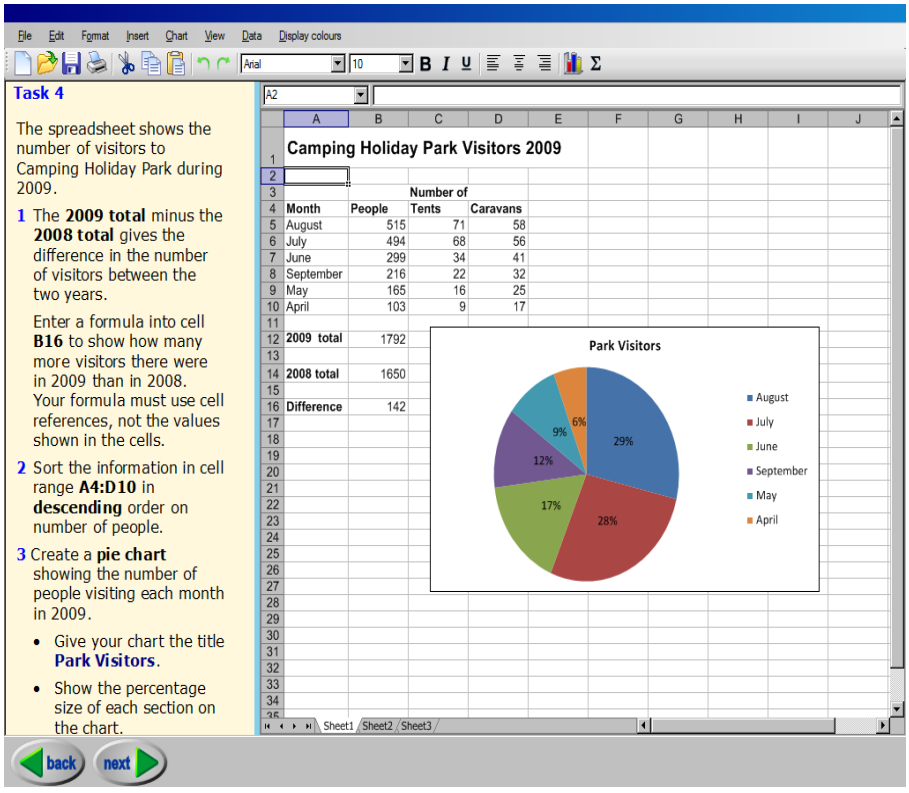
Cell formats are set via the dialog box shown in Annex Figure 2.35. This is accessed via the Format/Cell menu.

Annex Figure 2.35 Format cells dialog box



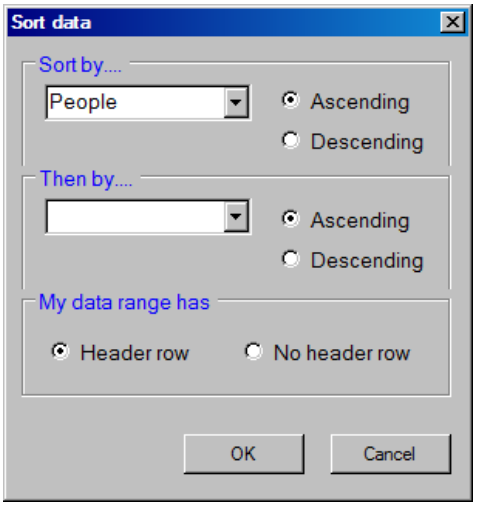
Annex Figure 2.36 shows the worksheet with all questions in Task 4 completed. Charts are created using a 'Wizard' that takes the user through a series of pages to select and format a chart.

Annex Figure 2.36 Spreadsheet task 4



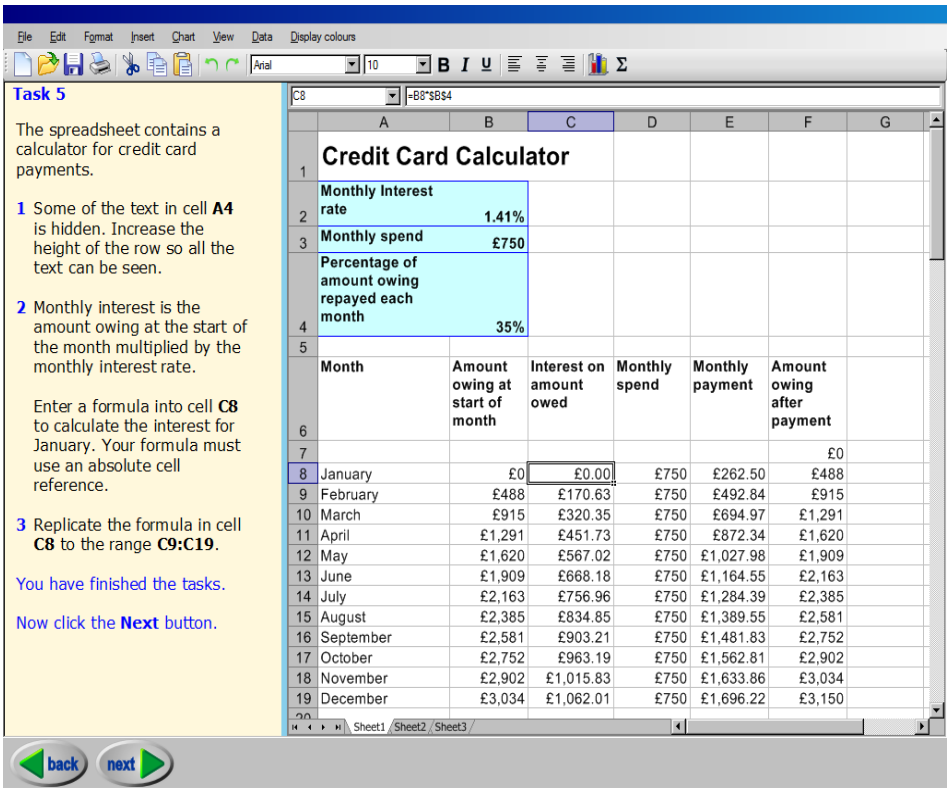
Data sorting is done via the dialog box shown in Annex Figure 2.37.

Annex Figure 2.37 Data sort dialogue box



Annex Figure 2.38 shows the worksheet with all questions in Task 5 completed. Question 2 requires the formula =$B$2*B8 to be entered in C8. The absolute cell reference to cell B8 can be entered by clicking in cell B8 and then pressing key F4 to convert the relative reference to an absolute reference. This is the same keyboard shortcut as used in Microsoft Excel.

Annex Figure 2.38 Spreadsheet task 5



Replication can be achieved by selecting the source cell or range and then clicking and dragging the small cross at the bottom-right corner of the selection. All relative cell references are automatically updated in the replicated formulae.

2.10 ICT assessment tool marking

All task marking was conducted automatically and instantly, with results data being captured immediately on completion of any action for which a mark was available. Results for each component were written to individual text files in the form of a series of outcome statements and associated marks.

Sets of statements for correct/incorrect responses for each practical component are given below.

In a few cases other statements may be generated. For example, where a respondent enters a formula into the spreadsheet which is incorrect, the action is recorded in the form 'Wrong formula (=xxxxxx) entered' where =xxxxxx represents the actual formula entered. As all marking is 1 or 0, the incorrect formula is awarded a zero mark. Similarly for the word processing component where the respondent is asked to open a particular file the result statement will give the file name if the wrong file is opened.

In some cases the respondent's formula needs to be tested against several equally acceptable answers, e.g. the formula for 'calculate three-quarters of the value in cell B6' can be written as =3*B6/4, =0.75*B6, =B6*0.5+B6*0.25 and =B6–B6*0.25. These are all valid forms of the same calculation. This list is not exhaustive and does not take account of ordering of terms. Of necessity it is the formula that has to be marked and not the cell value, though this could be used as a check.

Without significant trialling, it was considered at the time to be too complex to attempt to automatically analyse all potentially partially correct answers. It was also thought unlikely that the number of such answers would have a major bearing on the Levels assigned to respondents.

2.10.1 Marking of word processing tasks.

Annex Table 2.10 shows the reporting and marking of word processing task outcomes. Each question component is awarded a mark of 1 or 0, depending on the outcome. The marks and associated texts are written to a respondent's results file as each marked element is completed. These data are not available to the respondent.

Annex Table 2.10 Mark scheme for word processing tasks

Task	Question	Outcome	Mark	Outcome	Mark
1	1 Enter brief text	Document text correct	1	Document text not correct	0
	2 Press Enter key to confirm	Correct key pressed	1	Correct key not pressed	0
2	1 Amend text	Document text not correct	1	Document text not correct	0
	2 Amend text by pressing Enter key	Undo correctly applied	1	Undo not correctly applied	0
	3 Use the mouse to invoke a specified menu option.				
	Use the Undo menu option to restore text amended in 2 above				
3	1 Locate specified entry in list. Correct errors in text (in list)	Document text correct	1	Document text not correct	0
4	1 Use the **Open File** dialog to open a specified file.	Correct document file <Looking Glass House.doc> opened	1	Correct document file not opened	0
	2 Cut and paste text using menus, keyboard shortcuts or mouse drag-&-drop (respondent choice)	Document text correct	1	Document text not correct	0
	3 Use **Find** menu to locate specified text.	Correct text found	1	Correct text not found	0
	4 Save a file.	Correct document file <Looking Glass House.doc> saved	1	Document file not saved	0
5	1 Spell check a document	Spell checker used	1	Spell checker not used	0
	2 Format selected text (font size, bold, italic, colour)	Font style bold set	1	Font style bold not set	0
		Font style italic set	1	Font style italic not set	0
		Font name Verdana correctly set	1	Font name Verdana not correctly set	0
		Font size 12 correctly set	1	Font size 12 not correctly set	0
	3 Insert a specified image file into a document.	Correct image <Kitchen Services.jpg> inserted	1	Image not inserted	0
	4 Format an image.	Right alignment set	1	Right alignment not set	0
		Square text wrapping set	1	Square text wrapping not set	0
	5 Select an image and change its dimensions using handles.	Image size changed	1	Image size not changed	0

Task	Question	Correct outcome	Mark	Incorrect outcome	Mark
6	1 Create a simple table and enter text.	Correct table inserted	1	Correct table not inserted	0
	2 Move text into a table	All table cell text correct	1	No table cell text correct	0
	3 Insert a text box with specified text wrap format.	Textbox inserted	1	Textbox not inserted	0
		Square text wrapping set	1	Square text wrapping not set	0
	4 Enter text and position text box (develop and organise)	Textbox text correct	1	Textbox text not correct	0
	5 Insert information into a header or footer	Footer text correct	1	Footer text not correct	0
	6 Save a file with a new name	Document file correctly saved as <Leaflet.doc>	1	Document file not saved with correct name	0

2.10.2 Marking of email tasks

Annex Table 2.11 shows the reporting and marking of email task outcomes. Each question is awarded a mark of 1 or 0, depending on the outcome. The marks and associated texts are written to a respondent's results file as each marked element is completed. These data are not available to the respondent.

Annex Table 2.11 Mark scheme for email tasks

Task	Question	Correct outcome	Mark	Incorrect outcome	Mark
1	1 Receive email	Inbox folder correctly opened	1	Correct email folder not opened	0
	2 Open and read a specified email	Correct message selected	1	Correct message not selected	0
	3 Identify and delete a spam email	Correct message deleted	1	Correct message not deleted	0
2	1 Reply to an email	Reply message sent	1	Reply message not sent	0
	2 Send an email	Correct message replied to	1	Correct message not replied to	0
		Recipient name(s) correct	1	Recipient name(s) not correct	0
		Message subject correct	1	Message subject not correct	0
		Reply message text correct	1	Reply message text not correct	0
	3 Forward an email	Message forwarded	1	Message not forwarded	0
		Correct message forwarded	1	Correct message not forwarded	0
		Recipient name(s) correct	1	Recipient name(s) not correct	0
	4 Send an email	Message subject correct	1	Message subject not correct	0
3	1 Create a new email	New email created	1	New email not created	0
		Recipient name(s) correct	1	Recipient name(s) not correct	0
		Message subject correct	1	Message subject not correct	0
		Message body correct	1	Message body not correct	0
	2 Add an attachment to an email	Correct file attached to email	1	Correct file not attached to email	0
	3 Send an email	New email sent	1	New email not sent	0
	4 Add a new contact to an address book	New contact correctly added to address book	1	Contact details not correctly added to address book	0
		Contact name correct	1	Contact name not correct	0
		Company name correct	1	Company name not correct	0
		Email address correct	1	Email address not correct	0
	5 Sort emails in alphabetical order	Messages sorted	1	Messages not sorted	0
		Messages sorted on correct field	1	Messages not sorted on correct field	0

2.10.3 Marking of spreadsheet tasks.

Annex Table 2.12 shows the reporting and marking of spreadsheet task outcomes. Each question component is awarded a mark of 1 or 0, depending on the outcome. The marks and associated texts are written to a respondent's results file as each marked element is completed. These data are not available to the respondent.

Annex Table 2.12 Mark scheme for spreadsheet tasks

Task	Question	Correct outcome	Mark	Incorrect outcome	Mark
1	1 Enter a specified value into a specified cell	Correct value (45.6) entered	1	Value not entered	0
2	1 Edit a date	Correct date (09/05/2010) entered	1	Date not entered	0
	2 Select and format the content of a range of cells	Correct cell range (B8:B11) selected	1	Correct cell range not selected	0
		Bold font style set	1	Bold font style not set	0
	3 Use the autosum button to sum values in a vertical range of cells	Autosum used on correct cell.	1	Autosum not used	0
		Correct formula (=SUM(E8:E12)) entered	1	No formula entered.	0
3	1 Format the values in a range of cells to display a specified number of decimal places	Correct cell range (C8:C11) selected	1	Correct cell range not selected	0
		Number cell type set	1	Number cell type not set	0
		Correct decimal places (0) set	1	Correct decimal places not set	0
	2 Enter a formula containing a single arithmetic operator, e.g. =C11*D11 into a specified cell	Correct formula (=C11*D11) entered	1	Formula not entered	0
4	1 Enter a formula using a single arithmetic operator	Correct formula (=B12-B14) entered	1	Formula not entered	0
	2 Sort a block of data in a spreadsheet on one column heading	Range correctly sorted	1	Range not correctly sorted	0
	3 Create a simple chart in a spreadsheet	Chart created	1	Chart not created	0
		Chart source data range (A4:B10) correct	1	Chart source data range not correct	0
		Data correctly plotted by columns	1	Data not plotted by columns	0
		Chart type (Pie) correct	1	Chart type not correct	0
		Chart title (Park Visitors) correct	1	Chart title not correct	0
		Chart data labels correctly shown	1	Chart data labels not shown	0
		Chart legend shown in correct position	1	Chart legend not shown in correct position	0

Task	Question	Correct outcome	Mark	Incorrect outcome	Mark
5	1 Use the mouse to adjust the width of a column or the height of a row	Row height changed	1	Row height not changed	0
		Row height increased	1	Row height not increased	0
	2 Use an absolute cell reference in a formula	Correct formula (=$B$2*B8) entered	1	Formula not entered	0
	3 Replicate a formula to a specified range	Replicate action completed	1	Replicate action not completed	0
		Source range (C8) correct	1	Source range not correct	0
		Destination range (C9:C19) correct	1	Destination range not correct	0

2.10.4 Format of results files

Annex Table 2.13 below shows a typical set of respondent's results for the spreadsheet assessment. The data is saved automatically in a text file in tab-delimited format. This format was chosen to aid consolidation and processing of the data for the entire group of respondents.

Annex Table 2.13 Format of results files

Task	Question	Outcome	Mark
1	1	Correct value (45.6) entered	1
2	1	Correct date (09/05/2010) entered	1
	2	Correct cell range (B8:B11) selected	1
		Bold font style set	1
	3	Autosum used on correct cell	1
		Correct formula (=SUM(E8:E12)) entered	1
3	1	Correct cell range (C8:C11) selected	1
		Number cell type set	1
		Correct decimal places (0) set	1
	2	Correct formula (=C11*D11) entered	1
4	1	Correct formula (=B12-B14) entered	1
	2	Range not correctly sorted	0
	3	Chart created	1
		Chart source data range not correct	0
		Data correctly plotted by columns	1
		Chart type (Pie) correct	1
		Chart title (Park Visitors) correct	1
		Chart data labels correctly shown	1
		Chart legend shown in correct position	1
5	1	Row height changed	1
		Row height increased	1
	2	Wrong formula (=B8*B2) entered	0
	3	Replicate action completed	1
		Source range not correct	0
		Destination range not correct	0

Annex 3 - Development of the background questionnaire

3.1 Aim of the background questionnaire

The aim of the background questionnaire (BQ) was to collect information about respondents' characteristics and circumstances including:

- characteristics such as gender, age, ethnicity, employment status, education attainment, socio-economic group and geographic region, to define sub-groups for analysis;
- participation in literacy, numeracy and ICT activities such as details of recent adult education and training, availability and access to computers, use of basic skills at home, at work and in the family, self-assessment of basic skills. This will help to capture and assess the complexities of learning processes and behaviour; and
- the health and well being of respondents.

The development of the BQ for the Skills for Life 2011 Survey (SfL2011) was carried out by TNS-BMRB as part of the development and piloting research project which was commissioned prior to the main stage survey.

It was agreed that the BQ for SfL2011 should be largely similar to the BQ used in SfL2003 to allow for comparability, but it should also include new questions to be able to explore more about the individuals' broader beliefs and values with regards to education and skills development.

The BQ was developed through two main stages: a review of the BQ used in the SfL2003; and desk research of potential new areas for inclusion.

The full BQ is included in Section 3.5 of this Annex.

3.2 Review of the SfL2003 Background Questionnaire

The first stage of the development addressed three main areas:

1. How well did the SfL2003 BQ capture the information it was intended to do and how useful was this information?
2. What information was collected in the SfL2003 BQ and to what extent, and in what depth, might this still be required?
3. What questions, if any, could be removed in order to allow the inclusion of new questions to capture new information?

An initial review of the SfL2003 BQ focused on reviewing the content and length of the SfL2003 BQ in relation to the aims of the SfL2011 BQ. It consisted of:

- A review of the questionnaire content and length;
- A review of the sample numbers answering specific sections and questions in the SfL2003 data; and
- A quality assessment of questions (using principles embedded in the 'Willis-Lessler Questionnaire Appraisal System').

The second review of the SfL2003 BQ involved carrying out tests of discriminatory power. These investigated which items from the SfL2003 BQ had a positive or negative association with assessment performance in literacy and numeracy.

From these reviews a number of recommendations about changes to the SfL2003 BQ were made.

3.3 Development of new content for inclusion in the SfL2011 Background Questionnaire

Extensive desk research was carried out into other existing surveys and studies which included the potential new areas of interest to the Skills for Life survey. This work also included an initial review of the background questionnaire of the Programme for the International Survey of Adult competences (PIAAC), examining the topic areas covered and any potential for questions for inclusion within the new SfL2011 BQ, and a review of two prisoner and community sentence cohort studies: the Offender Management Community Cohort Study (OMCCS) and Surveying Prisoner Crime Reduction (SPCR).

At the end of this process a final BQ for piloting was agreed. It was essentially based on the SfL2003 BQ, with 'redundant' items deleted and the inclusion of new topic areas. Additionally, questions collecting information around any accessibility issues were included and existing Office for National Statistics (ONS) harmonised and standardised questions which featured in the questionnaire were updated accordingly.

During the questionnaire development process, TNS-BMRB interviewed two of the SfL2003 data users in order to obtain their views on the proposed changes to the SfL2011 BQ. This was to ensure that no questions had been removed from the questionnaire that data users felt were important or valuable. As a result of this, one set of statements that had previously been removed was reinstated.

3.3.1 New topic areas included in the background questionnaire

The new topic areas included in the SfL2011 BQ were:

- Attitudes towards Learning,
- Motivations for learning,
- Barriers to Learning,
- Further questions regarding ICT (focusing on internet access and use),

- Accessibility Issues, and
- Health literacy questions.

TNS-BMRB constructed a set of questions for each of these topic areas, some adapted from existing surveys that were identified during the desk research process. Where questions have been adapted from other surveys, details of these are given below:

Attitudes towards learning

Attitudes towards learning are captured in the variable 'Att' in the BQ. Annex Table 3.1 shows where each of the statement was adapted from.

Annex Table 3.1 Attitude Statements

STATEMENT	STATEMENT SOURCES	
	Survey	Commissioned By
You need qualifications to get anywhere these days	The National Adult Learning Survey (2005)[24]	The Department for Children Schools and Families (DCSF)
	Train to Gain Evaluation (Waves 1-4)[25]	The Learning and Skills Council (LSC)
	Immediate impacts of Advice and Guidance[26]	DCSF
	Potential Higher Education Entrants Study[27]	The Department for Universities, Innovation and Skills (DIUS)
Learning is something you should do throughout your life	The National Adult Learning Survey (2005)	DCSF
	AVON Longitudinal Study of Parents and Children (ALSPAC)[28]	DCSF
	FE Learners Longitudinal Survey[29]	DCSF

[24] Details available online at: https://www.education.gov.uk/publications/RSG/Adultlearningandworkplacetraining/Page4/RR815, accessed 28/03/12. The National Adult Learning survey was also further examined by Chivers, D (2008) and this work was also examined in the questionnaire review. Available at: http://www.bis.gov.uk/assets/biscore/corporate/migratedD/publications/D/DIUS_RR_08_01, accessed 28/03/12.

[25] Details available online at: http://readingroom.lsc.gov.uk/lsc/National/TtG_EmployerEval_Sweep_4.pdf, accessed 14/08/12.

[26] Details available online at: https://www.education.gov.uk/publications/eOrderingDownload/RR638.pdf, accessed 28/03/12.

[27] Details available online at: http://www.bis.gov.uk/assets/biscore/corporate/migratedD/publications/D/DIUS_RR_08_06A, accessed 28/03/12.

[28] Details available online at https://www.education.gov.uk/publications/RSG/Learnersupportandwelfare/Page1/RBX02-06, accessed 28/03/12.

[29] Details available online at: https://www.education.gov.uk/publications/eOrderingDownload/RR768.pdf, accessed 28/03/12.

STATEMENT	Survey	Commissioned By
I see paying for my education as an investment	Immediate Impacts of Advice and Guidance	DCSF
	Potential Higher Education Entrants Study	DIUS
Learning new things is fun	The National Adult Learning Survey (2005)	DCSF
Employers usually take notice of the learning you've done	Immediate Impacts of Advice and Guidance	DCSF
	Train to Gain Evaluation (Waves 1-4)	LSC
Learning isn't for people like me	The National Adult Learning Survey (2005)	DCSF
	Immediate Impacts of Advice and Guidance	DCSF
	Potential Higher Education Entrants Study	DIUS
	AVON Longitudinal Study of Parents and Children (ALSPAC)	DCSF
I didn't get anything useful out of school	The National Adult Learning Survey (2005)	DCSF
	AVON Longitudinal Study of Parents and Children (ALSPAC)	DCSF
I don't have the confidence to learn new things	AVON Longitudinal Study of Parents and Children (ALSPAC)	DCSF
	Immediate Impacts of Advice and Guidance	DCSF
If you want to succeed at work you need to keep improving your knowledge and skills	The National Adult Learning Survey (2005)	DCSF
I wish I had carried on in education to a higher level	The National Adult Learning Survey (2005)	DCSF

Motivations for Learning

Motivations for learning are recorded in 'Flear1' and 'Flearn2'. These are adapted from similar versions of questions used in the National Adult Learning Survey (2005).

Barriers towards learning

Barriers towards learning are recorded in question 'FBarr'. It is an adapted version of some of the barriers recorded in the National Adult Learning Survey (2005).

Health Literacy

Four questions were included in the survey regarding health literacy:

'QNewss' and 'InterTask' were adapted from the Canadian Adult Literacy and Lifestyle Survey.[30]

[30] Adapted from Statistics Canada 'Canadian Adult Literacy and Lifestyle Survey' 2003. Further details about the results of this survey can be found online at: http://www.statcan.gc.ca/pub/89-603-x/89-603-x2005001-eng.htm, accessed on 28/03/12.

'QGPGood' and 'QGPsat' were adapted from the GP Patient Satisfaction Survey.[31]

3.4 Piloting of the Background Questionnaire

A small scale dress rehearsal of the full survey (including the BQ) was conducted as part of the research development project prior to the main stage survey. The dress rehearsal consisted of two elements:

- full interviews with members of the general public;
- full interviews with basic skills learners in colleges.

The aim of the dress rehearsal was to pilot the full survey to see how the different components of the survey worked together.

3.4.1 Dress rehearsal - General Public

The general public dress rehearsal was carried out from 16 November to 20 November 2009. A random location sampling methodology was used.

In total 14 interviews were carried out. Five were carried out with the literacy and numeracy assessments completed, five were carried out with the literacy and ICT assessments completed, and four were carried out with the numeracy and ICT assessments completed.

3.4.2 Dress rehearsal – Basic Skills Learners

The dress rehearsal with basic skills learners took place from 23 November to 4 December 2009. Two colleges were recruited to take part. Interviews were carried out with adult learners (aged 16-65), who were currently studying on basic skills Level courses in either literacy and/or numeracy.

In total 17 interviews were conducted. Five were carried out with the literacy and numeracy assessments completed, five were carried out with the literacy and ICT assessments, and seven were carried out with the numeracy and ICT assessments. All interviews were carried out on college premises.

[31] Details available online at: http://www.gp-patient.co.uk/surveyresults/, accessed 28/03/12.

3.5 The Background Questionnaire

The main SfL2011 BQ is shown below,

Skills for Life: - FINAL MAIN STAGE BACKGROUND QUESTIONNAIRE (using 2003 assessments)
JN: 211347

NOTES

FOR THE MAIN STAGE THE COMPLETION OF THE ASSESSMENTS WILL BE PRE-SELECTED IN FOLLOWING GROUPS:

1. Literacy baseline survey followed by the Numeracy baseline survey
2. Numeracy baseline survey followed by the Literacy baseline survey

3. ICT baseline survey followed by the Literacy baseline survey
4. Literacy baseline survey followed by the ICT baseline survey

5. ICT baseline survey followed by the Numeracy baseline survey
6. Numeracy baseline survey followed by the ICT baseline survey

RESPONDENTS WILL BE ALLOCATED TO THESE GROUPS AND TAGGED IN THE SAMPLE.

THE QUESTIONS HIGHLIGHTED IN ORANGE ARE THE EXTENDED ICT BACKGROUND QUESTIONS. THESE QUESTIONS WILL ONLY BE ASKED TO RESPONDENTS WHO HAVE BEEN PRE-SELECTED TO COMPLETE THE ICT BASELINE SURVEY. ALL RESPONDENTS WHO ARE NOT PRE-SELECTED FOR THE ICT BASELINE SURVEY WILL NOT RECEIVE THESE QUESTIONS; THEY WILL BE ASKED CQINTER AND THEN ROUTE TO THE START OF THE EDUCATION SECTION (TO QUESTION ETERMED).

WHEN READING THE QUESTIONNAIRE, ALL TEXT IN CAPITALS IS INFORMATION FOR INTERVIEWERS ONLY, IT IS NOT READ OUT TO RESPONDENTS.

TEXT SUBSTITUTION/TEXT FILLS ARE INDICATIONS BY [TEXT FILL], AND THE DEFINITION FOR THE TEXT FILL IS INDICATED IN THE CORRESPONDING FOOTNOTE

HOUSEHOLD BOX

ASK ALL

I would like to check that you have the right sample point entered for this week. Please could you enter your INTERVIEWER NUMBER

Serial ENTER THE SERIAL NUMBER FROM THE FRONT PAGE OF THE ADDRESS CONTACT SHEET.

100000…99999

qcheck NOW ENTER THE CHECK DIGIT RELATING TO THE SERIAL NUMBER FROM THE ADDRESS CONTACT SHEET
INTERVIEWER: DO NOT PRESS THE SPACE BAR AT THE END OF THE NUMBER

HIntro First I would like to ask you a few things about your accommodation and who lives here with you.

Nadults Can you tell me how many people aged between 16 and 65 live in this household?

1..10

N66 And how many people aged 66 or over live in this household?

0..10

1..12

ASK <NAME> TO <COHAB> FOR EACH PERSON AGED 16+ IN HOUSEHOLD.
PLEASE NOTE THE FOLLOWING EXCEPTIONS:

- DOBD, DOBM, DOBY, BUK AND BCOUNT ARE ASKED OF THE MAIN RESPONDENT ONLY. THESE WILL BE SKIPPED FOR ALL OTHER ADULTS.

- AGE IS NOT ASKED FOR THE MAIN RESPONDENT, PLEASE COMPUTE THIS FOR THEM AT THE ANALYSIS STAGE FROM DOBD, DOBM, DOBY .

Name-
Name10 [TEXT FILL: Can I have your first name? / Can I have the first name of the second [third etc.]][32] person in the household aged 16 or older? [INTERVIEWER NOTE: household box includes **all** adults, not just those aged 16-65])

[32] The text fill varies for each household member.

Sex-
Sex10 Code [TEXT FILL: NAME][33]'s sex

Male	1
Female	2

(ASK RESPONDENT ONLY)

DobD What is your date of birth?

RECORD THE DAY

Numeric 1 to 31	
Don't Know	Y
Refused	Z

If AGE ENTERED AT DOBD
{IF Age/Age2 etc. = Number entered}
THEN ASK DOBM

DoBM

RECORD THE DMonth

January	1
February	2
March	3
April	4
May	5
June	6
July	7
August	8
September	9
October	10
November	11
December	12
Don't Know	Y
Refused	Z

If MONTH ENTERED AT DOBM
{IF AgeM/Age2M etc. = Month Entered}
THEN ASK DOBY

DoBY

RECORD THE YEAR

Numeric Range _____	
Don't Know	Y
Refused	Z

Permitted Range
1943 TO 1994 (Numeric Range) ,

[33] The name of each person in the household will be text filled in on each iteration.

Age-
Age10[34] What was [TEXT FILL: NAME]'s age last birthday?

16..65 [if respondent]	
16..99 [if other adult]	
Refused	Z

IF REFUSED TO GIVE AGE AT AGE-AGE10
IF (Age/Age2 etc. = Refused
THEN ASK Agebana/Agebana2 etc.

Agebana-
Agebana10 Can you tell me which of these bands you would put [TEXT FILL: NAME] into?

16-24	1
25-34	2
35-44	3
45-54	4
55-65	5
66+	6
Refused	Z

Marst-
Marst10 [INTERVIEWER NOTE: THE QUESTION *AFTER THIS ONE* DEALS WITH PEOPLE WHO LIVE TOGETHER BUT ARE NOT MARRIED. THIS QUESTION IS CONCERNED WITH LEGAL STATUS ONLY.]

ASK OR RECORD

Are you/is [TEXT FILL: NAME]...

single, that is, never married	1
married and living with [husband/wife]	2
in a registered same-sex civil partnership and living with your partner	3
Separated, but legally still married,	4
divorced	5
or widowed?	6
[spontaneous only] separated, but still legally in a same-sex civil partnership	7
[spontaneous only] formerly a same sex civil partner, the civil partnership now legally dissolved	8
[spontaneous only] a surviving civil partner; his/her partner having since died	9
Don't know	Y
Refused	Z

---

[34] Only to be asked of main respondent if refused the DOB questions. Will be computed for all other main respondents at the analysis stage.

IF MORE THAN ONE ADULT IN HOUSEHOLD AND PERSON UNDER CONSIDERATION NOT MARRIED AND LIVING WITH THEIR HUSBAND/WIFE OR IN A CIVIL PARTNERSHIP AND LIVING WITH THEIR PARTNER {IF MORE THAN ONE ADULT IN HOUSEHOLD AGED 16 OR OVER AND MARST <> MARRIED AND LIVING WITH [HUSBAND WIFE OR IN A REGISTERED SAME-SEX CIVIL PARTNERSHIP AND LIVING WITH PARTNER}
THEN ASK Cohab1-Cohab10

Cohab1-Cohab10 ASK OR RECORD
May I just check, [TEXT FILL: are you/is [NAME]] living with someone in this household as a couple?

Yes	1
No	2
SPONTANEOUS ONLY - Same sex couple (but not in a formal registered civil partnership)	3
Don't know	Y
Refused	Z

ASK RESPONDENT ONLY
Ethnicid Please choose one answer on this card (SHOW CARD 1) to indicate your cultural background.

CODE ONE ONLY

A – White: British	1
B – White: Irish	2
C – White: Other white background	3
D – Mixed: White and black Caribbean	4
E – Mixed: White and black African	5
F – Mixed: White and Asian	6
G – Mixed: Any other mixed background	7
H – Asian or Asian British: Indian	8
I – Asian or Asian British: Pakistani	9
J – Asian or Asian British: Bangladeshi	10
K – Asian or Asian British: Other Asian background	11
L – Black or Black British: Caribbean	12
M – Black or Black British: African	13
N – Black or Black British: Other black background	14
O – Chinese	15
P – Other	16
Don't know	Y
Refused	Z

IF 'OTHER' BACKGROUND CATEGORIES
{ETHNICID – 3, 7, 11, 14 OR 16}
THEN ASK Ethnic1

Ethnic1 ASK OR RECORD
Can I just check, what do you consider your cultural background to be?
INTERVIEWER: ENTER DESCRIPTION OF ETHNIC GROUP

OPEN ENDED

Don't Know	Y
Refused	Z

ASK RESPONDENT ONLY

BUK Were you born in the UK?

Yes	1
No	2
Don't know	Y

IF NOT BORN IN THE UK
{BUK = No}
THEN ASK BCOUNT

BCount	In what country were you born?	
	India	1
	Poland	2
	Pakistan	3
	Germany	4
	South Africa	5
	Bangladesh	6
	Nigeria	7
	Kenya	8
	United States	9
	Philippines	10
	France	11
	Australia	12
	Other	O
	Don't know	Y
	Refused	Z

Other specify...

IF Nadults+N66 > 1 AND NOT RESPONDENT
THEN ASK Reltores-Reltore10

Reltores-Reltore10	INTERVIEWER: CODE [TEXT FILL: NAME]'S RELATIONSHIP TO [TEXT FILL: RESPONDENT'S NAME]	
	Husband/Wife/Civil Partner	1
	Partner/Cohabitee	2
	[Son/Daughter] (including adoptive/step/foster)	3
	[Son/Daughter]-in-law	4
	Parent/guardian (including adoptive/step/foster)	5
	Parent-in-law	6
	[Brother/Sister] (including adoptive/step/foster)	7
	[Brother/Sister]-in-law	8
	Grandparent	9
	[Grandson/daughter]	10
	Other relative	11
	Non-relative	12
	Don't know	Y
	Refused	Z

IF MORE THAN ONE PERSON IN HOUSEHOLD AGED 16 OR OVER
{IF Nadults+N66 > 1 }
THEN ASK WHOHR1

WhoHR1	Can I just check, in whose name is this property owned or rented? INTERVIEWER: IF THERE ARE JOINT OWNERS/TENANTS PLEASE CODE BOTH OWNERS/TENANTS

[ANSWER CODES WILL BE ALL HOUSEHOLD MEMBERS IN THE HOUSEHOLD AGED 16 OR OVER. EACH NAME WILL BE LISTED AS A SEPARATE CODE]

[TEXT FILL: NAMES]	
Don't know	Y
Refused	Z

IF PROPERTY IS OWND/RENTED IN MORE THAN ONE PERSON'S NAME OR DO NOT KNOW OR REFUSED WHOSE NAME THE PROPERTY IS OWNED OR RENTED IN
{WhoHR1 = More than one name coded OR Don't know or Refused }
THEN ASK WHOHR2

WhoHR2 [TEXT FILL: And which of these people has the higher income / Who in the household has the highest income][35]?

[IF PROPERTY OWNED/RENTED IN JOINT NAMES - ANSWER CODES WILL BE ALL HOUSEHOLD MEMBERS CODED AT WHOHR.
IF ANSWERED 'DON'T KNOW' OR 'REFUSED' AT WHOHR1 – ANSWER CODES WILL BE ALL HOUSEHOLD MEMBERS IN THE HOUSEHOLD AGED 16 OR OVER]

[TEXT FILL ANSWER CODES: NAMES]	
Don't know	Y
Refused	Z

IF HOUEHOLD MEMBERS HAVE EXACTLY THE SAME INCOME OR DON'T KNOW OR REFUSED WHO HAS THE HIGHEST INCOME
{WhoHR2 = More than one name coded OR Don't know or Refused }
THEN ASK WHOHR3

WhoHR3 INTERVIEWER: CODE WHICH MEMBER OF THE HOUSEHOLD IS OLDEST

[IF HOUSEHOLD MEMBERS HAVE THE SAME INCOME - ANSWER CODES WILL BE ALL HOUSEHOLD MEMBERS CODED AT WHOHR2.
IF ANSWERED 'DON'T KNOW' OR 'REFUSED' AT WHOHR2 – ANSWER CODES WILL BE ALL HOUSEHOLD MEMBERS CODED AT WHOHR1, UNLESS WHOHR1 ALSO = DK/REF IN WHICH CASE ANSWER CODES WILL BE ALL IN THE HOUSEHOLD AGED 16 OR OVER]

[TEXT FILL ANSWER CODES: NAMES]

Definiton of HRP

If Nadults+N66 = 1
HRP = Respondent

If Nadults+N66 >1
HRP = Person coded at WhoHR1

If WhoHR1 = More than one name coded or Don't Know or Refused
HRP = Person coded at WhoHR2.

[35] If more than one name has been coded at WhoHR1 the first part of the text fill will appear. If 'Don't know' or 'Refused' has been coded at WhoHR1 the second part of the text fill will appear.

If WhoHR2 = More than one name coded or Don't Know or Refused
HRP = Person coded at WhoHR3

* The respondent's details are recorded on the first iteration of each question (sex, marst, etc). Details of other members of the household (where present) are given in the series sex2-sex10 and so on. A similar process takes place with regard to children

AFTER ALL ITERATIONS FOR ADULTS IN HOUSEHOLD, ASK NCHIL
ASK ALL Nchil

Nchil How many children under 16 live in this household?

0..15

IF Nchil > 0
THEN ASK Chsex-Chsex10, Chage-Chage10, Chrelres-Chrelre10

Chsex-Chsex10 Code sex of eldest [second eldest, third eldest etc.] child.

Male	1
Female	2

Chage-Chage10 What was [his/her] age last birthday?

0..15

Chrelres-Chrelre10 INTERVIEWER: CODE [TEXT FILL: his/her] RELATIONSHIP TO [TEXT FILL: RESPONDENT'S NAME]

[Son/Daughter] (including adoptive/step/foster)	1
[Son/Daughter]-in-law	2
[Brother/Sister] (including adoptive/step/foster)	3
[Brother/Sister]-in-law	4
[Grandson/daughter]	5
Other relative	6
Non-relative	7
Don't know	Y
Refused	Z

ASK ALL

Othkid Can I just check, do you have any children under 16 who do not live here with you?

Yes	1

No	2
Don't know	Y
Refused	Z

IF Othkid = Yes
THEN ASK Nothkid, Contact-Contact10, Choage-Choage10 (Contact and Choage will repeat for each child recorded at Nothkid)

Nothkid How many children under 16 do you have who are not living here with you?

1..15

Contact-Contact10 Do you have contact with [TEXTFILL: this/the eldest/the second eldest etc.[36]] child at least once every month?

Yes	1
No	2

Choage-Choage10 What was their age last birthday?

0..15

ESOL

ASK ALL

Now I'd like to ask you a few questions about your background and the languages that you speak.

Sesol Can I just check, is English your first language?

Yes	1
No	2

Slang Which languages (including English) do you speak well enough to have a conversation?

PROBE: Any others?
PROBE AS NECESSARY AND CODE ALL THAT APPLY

[36] If one child recorded at Nothkid 'this' will appear. If more than one child coded at Nothkid then 'the eldest', the 'second eldest' etc will appear on each loop.

English	1
Afrikaans	2
Albanian	3
Arabic	4
Awadhi	5
Belorussian	6
Bengali	7
Bihari	8
Bulgarian	9
Cantonese	10
Chinese - not Mandarin / Cantonese	11
Creole	12
Czech	13
Danish	14
Dutch	15
Egyptian	16
Farsi	17
Finnish	18
Flemish	19
French	20
Fulani	21
Gaelic	22
Ganda	23
German	24
Greek	25
Gujarati	26
Hakka	27
Hausa	28
Hindi	29
Hungarian	30
Ibo	31
Indonesian	32
Iranian	33
Italian	34
Japanese	35
Kurdic	36
Lebanese	37
Lingala	38
Malay	39
Mandarin	40
Norwegian	41
Patois	42
Polish	43
Portuguese	44
Punjabi	45
Pushtoo	46
Somali	47
Spanish	48
Swahili	49
Swedish	50
Sylhethi	51
Tamil	52
Turkish	53
Urdu	54
Vietnamese	55
Welsh	56
Yoruba	57

Don't Know	Y
Refused	Z
Other	O

Other specify...

IF SPEAK MORE THAN ONE LANGUAGE AT Slang
{More than one response coded at Slang}
THEN ASK: Smain, Swksch

Smain Which language do you speak most often at home?

IF SPEAK 2 OR MORE LANGUAGES THE SAME AMOUNT, CODE BOTH. OTHERWISE CODE ONE ONLY!!!

MASK LIST TO ONLY SHOW ANSWERS GIVEN AT SLANG

English	1
Afrikaans	2
Albanian	3
Arabic	4
Awadhi	5
Belorussian	6
Bengali	7
Bihari	8
Bulgarian	9
Cantonese	10
Chinese - not Mandarin / Cantonese	11
Creole	12
Czech	13
Danish	14
Dutch	15
Egyptian	16
Farsi	17
Finnish	18
Flemish	19
French	20
Fulani	21
Gaelic	22
Ganda	23
German	24
Greek	25
Gujarati	26
Hakka	27
Hausa	28
Hindi	29
Hungarian	30
Ibo	31
Indonesian	32
Iranian	33
Italian	34
Japanese	35
Kurdic	36
Lebanese	37

Lingala	38
Malay	39
Mandarin	40
Norwegian	41
Patois	42
Polish	43
Portuguese	44
Punjabi	45
Pushtoo	46
Somali	47
Spanish	48
Swahili	49
Swedish	50
Sylhethi	51
Tamil	52
Turkish	53
Urdu	54
Vietnamese	55
Welsh	56
Yoruba	57
Don't Know	Y
Refused	Z
Other language recorded earlier - [TEXTFILL: ANSWER GIVEN AT SLANG]	O

Swksch Which language do you speak most often at work or at school or college?

IF SPEAK 2 OR MORE LANGUAGES THE SAME AMOUNT, CODE BOTH. OTHERWISE CODE ONE ONLY!!!

MASK LIST TO ONLY SHOW ANSWERS GIVEN AT SLANG

English	1
Afrikaans	2
Albanian	3
Arabic	4
Awadhi	5
Belorussian	6
Bengali	7
Bihari	8
Bulgarian	9
Cantonese	10
Chinese - not Mandarin / Cantonese	11
Creole	12
Czech	13
Danish	14
Dutch	15
Egyptian	16
Farsi	17
Finnish	18
Flemish	19
French	20
Fulani	21
Gaelic	22
Ganda	23

German	24
Greek	25
Gujarati	26
Hakka	27
Hausa	28
Hindi	29
Hungarian	30
Ibo	31
Indonesian	32
Iranian	33
Italian	34
Japanese	35
Kurdic	36
Lebanese	37
Lingala	38
Malay	39
Mandarin	40
Norwegian	41
Patois	42
Polish	43
Portuguese	44
Punjabi	45
Pushtoo	46
Somali	47
Spanish	48
Swahili	49
Swedish	50
Sylhethi	51
Tamil	52
Turkish	53
Urdu	54
Vietnamese	55
Welsh	56
Yoruba	57
Don't Know	Y
Refused	Z
Not relevant (don’t work / go to school or college)	N
Other language recorded earlier - [TEXTFILL: ANSWER GIVEN AT SLANG]	O

IF ENGLISH NOT FIRST LANGUAGE BUT CAN SPEAK IT WELL ENOUGH TO HAVE A CONVERSATION IN
{Sesol = No AND Slang = English}
THEN ASK: Sgood

Sgood How good are you at speaking English when you need to in daily life, for example to have a conversation on the telephone or talk to a professional such as a teacher or a doctor?

READ OUT

Very good	1
Fairly good	2
Below average	3
Poor	4
(DO NOT PROMPT) No opinion	5

COMPUTERS

ASK ALL

I'd now like to ask you a few questions about computers.

ASK ALL

Cqown Can I just check, do you have a computer at home? By computer I mean a mainframe, desktop or laptop computer or any other device that you use to do such things as sending or receiving email messages, processing data or text or finding things on the internet.

Yes	1
No	2
Don't Know	Y

IF HAS A COMPUTER AT HOME
{Cqown = Yes}
THEN ASK: Cqpers

Cqpers How often do you *personally* use the computer at home?

Daily	1
2-4 times a week	2
About once a week	3
Less than once a week	4
Never	5
Don't Know	Y

ASK ALL

Cqwork Do you use a computer at work? By computer I mean a mainframe, desktop or laptop computer or any other device that you use to do such things as sending or receiving email messages, processing data or text or finding things on the internet.

Yes	1
No	2
Not working	3
Don't Know	Y

IF USES A COMPUTER AT WORK
{Cqwork = Yes}
THEN ASK: Cqoftw

Cqoftw How often do you use the computer at work?

Daily	1
2-4 times a week	2
About once a week	3
Less than once a week	4
Don't Know	Y

IF USE A COMPUTER AT HOME OR AT WORK
{IF Cqpers = Daily OR Cqpers = 2-4 times a week OR Cqpers = about once a week OR Cqpers = Less than once a week OR Cqwork = Yes}
THEN ASK: Cqwha
ELSE ASK: Cqnocom

Cqwha What do you use your computer for?

READ OUT AND CODE ALL THAT APPLY (PLUS PROBE FOR OTHER USES) [Text Fill: WE ARE INTERESTED IN ALL ACTITIVES THAT THE RESPONDENT USES THEIR COMPUTER FOR – BOTH AT HOME AND AT WORK.][37]

Word processing - writing letters or documents	1
Accessing the Internet (World Wide Web) and searching for information	2
E-mail	3
Using Spreadsheets/databases	4
Education and learning	5
Games	6
Programming	7
Don't Know	Y
Other	O

Other specify...

[37] Text fill to appear if (Cqpers = 1 or 2 or 3 or 4) AND (Cqwork = Yes)

Cqnocom Have you ever used a computer? By computer I mean a mainframe, desktop or laptop computer or any other device that you use to do such things as sending or receiving email messages, processing data or text or finding things on the internet.

Yes	1
No	2
Don't Know	Y

IF DO NOT CURRENTLY USE A COMPUTER AT HOME OR AT WORK, BUT HAVE USED A COMPUTER BEFORE
{Cqnocom = Yes}
THEN ASK: Cqreg and Cqtask

Cqreg Have you ever used a computer at least once a week?

Yes	1
No	2
Don't Know	Y

Cqtask What have you used a computer for?

READ OUT AND CODE ALL THAT APPLY (PLUS PROBE FOR OTHER USES)

Word processing - writing letters or documents	1
Accessing the Internet (World Wide Web) and searching for information	2
E-mail	3
Using Spreadsheets/databases	4
Education and learning	5
Games	6
Programming	7
Don't Know	Y
Other	O

Other specify...

IF HAVE USED A COMPUTER
{IF Cqnocom <> No AND Cqnocom <> Don't Know}
THEN ASK: Tskill, Tltcour

Tskill And how good are you at using computers? For example: word processing, using the Internet and sending emails.

READ OUT

Very good	1
Fairly good	2
Below average	3
Poor	4
No opinion (DO NOT PROMPT)	5
Don't Know	Y

IF CURRENTLY USE A COMPUTER TO ACCESS THE INTERNET AND SELECTED TO TAKE PART IN THE ICT ASSESSMENT[38]
{If CQwha = Accessing the Internet (World Wide Web) AND PRE-SELECTED TO TAKE PART IN THE ICT ASSESSMENT}
THEN ASK

InterTask In a typical month, how often did you use the Internet for the following purposes?

READ OUT

- Electronic mail (email)
- Participate in chat groups or other on-line discussion
- Shopping – including browsing for products or services but not necessarily buying
- Banking
- Formal education or training which is part of a formal learning activity such as a course or a program of studies
- Obtaining or saving music
- Read about news or current events
- Search for employment opportunities
- Search for health related information
- Search for weather related information
- Search for government information
- Playing games with others
- General browsing

Daily	1
A few times a week	2
A few times a month	3
Never	4
Refused	X

TItcour Have you ever received any training or education in basic computer skills? For example: word processing, using the Internet or sending emails.

Yes	1
No	2
Don't Know	Y

[38] Please note questions highlighted in orange are the longer ICT background questions. These questions (from CqBB to CBBENoO) will only be asked of respondents selected to completed the ICT assessment (those in groups 4 and 6)

IF EVER RECEIVED TRAINING OR EDUCATION IN BASIC COMPUTER SKILLS
{TItcour = Yes}
THEN ASK: Titcur

Titcur Are you currently getting any training or education in basic computer skills?

Yes	1
No	2
Don't Know	Y

IF EVER RECEIVED TRAINING OR EDUCATION IN COMPUTER BASIC SKILLS, BUT NOT CURRENTLY DOING SO
{Titcur = No OR Titcur = Don't Know}
THEN ASK: Titstar, Titwher

Titstar When did you start your most recent period of training or education in basic computer skills?

CODE FIRST TO APPLY

In the last 12 months	1
More than 12 months ago but in the last 3 years	2
Longer than 3 years ago	3
Don't Know	Y

Titwher Where did you mainly go for this training or education in basic computer skills?

PROMPT AS NECESSARY AND CODE ONE ONLY (IF MORE THAN ONE, CODE MAIN PLACE)

School/college/University building	1
Adult education centre	2
Community building e.g. Church Hall, Community Centre, Leisure Centre, pub or club	3
Job Centre/Jobclub	4
At home	5
At work	6
Learn Direct	7
Don't Know	Y
Other	O

Other specify...

IF (COMPUTER SKILLS BELOW AVERAGE OR POOR AND NOT DONE TRAINING OR EDUCATION IN COMPUTER SKILLS) OR (NEVER USED A COMPUTER)
{IF ((Tskill = Below average OR Tskill = Poor) AND (TItcour = No OR TItcour = Don't Know)) OR Cqnocom = No OR Cqnocom = Don't Know}
THEN ASK: Titwhe

Titwhe Where would you go for advice if you wanted to [improve your basic computing skills]? PROBE FULLY AND CODE ALL THAT APPLY

College / University	1
Internet	2
Careers office	3
Library	4
Job centre / Job club	5
Friends / family	6
Employer	7

Learn Direct	8
Advisor on Government scheme (e.g. New Deal)	9
The council / local education authority	0
Don't Know	Y
Other	O

Other specify...

ASK ALL

CqInterIntro

I'd now like to ask you about internet access at your home.

ASK ALL

Cqinter Does your household have access to the internet at home?

Yes	1
No	2
Don't Know	Y

IF HOUSEHOLD HAS INTERNET ACCESS AND SELECTED TO TAKE PART IN THE ICT ASSESSMENT[39]
{Cqinter = Yes}
THEN ASK CqBB

CqBB And can I just check is that a ***broadband*** internet connection?

Yes	1
No	2
Don't Know	Y

IF DOES NOT HAVE THE INTERNET AT HOME AND SELECTED TO TAKE PART IN THE ICT ASSESSMENT
{IF Cqinter = No}
THEN ASK CInterNo

CInterno Please could you tell me whether you don't have an internet connection in your home for any of the following reasons?

[39] Please note questions highlighted in orange are the longer ICT background questions. These questions (from CqBB to CBBENoO) will only be asked of respondents selected to completed the ICT assessment (those in groups 4 and 6)

GRID: FOR EACH ITEM YES/NO/DON'T KNOW/REFUSED

1. It is too expensive
2. I don't see the benefit it would bring me
3. I ask a friend or relative to go online for me
4. I don't have the skills to use it
5. I'm worried about putting my details online
6. Some other reason

IF DOES NOT HAVE AN INTERNET CONNECTION FOR SOME OTHER REASON
{IF CInterno Item 6 = Yes}
THEN ASK CInterNoO

CInterNoO And what is this other reason?

OPEN ENDED

Don't Know Y
Refused Z

IF DOES NOT HAVE THE INTERNET AT HOME AND SELECTED TO TAKE PART IN THE ICT ASSESSMENT
{IF Cqinter = No}
THEN ASK CInterEn

CInterEn Could you tell me whether any of the following factors might encourage you to get an internet connection in your home?

GRID: For EACH ITEM YES/NO/DON'T KNOW/REFUSED

1. A reduction in the cost of home internet
2. If I was able to improve my computer skills
3. If I knew more about keeping myself secure on line.
4. Some other reason

IF SOME OTHER REASON MAY ENCOURAGE RESPONDENT TO GET AN INTERNET CONNECTION AT HOME
{IF CInterEn Item 4 = Yes}
THEN ASK CInterEnO

CInterEnO And what is this other reason?

OPEN ENDED

Don't Know Y
Refused Z

IF HAVE AN INTERNET CONNECTION AT HOME, BUT NOT A BROADBAND INTERNET CONNECTION
{CqBB = No}

THEN ASK CBBNo

CBBno You said earlier that you have an internet connection in your home, but not a **broadband** connection. Please could you tell me whether you don't have a **broadband** internet connection in your home for any of the following reasons?

GRID: FOR EACH ITEM YES/NO/DON'T KNOW/REFUSED

1. It is too expensive
2. I don't see the benefit it would bring me
3. Broadband is not available in my area
4. I don't use the internet enough
5. I'm happy with my current dial-up connection
6. Some other reason

IF DOES NOT HAVE A BROADBAND INTERNET CONNECTION FOR SOME OTHER REASON
{IF CBBNo Item 6 = Yes}
THEN ASK CBBnoO

CBBnoO And what is this other reason?

OPEN ENDED

Don't Know Y
Refused Z

IF HAVE AN INTERNET CONNECTION AT HOME, BUT NOT A BROADBAND INTERNET CONNECTION
{ CqBB = No }
THEN ASK CBBEn

CBBEn Could you tell me whether any of the following factors might encourage you to get a **broadband** internet connection in your home?

GRID: FOR EACH ITEM YES/NO/DON'T KNOW/REFUSED

1. A reduction in the cost of home broadband internet
2. If I was able to improve my computer skills
3. If I knew more about keeping myself secure on line.
4. Some other reason

IF SOME OTHER REASON MAY ENCOURAGE RESPONDENT TO GET A BROADBAND INTERNET CONNECTION AT HOME
{IF IF CBBEn Item 4 = Yes}
THEN ASK CBBENOO

CBBEnoO And what is this other reason?

OPEN ENDED

Don't Know Y

Refused Z

EDUCATION

ASK ALL

I'd now like to ask you some questions about education, learning and training.

Etermed Firstly, how old were you when you left full time continuous education or training? If you left and later returned to become a full time student or trainee, please tell me how old you were when you FIRST left.

ENTER AGE

Numeric Range _____
SPONTANEOUS ONLY –
Still in education W
Don't Know Y
Refused Z

Permitted Range
10 TO 65 (Numeric Range) ,

IF GAVE AGE AT ETERMED
{IF ETERMED <> DON'T KNOW OR REFUSED OR STILL IN EDUCATION}
THEN ASK: Efted

Efted And can I just check, did you start any other full time education or training within two years of that time?

Yes 1
No 2
Don't Know Y

IF STARTED FULL TIME EDUCATION WITHIN TWO YEARS
{IF Efted = Yes }
THEN ASK: Eage2

Eage2 How old were you when you finished that full time education or training?

Numeric Range _____	
SPONTANEOUS ONLY –	
Still in education	W
Don't Know	Y
Refused	Z

Permitted Range
10 TO 65 (Numeric Range) ,

IF AGE ENTERED AT ETERMED WAS HIGHER THAN AT EAGE2
{Etermed > Eage2 AND (Eage2 > 9 AND Eage2 < 66)}
THEN ASK AGECHECK

AgeCheck

You have entered an age less than the age at the first question. Please check and re-enter the information.

ASK ALL

Equal Do you have any of the following qualifications? Please think about ALL qualifications you have ever gained, even if it was a long time ago or you are not using them now.

From school or home schooling	1
From college or university	2
Related to work	3
From government schemes	4
From an apprenticeship	5
Gained in your leisure time or by teaching yourself	6
Obtained in some other way	7
No qualifications	8
Don't Know	Y
Refused	Z

IF HAVE QUALIFICATIONS
{IF Equal <> NO QUALIFICATIONS }

EQualT Which qualifications do you think you have, starting with the highest qualifications?

SHOW CARD 2

CODE ALL THAT APPLY PROMPT AS NECESSARY

INTERVIEWER: PLEASE CODE **ALL** THE QUALIFICATIONS THE RESPONDENT HAS

A - Degree level qualification including foundation degrees, graduate membership of a professional institute, PGCE, or higher	1
B - Diploma in higher education	2
C - HNC/HND	3
D - ONC/OND	4
E - BTEC/ BEC/TEC/EdExcel/LQL	5
F - SCOTVEC, SCOTEC or SCOTBEC	6
G - Teaching qualification (excluding PGCE)	7
H - Nursing or other medical qualification not yet mentioned	8
I - Other higher education qualification below degree level	9
J - A-level/ Vocational A-level or equivalent	10
K - Welsh Baccalaureate	11
L - International Baccalaureate	12
M - NVQ/SVQ	13
N - GNVQ/GSVQ	14
O - AS-level/ Vocational AS level or equivalent	15
P - Certificate of sixth year studies (CSYS) or equivalent	16
Q - Access to HE	17
R - O-level or equivalent	18
S - Standard/Ordinary (O) Grade / Lower (Scotland)	19
T - GCSE/ Vocational GCSE	20
U - CSE	21
V - Advanced Higher / Higher / Intermediate / Access qualifs. (Scotland)	22
W - RSA/ OCR	23
X - City & Guilds	24
Y - YT Certificate	25
Z - Key Skills / Core Skills (Scotland)	26
AA - Basic Skills (Skills for life / literacy / numeracy / language)	27
AB - Entry Level Qualifications	28
AC - Any other professional / work related qualification / foreign qualifications	29
Don't Know	Y
Refused	Z

{IF EQualT = Any other professional / work related qualification/foreign qualification}
THEN ASK: EOth

EOth Is this 'Other qualification'…

CODE ALL THAT APPLY

A work-related or vocational qualification	1
A professional qualification	2
A foreign qualification	3
None of these	X
Don't Know	Y
Refused	Z

IF OTHER QUALIFICATION IS WORK RELATED OR VOCATIONAL AT EOTH
{EOTH = Work-related or vocational qualification}
THEN ASK EOTH2

EOth2 Is this work-related or vocational qualification a…

CODE ALL THAT APPLY

H&S / Food hygiene qualification	1
HGV / Forklift licence	2
Computer/IT qualification	3
First Aid qualification	4
Something else?	5
Don't Know	Y
Refused	Z

IF OTHER QUALIFICATION IS A PROFESSIONAL OR FOREIGN QUALIFICATION OR SOMETHING ELSE AT EOTH
{IF EOth = A professional qualification OR A foreign qualification OR EOTH2 = Something else}
THEN ASK: Efdesc

Efdesc You said you have a professional / vocational or foreign qualification. Please could you describe this qualification(s)?

INTERVIEWER TYPE IN A BRIEF DESCRIPTION OF THE QUALIFICATION

OPEN ENDED

Don't know	Y
Refused	Z

IF HAVE A DEGREE LEVEL QUALIFICATION (AT EQUALT)
{IF EQualT = Degree level qualification}
THEN ASK: EDeg

EDeg Do you have….

CODE ALL THAT APPLY

A higher degree (including PGCE)	1
A first degree	2
A foundation degree	3
Graduate membership of a professional institution	4
Other	O
Don't Know	Y
Refused	Z

IF HAVE A WELSH BACCALAUREATE (AT EQUALT)
{IF EQualT = Welsh Baccalaureate}
THEN ASK: EWelsh

EWelsh Is your Welsh Baccalaureate…

At the foundation level	1
The intermediate level	2
The advance level	3
Don't Know	Y
Refused	Z

IF HAVE A LEVELS OR VOCATIONAL A LEVELS OR EQUIVALENT (AT EQUALT)
{IF EQualT = A levels/Vocational A levels or equivalent}
THEN ASK: EAlev

EAlev Do you have…

One A level/Vocational A level (or equivalent)	1
Or more than one?	2
Don't Know	Y
Refused	Z

IF HAVE AS LEVELS OR VOCATIONAL A LEVELS OR EQUIVALENT (AT EQUALT)
{IF EQualT = AS Levels/Vocational AS levels or equivalent}
THEN ASK: EAS

EAS Do you have…

One AS levels	1
2 or 3 AS levels	2
Or 4 or more passes at this level	3
Don't Know	Y
Refused	Z

IF HAVE ADVANCED HIGHER/HIGHER/INTERMEDIATE/ACCESS QUALIFICATIONS (SCOTLAND) (AT EQUALT)
{IF EQualT = Advance Higher/Higher/Intermediate/Access qualifications (Scotland) }
THEN ASK: EScot

EScot What levels of National Qualifications do you have… READ OUT

CODE ALL THAT APPLY. PROMPT AS NECESSARY

Access Level	1
Intermediate 1	2
Intermediate 2	3
Higher	4
Advanced Higher	5
Don't Know	Y
Refused	Z

IF HAVE ADVANCE HIGHER QUALIFICATION (AT ESCOT)
{IF EScot = Advance Higher}
THEN ASK: EAHigh

EAHigh Do you have…

One Advanced Higher	1
Or more than one?	2
Don't Know	Y
Refused	Z

IF HAVE A HIGHER QUALIFICATION (AT ESCOT) OR ONE ADVANCE HIGHER (AT EAHIGH}
EScot = Higher OR EAHigh = One Advance Higher
THEN ASK: EHigh

EHigh Do you have…

Three or more Highers	1
Or fewer than three?	2
Don't Know	Y
Refused	Z

IF HAVE GCSES OR CSES OR STANDARD/O GRADE QUALIFICATION (AT EQUALT) OR INTERMEDIATE 1 OR 2 QUALIFICATION (At ESCOT)
{IF EQUALT = GCSEs OR EQUALT = CSEs OR EQUALT = Standard / Ordinary grades OR ESCOT = Intermediate 1 OR ESCOT = Intermediate 2}
THEN ASK: Egcse1

Egcse1 Do you have any of the following qualifications?

CODE ALL THAT APPLY

(LIST DEPENDS ON ANSWERS TO EQUALT / ESCOT)

GCSEs below Grade C	1
CSEs below Grade1	2
Standard grades 4-7/O grades below C	3
Intermediate 1 below grade A	4
Intermediate 2 below grade D	5
None of these	X
Don't Know	Y
Refused	Z

IF HAS QUALIFICATIONS AT EGCSE1 OR CODES DON'T KNOW OR REFUSED
{IF ECSGE1 NE None of these}
THEN ASK: Egcse2

Egcse2 Do you have any of the following qualifications?

CODE ALL THAT APPLY

(LIST DEPENDS ON ANSWERS TO EQUALT / ESCOT)

GCSEs Grade C or above	1
CSEs Grade 1	2
Standard grades 3 or above/O grades C or above	3
Intermediate 1 grade A or above	4
Intermediate 2 grade D or above	5
None of these	X
Don't Know	Y

IF HAS GCSES GRADE C OR ABOVE OR CSES GRADE 1 OR ABOVE OR STANDARD GRADES 3 OR ABOVE/O GRADES C OR ABOVE OR INTERMEDIATE 1 GRADE A OR ABOVE OR INTERMEDIATE 2 GRADE D OR ABOVE OR O LEVELS
{IF ECSGE1 = None of these OR EGCSE2 = 1-5 OR EQUALT = O Levels}
THEN ASK: Egcse3

Egcse3 You mentioned that you have passes at…[40]

(LIST DEPENDS ON ANSWERS TO EQUALT /EGCSE1 /EGCSE 2/ESCOT)

GCSEs Grade C or above
CSEs Grade 1
Standard grades 3 or above/O grades C or above
Intermediate 1 grade A or above
Intermediate 2 grade D or above
GCE O Levels

How many passes do you have at this level?

Fewer than five	1
Or five or more	2
Don't Know	Y

IF FEWER THAN FIVE PASSES AT EGCSE3
{IF ECSGE3 = Fewer than five passes}
THEN ASK: Egcse4

Egcse4 Can I just check, do you have

(INTERVIEWER THIS QUESTION IS REFERRING TO [TEXTFILL: QUALIFICATIONS SHOWN AT EGCSE3])

One or two	1
Three or four	2
Don't Know	Y

[40] Note to script writer: EGCSE3 to ECGSE6 – if have more than one type of qualification showing at EGCSE3 this set of questions should be looped for each qualification type.

IF MORE THAN 5 PASES AT EGCSE3
{IF ECSGE3 = More than five passes}
THEN ASK: Egcse5

Egcse5 Can I just check, do you have

(INTERVIEWER THIS QUESTION IS REFERRING TO [TEXTFILL: QUALIFICATIONS SHOWN AT EGCSE3])

Five to seven	1
Eight or more	2
Don't Know	Y

IF HAS GCSES GRADE C OR ABOVE OR CSES GRADE 1 OR ABOVE OR STANDARD GRADES 3 OR ABOVE/O GRADES C OR ABOVE OR INTERMEDIATE 1 GRADE A OR ABOVE OR INTERMEDIATE 2 GRADE D OR ABOVE OR O LEVELS
{IF ECSGE1 = None of these OR EGCSE2 NE None of these OR EQUALT = O Levels}
THEN ASK: Egcse6

Egcse6 Do these passes include…

Maths	1
English	2
Both	3
Or neither	4
Don't Know	Y

IF HAVE BTEC/BEC/TEC/EDEXCEL/LQL QUALIFICATIONS (AT EQUALT)
IF EQualT = BTEC/BEC/TEC/EDEXCEL/LQL
THEN ASK: Ebtec

Ebtec Is your highest BTEC/BEC/TEC/EDEXCEL/LQL qualification... [READ OUT AND CODE FIRST THAT APPLIES]

At a Higher level (Level 4 or higher)	1
At National Certificate or National Diploma level (Level 3)	2
A first diploma or general diploma (level 2)	3
A first certificate or general certificate (below level 2)	4
Don't Know	Y
Refused	Z

IF HAVE SCOTVEC/SCOTEC or SCOTBEC (AT EQUALT}
IF EQualT = SCOTVEC/SCOTEC or SCOTBEC
THEN ASK: Escotvec

Escotvec Is your highest SCOTVEC (or SCOTEC or SCOTBEC) qualification... [READ OUT AND CODE FIRST THAT APPLIES]

Higher level (Level 4)	1
Full National Certificate (Level 3)	2
A First Diploma or General Diploma (Level 2)	3
A First certificate or General certificate (Below Level 2)	4
Modules towards a National Certificate	5
Don't Know	Y
Refused	Z

IF HAVE RSA/OCR QUALIFICATION (AT EQUALT)
{IF EQualT = RSA/OCR }
THEN ASK: ERSA

ERSA Is your highest RSA or OCR... [READ OUT AND CODE FIRST THAT APPLIES]

A Higher Diploma	1
An Advanced diploma or Advanced certificate	2
A First Diploma	3
Or some other RSA (including stage I, II & III)	4
Don't Know	Y
Refused	Z

IF HAVE CITY AND GUILDS QUALIFICATION (AT EQUALT)
{IF EQualT = City and Guilds }
THEN ASK: Ecity

Ecity Is your highest City and Guilds qualification...[READ OUT AND CODE FIRST THAT APPLIES]

Advanced Craft / Part 3	1
Craft / Part 2	2
Foundation / Part 1	3
Don't Know	Y
Refused	Z

IF HAVE GNVQ/GSVQ QUALIFICATION (AT EQUALT)
{IF EQualT = GNVQ/GSVQ}
THEN ASK: Egnvq

Egnvq Is your highest GNVQ or GSVQ at... [READ OUT AND CODE FIRST THAT APPLIES]

Advanced level	1
Full Intermediate level	2
Part One Intermediate level	3
Full Foundation level	4
Part One Foundation level	5
Don't Know	Y
Refused	Z

IF HAVE NVQ/SVQ QUALIFICATION (AT EQUALT)
{IF EQualT = NVQ/SVQ}
THEN ASK: ENVQ

ENVQ What is your highest level of full NVQ/SVQ?

Level 1	1
Level 2	2
Level 3	3
Level 4	4
Level 5	5
Don't Know	Y
Refused	Z

IF HAVE QUALIFICATIONS
{IF Equal <> NO QUALIFICATIONS }

THEN ASK: QHAGE

QHAge Can I just check, how old were you when you completed your [TEXT FILL: NAME OF HIGHEST QUALIFICATION][41]?
ENTER AGE

INTERVIEWER NOTE: IF THE RESPONDENT HAS COMPLETED MORE THAN ONE OF THESE QUALIFICATIONS AT DIFFERENT TIME PERIODS , PLEASE CODE AGE AT THE LASTEST PERIOD (I.E THE HIGHEST AGE).

Numeric Range _____	
Don't Know	Y
Refused	Z

Permitted Range
10 TO 65 (Numeric Range) ,

ASK ALL:

Parsch Did either of your parents stay on in either full or part time education beyond 16?

INTERVIEWER NOTE:

FEMALE GUARDIAN IF NOT BROUGHT UP BY NATURAL MOTHER (E.G. IF ADOPTED OR BROUGHT UP BY AUNT/GRANDMOTHER)

MALE GUARDIAN IF NOT BROUGHT UP BY NATURAL FATHER (E.G. IF ADOPTED OR BROUGHT UP BY UNCLE/GRANDFATHER ETC.)

Yes – both parents stayed on in education beyond 16	1
Yes – one parent stayed on in education beyond 16	2
No – No parents stayed on in education beyond 16	3
NO FEMALE OR MALE GUARDIAN FIGURES	4
Don't Know	Y
Refused	Z

[41] The highest qualification for this question only will be derived from the qualifications that the respondent has reported that they have. Please note that 'Any other professional/work-related qualification/foreign qualification' will be ranked as the lowest level in the derived variable.

IF BOTH PARENTS STAYED ON IN EDUCATION
{IF Parsch = 1}
THEN ASK: ParSch2

Parsch2 And was that full time or part time?

INTERVIEWER CHECK WHETHER EACH PARENT STAYED ON FULL TIME OR PART TIME.

Both parents stayed on full time	1
One parent stayed on full time and one parent stayed on part time	2
Both parents stayed on part time	3
Don't Know	Y

IF ONE PARENT STAYED ON IN EDUCATION
{IF Parsch = 2}
THEN ASK: ParSch2

Parsch3 And was that full time or part time?

Full time	1
Part time	2
Don't Know	Y

BASIC SKILLS

ASK ALL

Bqread How good are you at *reading* English when you need to in daily life? For example: reading newspapers and magazines or instructions for medicine or recipes?

INTERVIEWER READ OUT EXCEPT 'NO OPINION'

Very good	1
Fairly good	2
Below average	3
Poor	4
Cannot read English	5
No opinion (DO NOT PROMPT)	6
Don't Know	Y

IF READING ENGLISH IS BELOW AVERAGE OR POOR OR CANNOT READ ENGLISH
{IF Bqread Below Average OR Poor OR Cannot read English}
THEN ASK: Bjob1

Bjob1 You described yourself as [TEXT FILL: below average/poor/ at reading English/ You said you cannot read English]. Do you think this has limited your job opportunities in any way – for example: getting a promotion or a job you want?

INTERVIEWER READ OUT SCALE

A lot	1
A little	2
Not at all	3
Not relevant (never worked / never looked for work, different job or promotion)	4
Don't Know	Y

ASK ALL

Bqwrite And how good are you at *writing* in English when you need to in daily life? For example: writing letters or notes or filling in official forms?

INTERVIEWER: READ OUT EXCEPT 'NO OPINION'

Very good	1
Fairly good	2
Below average	3
Poor	4
Cannot write English	5
No opinion (DO NOT PROMPT)	6
Don't Know	Y

IF WRITING ENGLISH IS BELOW AVERAGE OR POOR OR CANNOT WRITE ENGLISH
{IF Bqwrite = Below average OR Bqwrite = Poor OR Bqwrite = Cannot write English}
THEN ASK: Bjob1a

Bjob1a You described yourself as [TEXT FILL: below average/poor/ at writing English/ You said you cannot write English]. Do you think this has limited your job opportunities in any way – for example: getting a promotion or a job you want?

INTERVIEWER READ OUT SCALE

A lot	1
A little	2
Not at all	3
Not relevant (never worked / never looked for work, different job or promotion)	4
Don't Know	Y

ASK ALL

Bqmath And how good are you at working with numbers when you need to in everyday life? For example working out your wages or benefits, or checking bills and statements?

INTERVIEWER READ OUT EXCEPT 'NO OPINION'

Very good	1
Fairly good	2
Below average	3
Poor	4
No opinion (DO NOT PROMPT)	5
Don't Know	Y

IF WORKING WITH NUMBERS IS BELOW AVERAGE OR POOR
{IF Bqmath = Below average OR Bqmath = Poor}
THEN ASK: Bjob2

Bjob2 You described yourself as [TEXT FILL: below average/poor/ when working with numbers]. Do you think this has limited your job opportunities in any way – for example: getting a promotion or a job you want?

INTERVIEWER: READ OUT SCALE

A lot	1
A little	2
Not at all	3
Not relevant (never worked / never looked for work, different job or promotion)	4
Don't know	Y

ASK ALL

BBooksNHow many books in English do you have in your home? Do you have…

READ OUT

Less than 25 books	1
Or 25 or more books	2
Don't Know	Y

ASK ALL

I am now going to read out a number of different activities and I want you to tell me how often you do each one.

Bqoa

Every day or most days	1
About once a week	2
About once a month	3
Several times a year	4
Never	5
DON'T HAVE EQUIPMENT (only code if relevant)	6
Don't Know	Y

This question is repeated for the following loop values:

- Read books, magazines or newspapers in English

- Check bills or bank statements

- Send text messages from a mobile phone

- Send e-mails

- Do any kind of writing (in English) on paper

IF READS BOOKS, MAGAZINES OR NEWSPAPERS IN ENGLISH AND AND SELECTED TO TAKE PART IN THE ICT ASSESSMENT[42]
{IF PRE-SELECTED TO TAKE PART IN THE ICT ASSESSMENT AND (BQOA STATEMENT 1 = Every day or most days, OR about once a week OR about once a month OR Several times a year)}

QNews I am now going to read you a list of some different parts of a newspaper. Please tell me which parts you generally read when looking at a newspaper.

National / international news	1
Regional or local news	2
Sports	3
Home, fashion, food or health	4
Editorial page	5
Financial news or stock listings	6
Book, movie or art reviews	7
Advice column	8
DO NOT READ A NEWSPAPER (DO NOT READ OUT spontaneous only)	9
Don't Know	Y
Refused	Z

ASK ALL

[42] Please note questions highlighted in orange are the longer ICT background questions.These questions (from CqBB to CBBENoO) wll only be asked of respondents selected to completed the ICT assessment (those in groups 4 and 6)

Teng Have you ever received any training or education in speaking, reading or writing English? Please don't include when you were at school.

THIS QUESTION IS CONCERNING **BASIC** SKILLS COURSES IN ENGLISH.

CODE ALL THAT APPLY – REMEMBER ONE COURSE CAN COVER MORE THAN ONE SKILL.

PLEASE INCLUDE ANY CURRENT COURSES THAT THE RESPONDENT MAY BE DOING.

Reading English	1
Writing English	2
Speaking English	3
Don't Know	Y
None of these	X

IF RECEIVED EDUCATION OR TRAINING IN READING, WRITING OR SPEAKING ENGLISH
{IF Teng = Reading English OR Teng = Writing English OR Teng = Speaking English}
THEN ASK: Tcurren

Tcurren Are you currently getting any training or education in [TEXT FILL: reading / writing /speaking][43] English?...[INTERVIEWER: READ OUT AND CODE ALL THAT APPLY - REMEMBER ONE COURSE CAN COVER MORE THAN ONE SKILL]

MASK LIST SO ONLY COURSES MENTIONED APPEAR

Reading English	1
Writing English	2
Speaking English	3
Don't Know	Y
None of these	X

IF CURRENTLY DOING MORE THAN ONE BASIC SKILL AT TCURREN

THEN ASK: Tsame1

Tsame1 Is this training or education in [TEXT FILL: reading English / and / writing English / and /speaking English][44] part of the same course?

One course only	1
More than one course	2
Don't know	Y

[43] The courses selected at Teng will be text filled here.

[44] The courses selected at Tcurren will be text filled here.

IF CURRENTLY RECEIVING TRAINING IN ALL 3 BASIC SKILLS AT TCURREN AND THESE ARE IN SEPARATE COURSES
{IF (TCURREN = 1 AND 2 AND 3) AND Tsame1 = More than one course}
THEN ASK: Tsam1a

Tsam1a You do more than one course covering reading, writing *and* speaking English. Are these all separate courses or are some elements combined in the same course?

3 separate courses	1
Course A: reading only; Course B: writing and speaking	2
Course A: writing only; Course B: reading and speaking	3
Course A: speaking only; Course B: reading and writing	4
Don't Know	Y

IF HAVE EVER RECEIVED TRAINING OR EDUCATION IN READING, WRITING OR SPEAKING ENGLISH BUT NOT CURRENTLY DOING SO/DO NOT KNOW IF CURRENTLY DOING SO.
{IF Tcurren = Don't Know OR Tcurren = None of these }
THEN ASK: Tstart

Tstart When did you start your most recent period of training or education in [TEXT FILL: reading English / and / writing English / and /speaking English][45] ?

READ OUT AND CODE FIRST TO APPLY

In the last 12 months	1
More than 12 months ago but in the last 3 years	2
Longer than 3 years ago	3
Don't Know	Y

IF (HAVE EVER RECEIVED TRAINING OR EDUCATION IN READING, WRITING OR SPEAKING ENGLISH BUT NOT CURRENTLY DOING SO/DO NOT KNOW IF CURRENTLY DOING SO) AND (RECEIVED TRAINING IN MORE THAN ONE BASIC SKILL AT TENG)

[45] The courses selected at Teng will be text filled here.

IF (Tcurren = Don't Know OR Tcurren = None of these) AND (Teng = 2 or more basic skills coded}
THEN ASK: Trewri

Trewri Were you trying to improve your...
[INTERVIEWER: READ OUT AND CODE ALL THAT APPLY - REMEMBER ONE COURSE CAN COVER MORE THAN ONE SKILL]

MASK LIST SO ONLY COURSES AT Teng MENTIONED APPEAR

Reading English	1
Writing English	2
Speaking English	3
Don't Know	Y

IF TRYING TO IMPROVE MORE THAN ONE SKILL AT TREWRI
{IF Trewri = trying to improve more than one skill}
THEN ASK: Tsame2

Tsame2 Was your most recent period of training or education in [TEXT FILL: reading English / and / writing English / and /speaking English][46] part of the same course?

One course only	1
More than one course	2
Don't know	Y

IF GETTING TRAINING IN ALL THREE SUBJECTS AT TREWRI, AND OVER MORE THAN ONE COURSE
IF Trewri = Reading English and writing English and speaking English) AND (Tsame2 = More than one course)
THEN ASK: Tsam2a

Tsam2a You did more than one course covering reading, writing *and* speaking English. Were these all separate courses or were some elements combined in the same course?

3 separate courses	1
Course A: reading only; Course B: writing and speaking	2
Course A: writing only; Course B: reading and speaking	3
Course A: speaking only; Course B: reading and writing	4
Don't Know	Y

---

[46] The options selected at Trewri will be text filled here.

ASK ALL

Tmatrai Have you ever received any training or education in basic maths or number skills? Please don't include when you were at school.

PLEASE INCLUDE ANY CURRENT COURSES THAT THE RESPONDENT MAY BE DOING

Yes	1
No	2
Don't Know	Y

IF HAVE EVER RECEIVED TRAINING FOR EDUCATION IN BASIC MATHS OR NUMBER SKILLS
{IF Tmatrai = Yes}
THEN ASK: Tmcurr

Tmcurr Are you currently getting any training or education in basic maths or number skills?

Yes	1
No	2
Don't Know	Y

IF HAVE EVER RECEIVED TRAINING FOR EDUCATION IN BASIC MATHS OR NUMBER SKILLS BUT NOT CURRENTLY DOING SO
{IF Tmcurr = No OR Tmcurr = Don't Know}
THEN ASK: Tmstart

Tmstart When did you start your most recent course or period of training or education in basic maths or number skills?

In the last 12 months	1
More than 12 months ago but in the last 3 years	2
Longer than 3 years ago	3
Don't Know	Y

IF (CURRENTLY DOING A COURSE IN READING, WRITING OR SPEAKING ENGLISH OR DID SO IN THE LAST 3 YEARS) AND (CURRENTLY RECEIVING TRAINING IN BASIC MATHS/NUMBER SKILLS OR DID SO IN THE LAST 3 YEARS).
{IF (Tcurren = Reading English OR Tcurren = Writing English OR Tcurren = Speaking English OR Tstart = In the last 12 months OR Tstart = More than 12 months ago but in the last 3 years) AND (Tmcurr = Yes OR Tmstart = In the last 12 months OR Tmstart = More than 12 months ago but in the last 3 years)}
THEN ASK: Tminc

Tminc [TEXT FILL: Is/Was][47] this training or education in basic maths or number skills part of the course you have just told me about?

Yes	1
No	2
Don't Know	Y

RESPONDENT'S ATTITUDES TOWARDS LEARNING

ASK ALL

Att I'm going to read out some statements about people's attitudes towards learning. I will then ask you the extent to which you agree or disagree with each…

Agree strongly	1
Agree Slightly	2
Neither agree nor disagree	3
Disagree Slightly	4
Disagree Strongly	5
Don't Know	Y

You need qualifications to get anywhere these days

Learning is something you should do throughout your life

I see paying for my education as an investment

Learning new things is fun

Employers usually take notice of the learning you've done

Learning isn't for people like me

I didn't get anything useful out of school

I don't have the confidence to learn new things

If you want to succeed at work you need to keep improving your knowledge and skills

I wish I had carried on in education to a higher level

[47] If Tmcurr = Yes, textfill will read 'Is'. For all other respondents textfill will read 'Was'.

ASK ALL

FLearn1 And now a few questions about any learning you might do in the future

Would you like to do any job-related learning, training or education in the next two or three years?

IF NECESSARY: I mean learning that is related to a job you are doing or thinking of doing in the future?

Yes - Definitely	1
Yes - Possibly	2
No	3
Don't Know	Y

FLearn2 And would you like to do any **non** job-related learning, training or education in the next two or three years?

Yes - Definitely	1
Yes - Possibly	2
No	3
Don't Know	Y

IF WOULD LIKE TO DEFINITELY OR POSSIBLY DO JOB RELATED LEARNING OR NON-JOB RELATED LEARNING IN THE NEXT TWO TO THREE YEARS
{IF (FLEARN1 = Yes – Definitely OR Yes – Possibly) OR (FLEARN2 = Yes – Definitely OR Yes – Possibly) THEN ASK Mot

Mot And what are your main reasons for wanting to do this?

PROBE FULLY AND RECORD VERBATIM

Don't Know Y

ASK ALL

FBarr
[QUESTION TEXT WILL DEPEND ON ANSWERS TO PREVIOUS QUESTIONS]

{IF (FLEARN1 = Yes – definitely OR Yes – Possibly) OR (FLEARN2 = Yes – definitely OR Yes – Possibly)} THEN ASK INTRO1
ELSE ASK INTRO2

Intro1
I'm going to read you out a list of reasons why people may find it difficult to take part in education and training. Please could you tell me whether any of them apply to you

Intro 2

I'd now like to ask you about the reasons why you don't want to do any learning, training or education in the next two or three years

I'm going to read out a list of reasons why people may not want to take part in education and training. Please could you tell me whether any of them apply to you

I haven't got time because of my family
I have difficulties with reading and/or writing
It's hard to get time off work to do any learning for my job
I can't find any opportunities locally
I am only willing to do learning if the fees are paid by someone else
I have difficulties with English
I won't be able to do the course I want to do
I'm not interested in doing any learning, training or education
My employer would not support my learning

Applies	1
Doesn't apply	2
Don't Know	Y

RESPONDENT'S EMPLOYMENT

ASK ALL

Qwork Did you do any paid work in the seven days ending last Sunday, either as an employee or as self-employed?

Yes	1
No	2

IF DID NOT DO ANY PAID WORK IN THE LAST SEVEN DAYS
{Qwork = No}
THEN ASK GovtSch

GovtSch Were you on a government scheme for employment training?

Yes	1
No	2

IF DID NOT DO ANY PAID WORK IN THE LAST SEVEN DAYS AND NOT ON A GOVERNMENT SCHEME FOR EMPLOYMENT TRAINING
{QWork = No AND GovtSch = No}
THEN ASK JobAwy

JobAwy Did you have a job or business you were away from?

Yes	1
No	2
Waiting to take up new	

job/business already obtained	3

IF DID NOT DO ANY PAID WORK IN THE LAST SEVEN DAYS AND NOT ON A GOVERNMENT SCHEME FOR EMPLOYMENT TRAINING AND (DO NOT HAVE A JOB/BUSINESS THAT WERE AWAY FROM OR WAITING TO TAKE UP A NEW JOB)
{IF QWork = No AND GovtSch = No AND JobAwy = No or Waiting to take up a new job/business already obtained}
THEN ASK OwnBus

OwnBus Did you do any UNPAID work for any business that you own in the 7 days ending last Sunday?

Yes	1
No	2

IF DID NOT DO ANY UNPAID WORK FOR ANY BUSINESS PERSONALLY OWNED IN THE LAST SEVEN DAYS
{IF QWork = No AND GovtSch = No AND JobAwy = No or Waiting to take up a new job/business already obtained AND OwnBus = No}
THEN ASK RelBus

RelBus Or did you do any UNPAID work for any business that a relative owns?
NOTE: INCLUDE WORKING FOR SPOUSE/COHABITEE

Yes	1
No	2

IF DID NOT DO ANY PAID WORK IN THE LAST SEVEN DAYS AND NOT ON A GOVERNMENT SCHEME FOR EMPLOYMENT TRAINING AND DID NOT HAVE A JOB/BUSINESS THAT WERE AWAY FROM AND NOT WAITING TO TAKE UP A NEW JOB AND DID NOT DO UNPAID WORK FOR ANY BUSINESS OWNED PERSONALLY OR BY A RELATIVE

{IF QWork = No AND GovtSch = No AND JobAwy = No or waiting AND OwnBus = No AND RelBus = No}

THEN ASK LookWk4

LookWk4 Thinking of the last FOUR WEEKS ending last Sunday, were you looking for any kind of paid work or a place on a government training scheme at any time in those 4 weeks?

Yes	1
No	2
(SPONTANEOUS ONLY) Waiting to take up new job/business already obtained	3

IF BEEN LOOKING FOR WORK OR A PLACE ON A TRAINING SCHEME IN LAST FOUR WEEKS OR WAITING TO TAKE UP A JOB
{IF LookWk4 = Yes OR LookWk4 = waiting to take up a new job/business already obtained OR JobAway = waiting to take up a new job/business already obtained}
THEN ASK AvSrt2

AvSrt2 If a job or a place on a government training scheme had been available last week, would you have been able to start within 2 weeks?

Yes	1
No	2

IF NOT BEEN LOOKING FOR WORK OR A PLACE ON A TRAINING SCHEME IN LAST FOUR WEEKS OR WOULD NOT HAVE BEEN ABLE TO START WITHIN TWO WEEKS
{IF LookWk4 = No OR AvSrt2 = No}

THEN ASK WhyNLook

WhyNLook What was the MAIN reason [TEXT FILL: you did not look for work in the last four weeks/you would not have been able to start within two weeks][48]?

Student	1
Looking after the family/home	2
Temporarily sick or injured	3
Long term sick or disabled	4
Retired from paid work	5
Other reasons	O

ASK ALL

InfStudy Are you at present [TEXT FILL: at school or 6th form college or][49] enrolled on any full-time or part-time education course excluding leisure classes? Please include correspondence courses and open learning as well as other forms of full-time or part-time education course.

[48] The first part of the text fill appears if Lookwk4 = No. The second part of the text fill appears if AvSrt2 = No

[49] Text fill will only appear for respondents aged 19 or below.

Yes	1
No	2
Don't know	Y

IF ENROLLED ON FULL TIME OR PART TIME EDUCATION COURSE

{IF InfStudy = Yes}

THEN ASK InfStudy

InfStudy2 And are you…

Still attending	1
Waiting for term to (re)start	2
Or have you stopped going?	3
Don't Know	Y

IF STILL ATTENDING EDUCATION COURSE OR WAITING FOR A COURSE TO RESTART

{IF InfStudy2 = Still attending OR Waiting for term to (re)start}

THEN ASK InfStudy3

InfStudy3 Are you [TEXT FILL: at school or 6th form college][50], on a full or part time course, a medical or nursing course, a sandwich course or some other kind of course?

[50] Text fill will only appear for respondents aged 19 or below.

School – FULL TIME *(WILL ONLY APPEAR IF RESPONDENT IS UNDER 20 YEARS OLD)*	1
School – PART TIME *(WILL ONLY APPEAR IF RESPONDENT IS UNDER 20 YEARS OLD)*	2
Sandwich course	3
Studying at university or college including 6th form college FULL TIME	4
Training for a qualification in nursing, physiotherapy or similar medical subject	5
On a PART TIME course at university or college, INCLUDING day release and block release	6
On an Open College course	7
On an Open University course	8
Any other correspondence course	9
Any other self/open learning course	10
Don't Know	Y

IF DID NOT DO ANY PAID WORK IN THE LAST SEVEN DAYS AND NOT ON A GOVERNMENT SCHEME FOR EMPLOYMENT TRAINING AND (DID NOT HAVE A JOB/BUSINESS THAT WERE AWAY FROM OR WAITING TO TAKE UP A NEW JOB) AND DID NOT DO UNPAID WORK FOR ANY BUSINESS OWNED PERSONALLY OR BY A RELATIVE

{IF Qwork = No AND GovtSch = No AND JobAwy = No or Waiting AND OwnBus = No AND RelBus =No}

THEN ASK JobEver

JobEver Have you EVER had a paid job, apart from casual or holiday work?

Yes	1
No	2

IF EVER HAD A PAID JOB

{IF JobEver = Yes}

THEN ASK WhenIft

WhenIft	When did you leave your last paid job?		
	ENTER DAY	Numeric range	1-31
		Don't Know	Y
	ENTER MONTH[51]	January February March April May June July August September October November December	
		Don't Know	Y
	ENTER YEAR	Numeric range	1910-2010
		Don't Know	Y

RESPONDENT'S EMPLOYMENT DETAILS

IF IN WORK OR ON A GOVERNMENT SCHEME OR HAVE JOB THAT AWAY FROM OR DOING UNPAID WORK OF A BUSINESS PERSONALLY OWNED OR OWNED BY A RELATIVE OR EVER WORKED

{IF Qwork = Yes OR GovtSch = Yes OR JobAwy = Yes OR OwnBus = Yes OR RelBus = Yes OR JobEver = Yes}

THEN ASK Industry, JobTitle, JobDescr, SelfEmp

Industry	What [TEXT FILL: does/did][52] the firm/organisation you [TEXT FILL: work/worked] for mainly make or do at the place where you [work/worked]? DESCRIBE FULLY – PROBE MANUFACTURING OR PROCESSING OR DISTRIBUTING AND MAIN GOODS PRODUCED OR SERVICES PROVIDED Text: Maximum 100 characters	

[51] Months to appear in a drop down list on screen.

[52] If currently work {Qwork = Yes OR GovtSch = Yes OR JobAwy = Yes OR OwnBus = Yes OR RelBus =Yes} the first part of the text fill will appear. If not currently working but ever worked {JobEver = Yes} the second part of the text fill will appear. The remaining text fills in the section work in this way unless otherwise stated.

JobTitle What was [TEXT FILL: your (main) job in the week ending last Sunday/your last (main) job]?
INTERVIEWER: PLEASE ENTER FULL JOB TITLE

Text : Maximum 100 characters

JobDescr What [do/did] you mainly do in your job?
CHE CK SPECIAL QUALIFICATIONS/TRAINING NEEDED TO DO THE JOB

Derive d from these, JSOC2000

SelfEmp [TEXT FILL: Are/Were] you working as an employee or [TEXT FILL: are/were] you self-employed?

Employee	1
Self-employed	2

IF AN EMPLOYEE
{IF SelfEmp=1}
THEN ASK Supvis, Nemplee

Supvis In your job [TEXT FILL: do/did] you have formal responsibility for supervising the work of other employees?

Yes	1
No	2

Nemplee How many employees [TEXT FILL: are/were] there at the place where you [TEXT FILL: work/worked]?

INTERVIEWER: We are interested in the size of the 'local' establishment' at which the respondent works in terms of the total number of employees. The 'Local unit' is considered to be the geographical location where the job is mainly carried out. Normally this will consist of a single building, part of a building, or at the largest a self-contained group of buildings.

1-24	1
25-499	2
500 or more	3
Don't Know	Y

IF DON'T KNOW NUMBER OF EMPLOYEES
{IF NEmplee = DK}
THEN ASK NEmplDK

NemplDK Would you say there [TEXT FILL: are/were] less than or more than 25 employees?

Less than 25	1
More than 25	2

IF SELF EMPLOYED
{IF SelfEmp = 2}
THEN ASK SETime, SNemp,

SETimeAnd can I just check, [TEXT FILL: have you been/were you] self employed for a year or more?

Yes	1
No	2

Snemp How many people [TEXT FILL: do/did] you employ at the place where you [TEXT FILL: work/worked]?

None	1
1-24	2
25-499	3
500 or more	4
Don't Know	Y

IF DON'T KNOW HOW MANY PEOPLE EMPLOYED
{IF SNemp = DK}
THEN ASK NEmpDK

NempDK Would you say there [TEXT FILL: are/were] less than or more than 25 employees?

Less than 25	1
More than 25	2

IF IN WORK OR ON A GOVERNMENT SCHEME OR HAVE JOB THAT AWAY FROM OR DOING UNPAID WORK OF A BUSINESS PERSONALLY OWNED OR OWNED BY A RELATIVE OR EVER WORKED

IF Qwork = Yes OR GovtSch = Yes OR JobAwy = Yes OR OwnBus = Yes OR RelBus = Yes OR JobEver = Yes
THEN ASK FtPtw

FtPtw In your (main) job [TEXT FILL: are/were] you working....READ OUT

Full-time	1
or part-time?	2

HOUSEHOLD REFERENCE PERSON'S EMPLOYMENT
[ASKED IF RESPONDENT IS NOT HRP]
THEN ASK Hqwork

Hqwork I'd now like to ask you about [TEXT FILL:NAME]'s[53] employment. Did they do any paid work in the 7 days ending last Sunday, either as an employee or as self-employed?

Yes	1
No	2

IF HRP NOT IN PAID WORK

{IF Hqwork = No}

THEN ASK HGovtSch

HgovtSch Were they on a government scheme for employment training?

Yes	1
No	2

IF HRP NOT IN PAID WORK AND NOT ON A GOVERNMENT SCHEME

{IF Hqwork = No AND HGovtSch = No}

---

[53] The name of the HRP will appear in the text fill. The definition of the HRP is shown on page 8 of the questionnaire.

THEN ASK HJobAwy

HjobAwy	Did they have a job or business they were away from?

Yes	1
No	2
Waiting to take up new job/business already obtained	3

IF HRP NOT IN PAID WORK AND NOT ON A GOVERNMENT SCHEME AND (DO NOT HAVE A JOB THAT THEY ARE AWAY FROM OR WAITING TO TAKE UP A NEW JOB)

{IF Hqwork = No AND HGovtSch = No AND HJobAwy = No or Waiting to take up a new job/business already obtained}

THEN ASK HOwnBus

HownBus	Did they do any UNPAID work in that week for any business that they own?

Yes	1
No	2

IF HRP DID NOT DO ANY UNPAID WORK FOR ANY BUSINESS PERSONALLY OWNED IN THE LAST SEVEN DAYS

{IF Hqwork = No AND HGovtSch = No AND HJobAwy = No or Waiting to take up a new job/business already obtained AND HOwnBus = No}

THEN ASK HRelBus

HrelBus	Or did they do any UNPAID work for any business that a relative owns? NOTE: INCLUDE WORKING FOR SPOUSE/COHABITEE

Yes	1
No	2

IF HRP DID NOT DO ANY PAID WORK IN THE LAST SEVEN DAYS AND NOT ON A GOVERNMENT SCHEME FOR EMPLOYMENT TRAINING AND DID NOT HAVE A JOB/BUSINESS THAT WERE AWAY FROM AND NOT WAITING TO TAKE UP A NEW JOB AND DID NOT DO UNPAID WORK FOR ANY BUSINESS OWNED PERSONALLY OR BY A RELATIVE

{IF HQWork = No AND HGovtSch = No AND HJobAwy = No or waiting AND HOwnBus = No AND HRelBus = No}

THEN ASK HlookWk4

HlookWk4 Thinking of the LAST FOUR WEEKS ending last Sunday, were they looking for any kind of paid work or a place on a government training scheme at any time in those 4 weeks?

Yes	1
No	2
(SPONTANEOUS ONLY) Waiting to take up new job/business already obtained	3

IF HRP LOOKING FOR PAID WORK OR A PLACE ON A GOVERNMENT SCHEME IN THE LAST FOUR WEEKS OR WAITING TO TAKE UP A JOB
{IF HLookWk 4= Yes OR HLookwk4 = Waiting to take up a new job/business already obtained OR HJobAwy = Waiting to take up a new job/business already obtained}
THEN ASK HAvSrt2

HAvSrt2 If a job or a place on a government training scheme had been available last week, would they have been able to start within 2 weeks?

Yes	1
No	2

IF HRP NOT LOOKING FOR PAID WORK OR A PLACE ON A GOVERNMENT SCHEME IN THE LAST FOUR WEEKS OR WOULD NOT HAVE BEEN AVAILABLE TO START IN THE LAST TWO WEEKS
{IF HlookWk4 = No OR HAvSrt2 = No}
THEN ASK HWhyNLk

HwhyNLk What was the MAIN reason [TEXT FILL: they did not look for work in the last 4 weeks/they would not have been able to start work within 2 weeks][54]?

Student	1
Looking after the family/home	2
Temporarily sick or injured	3
Long term sick or disabled	4
Retired from paid work	5
Other reasons	O

[ASKED IF RESPONDENT IS NOT HRP]
THEN ASK InHRPStudy

InHRPStudy Are they presently [TEXT FILL: at school or 6th form college or][55] enrolled on any full-time or part-time education course excluding leisure classes? Please include correspondence courses and open learning as well as other forms of full-time or part-time education course.

---

[54] The first part of the test fill appears if Hlookwk4 – No. The second part of the text fill appears in HAvSt2 = No

[55] Text fill will only appear for HRPs aged 19 or below (If HRP is not respondent AND HRP age recorded at Age <20)

Yes	1
No	2
Don't know	Y

IF HRP CURRENTLY ENROLLED ON A FULL TIME OR PART TIME COURSE

{IF InHRPStudy = Yes}

THEN ASK InfStudy

InHRPStudy2 And are they…

Still attending	1
Waiting for term to (re)start	2
Or have they stopped going?	3
Don't Know	Y

IF HRP STILL ATTENDING COURSE EDUCATION COURSE

{IF InHRPStudy2 = Still attending or waiting for term to (re)start}

THEN ASK InHRPStudy3

InHRPStudy3 Are they [TEXT FILL: at school or 6th form college][56], on a full or part time course, a medical or nursing course, a sandwich course or some other kind of course?

[56] Text fill will only appear for HRPs aged 19 or below. (If HRP is not respondent AND HRP age recorded at Age <20)

School – FULL TIME *(WILL ONLY APPEAR IF HRP IS UNDER 20 YEARS OLD)*	1
School – PART TIME *(WILL ONLY APPEAR IF HRP UNDER 20 YEARS OLD)*	2
Sandwich course	3
Studying at university or college including 6th form college FULL TIME	4
Training for a qualification in nursing, physiotherapy or similar medical subject	5
On a PART TIME course at university or college, INCLUDING day release and block release	6
On an Open College course	7
On an Open University course	8
Any other correspondence course	9
Any other self/open learning course	10
Don't Know	Y

IF HRP NOT IN WORK AND NOT ON A GOVERNMENT TRAINING SCHEME AND NOT IN A JOB THAT CURRENTLY AWAY FROM AND DOING UNPAID WORK FOR A BUSINESS PERSONALLY OWNED OR OWNED BY A RELATIVE AND NOT WAITING TO TAKE UP A JOB
{IF Hqwork =No AND HGovtSch = No AND HJobAwy = No or Waiting AND HOwnBus = No AND HRelBus =No}
THEN ASK Hjobever

Hjobever Have they EVER had a paid job, apart from casual or holiday work?

Yes	1
No	2

IF HRP EVER HAD A PAID JOB
{IF Hjobever = Yes}
THEN ASK HWhenLft

HwhenLft When did they leave their last paid job?

ENTER DAY	Numeric range	1-31
	Don't Know	Y
ENTER MONTH[57]	January	
	February	
	March	

[57] Months to appear in a drop down list on screen.

	April	
	May	
	June	
	July	
	August	
	September	
	October	
	November	
	December	
	Don't Know	Y
ENTER YEAR	Numeric range	1910-2010
	Don't Know	Y

HOUSEHOLD REFERENCE PERSON'S EMPLOYMENT DETAILS

IF HRP IN WORK OR ON A GOVERNMENT TRAINING SCHEME OR IN A JOB THAT CURRENTLY AWAY FROM OR DOING UNPAID WORK FOR A BUSINESS PERSONALLY OWNED OR OWNED BY A RELATIVE OR EVER WORKED
Hqwork = Yes OR HGovtSch = Yes OR HJobAwy = Yes OR HOwnBus = Yes OR HRelBus = Yes OR Hjobever = Yes
THEN ASK HIndust, HjobT, HjobD,Hselfemp

Hindust — What [TEXT FILL: does/did][58] the firm/organisation they [TEXT FILL: work/worked] for mainly make or do at the place where they [TEXT FILL: work/worked]?
DESCRIBE FULLY – PROBE MANUFACTURING OR PROCESSING OR DISTRIBUTING AND MAIN GOODS PRODUCED OR SERVICES PROVIDED
Text: Maximum 100 characters

HJobT — What was their [TEXT FILL: (main) job in the week ending last Sunday/last (main) job]?
ENTER FULL JOB TITLE

Text : Maximum 100 characters

HjobD — What [do/did] they mainly do in their job?
CHECK SPECIAL QUALIFICATIONS/TRAINING NEEDED TO DO THE JOB

Hselfemp — [TEXT FILL: Are/Were] they working as an employee or [TEXT FILL: are/were] they self-employed?

Employee	1
Self-employed	2

[58] If HRP currently works {HQwork = Yes OR HGovtSch = Yes OR HJobAwy = Yes OR HOwnBus = Yes OR HRelBus =Yes} then the first part of the text fill will appear. If they do not currently working but have previously worked {HJobEver = Yes} the second part of the text fill will appear. The remaining text fills in the section work in this way unless otherwise stated.

IF HRP AN EMPLOYEE
{IF HSelfemp =1}
THEN ASK HempStat, HNEmplee

HempStat In their job [TEXT FILL: do/did] they have formal responsibility for supervising the work of other employees?

Yes	1
No	2

HNEmplee How many employees [TEXT FILL: are/were] there at the place where they [TEXT FILL: work/worked]?

INTERVIEWER: We are interested in the size of the 'local' establishment' at which the respondent works in terms of the total number of employees. The 'Local unit' is considered to be the geographical location where the job is mainly carried out. Normally this will consist of a single building, part of a building, or at the largest a self-contained group of buildings

1-24	1
25-499	2
500 or more	3
Don't Know	Y

IF RESPONDENT DOESN'T KNOW NUMBER OF EMPLOYEES AT HRP'S PLACE OF WORK
IF HNEmplee = DK
THEN ASK HNEmpldk

HNEmpldk Would you say there [TEXT FILL: are/were] less than or more than 25 employees?

Less than 25	1
More than 25	2

IF HRP SELF EMPLOYED
{IF HSelfemp = 2}
THEN ASK HSNemp

HSNemp How many people [TEXT FILL: do/did] they employ at the place where they [work/worked]?

None	1
1-24	2
25-499	3
500 or more	4
Don't Know	Y

IF RESPONDENT DOESN'T KNOW NUMBER OF PEOPLE HRP EMPLOYS
{IF HSNemp = DK}
THEN ASK HNEmpDK

HNEmpDK Would you say there [TEXT FILL: are/were] less than or more than 25 employees?

Less than 25	1
More than 25	2

IF HRP IN WORK OR ON A GOVERNMENT TRAINING SCHEME OR IN A JOB THAT CURRENTLY AWAY FROM OR DOING UNPAID WORK FOR A BUSINESS PERSONALLY OWNED OR OWNED BY A RELATIVE OR EVER WORKED
{IF Hqwork = Yes OR HGovtSch = Yes OR HJobAwy = Yes OR HOwnBus = Yes OR HRelBus = Yes OR Hjobever = Yes}
THEN ASK HFtPt

HFtPt In their (main) job [TEXT FILL: are/were] they working....READ OUT

Full-time	1
or part-time?	2

HEALTH

ASK ALL

I would now like to ask you a few questions about your health.

Hqgene How is your health in general? Would you say it is...

Very good	1
Good	2
Fair	3
Poor	4
Very poor	5
Don't Know	Y
Refused	Z

Hlearn Do you have a learning difficulty of any kind?

Yes	1
No	2
Don't Know	Y
Refused	Z

IF HAVE LEARNING DIFFICULTY
{IF Hlearn = Yes }
THEN ASK: Hwhat, Hlimit2

Hwhat What kind of learning difficulty do you have?

PROBE FULLY AND RECORD VERBATIM

Don't Know	Y
Refused	Z

Hlimit2 Does this learning difficulty limit your activities in any way?

Yes	1
No	2
Don't Know	Y
Refused	Z

ASK ALL

Hqdis Do you have any long-standing illnesses, disabilities or infirmities? By 'long-standing' I mean anything that has troubled you over a period of time or that is likely to affect you over a period of time?

INTERVIEWER: NOT INCLUDING LEARNING DIFFICULTIES

Yes	1
No	2
Don't Know	Y
Refused	Z

IF DOES HAVE LONG-STANDING ILLNESS, DISABILITY OR INFIRMITY
{IF Hqdis = Yes }
THEN ASK: Hqdisty, Hqlim

Hqdisty What kind of illness(es) or disabilit(ies) do you have?

PROBE AND CODE ALL THAT APPLY

Problem(s) with arms, legs, hands or feet (inc. arthritis or rheumatism)	1
Problem(s) with back or neck	2
Difficulty in seeing	3
Difficulty in hearing	4
Skin conditions / allergies	5
Chest or breathing problems (inc. asthma and bronchitis)	6
Heart problems, high blood pressure or blood circulation problems	7
Stomach, liver, kidney or digestive problems	8
Diabetes	9
Depression or bad nerves	10
Mental illness or phobias, panics or other nervous disorders	11
Epilepsy	12
Cancer	13
Don't Know	Y
Refused	Z
Other	O

Other specify...

Hqlim Does this / do these illness(es) or disabilit(ies) limit your activities in any way?

Yes	1
No	2
Don't Know	Y
Refused	Z

IF SELECTED TO TAKE PART IN THE ICT ASSESSMENT[59]
{If PRE-SELECTED TO TAKE PART IN THE ICT ASSESSMENT}
THEN ASK QGPLAST

QGPlast When did you last see a doctor at your GP surgery or health centre?
READ OUT

In the past 3 months	1
Between 3 months and 6 months	2
More than 6 months ago	3
I have never been seen at my present GP surgery or health centre	4
Don't Know	Y

IF SEEN DOCTOR AT GP SURGERY OR HEALTH CENTRE
{If QGPlast = In the past 3 months OR Between 3 months and 6 months OR More than 6 months ago}
THEN ASK QGPgood and QGPSat

QGPGood Last time you saw a doctor at your GP surgery or health centre, how good was the doctor at each of the following?
READ OUT

- Giving you enough time
- Asking about your symptoms
- Listening to you
- Explaining tests and treatments
- Involving you in decisions about your care
- Treating you with care and concern
- Taking your problems seriously

Very good	1
Good	2
Neither good nor poor	3
Poor	4
Very Poor	5
Doesn't apply	X

QGPSat In general how satisfied are you with the care you get at your GP surgery or health care?
READ OUT

Very satisfied	1
Fairly satisfied	2
Neither satisfied nor dissatisfied	3
Fairly dissatisfied	4
Very dissatisfied	5

[59] Please note questions highlighted in orange are the longer ICT background questions. These questions (from CqBB to CBBENoO) will only be asked of respondents selected to completed the ICT assessment (those in groups 4 and 6)

FINAL CLASSIFICATION QUESTIONS, TEST LAUNCH AND ADMIN

ASK ALL

Now I'd like to ask you a few questions about your home.

Qxtenu1 Do you [TEXT FILL: or your partner]…[60]
READ OUT AND CODE ONE ONLY

Own your home outright or with a mortgage or loan	1
Pay part rent and part mortgage (shared ownership) for your home	2
Rent your home	3
Live in your home rent free (inc. rent free in relative/friend's property, excluding squatting)	4
Squat	5
Don't Know	Y
Refused	Z

IF RENT HOME OR LIVING RENT FREE
{IF Qxtenu1 = Rent your home OR Qxtenu1 = Live in your own home rent free (inc. rent free in relative/friend's property, excluding squatting) }
THEN ASK: Qxrent1, Qxrent2

Qxrent1 Does the accommodation go with the job of anyone in the household?

Yes	1
No	2
Don't Know	Y

[60] Text fill will appear if co-habiting/married at Reltores-Reltore10 (Codes 1 or 2)

Qxrent2 Who is your landlord?

Local authority/council/new town development	1
A housing association or charitable trust	2
Your employer or the employer of somebody else living in your household	3
Another organisation	4
Your relative/friend (before you lived here) or the relative/friend of somebody else living in your household	5
Another private landlord	6
Don't Know	Y
Refused	Z

ASK ALL

The next few questions are about your income and any state benefits or tax credits that you may be receiving or claiming.

QxBen In the seven days ending last Sunday, were you claiming any State Benefits or Tax Credits, including State Pension, Allowances, Child Benefit or National Insurance?

Yes	1
No	2
Don't Know	Y
Refused	Z

IF CLAIMED BENEFITS IN LAST SEVEN DAYS
{IF QxBen = Yes}
THEN AS QXBENW

QxBenW Which of the following types of benefit or tax credit were you claiming?

SHOW CARD 3

A - Unemployment-related benefits, or National Insurance Credits	1
B - Income Support (not as an unemployed person)	2
C - Sickness or Disability Benefits (including Employment and Support Allowance; not including tax credits)	3
D - State Pension	4
E - Family related benefits (excluding Child Benefit and tax credits)	5
F - Child Benefit	6
G - Housing, or Council Tax benefit	7
H - Tax Credits	8
I - Other	O
Don't Know	Y
Refused	Z

IF CLAIMED UNEMPLOYMENT RELATED BENEFITS OR NATIONAL INSURANCE CREDITS
{IF QxBenW = Unemployment-related benefits or National Insurance Credits}
THEN ASK QXJSA

QxJSA In the seven days ending last Sunday were you claiming…

CODE ALL THAT APPLY

Job Seeker's Allowance	1
Or National Insurance Credits?	2
Don't Know	Y
Refused	Z

IF CLAIMED JOB SEEKER'S ALLOWANCE
{IF QxJSA = Job Seeker's Allowance}
THEN ASK QXJSA2

QxJSA2 In the seven days ending last Sunday were you claiming…

Contributory JSA	1
Income based JSA	2
Or both?	3
Don't Know	Y
Refused	Z

IF CLAIMED INCOME SUPPORT NOT AS AN UNEMPLOYED PERSON
{IF QxBenW = Income Support (not as an unemployed person)}
THEN ASK QXIC

QxIC In the seven days ending last Sunday were you claiming Income Support as a…

Sick Person	1
Pensioner	2
Lone Parent	3
Or any other form or premium of income support	4
Don't Know	Y
Refused	Z

IF CLAIMED SICKNESS OR DISABILITY BENEFITS
{IF QxBenW = Sickness or disability benefits}
THEN ASK Qxic2

QxIC2 In the seven days ending last Sunday were you claiming…

CODE ALL THAT APPLY

Incapacity Benefit	1
Severe Disablement Allowance	2
Employment and Support Allowance	3
Statutory Sick Pay	4
Invalid Care Allowance	5
Disability Living Allowance	6
Attendance Allowance	7
Industrial Injury Disablement Benefit	8
Don't Know	Y
Refused	Z

IF CLAIMED STATE PENSION
{IF QxBenW = State Pension}
THEN ASK QXPEN

QxPen In the seven days ending last Sunday were you claiming…

CODE ALL THAT APPLY

Retirement or Old Person's Pension	1
Widowed Parents' Allowance	2
Bereavement Allowance or Widow's Pensions	3
War Disablement Pension or War Widows Pension including any related allowances	4
Don't Know	Y
Refused	Z

IF CLAIMED FAMILY RELATED BENEFITS
{IF QxBenW = Family related benefits}
THEN ASK QXFAM

QxFam In the seven days ending last Sunday were you claiming…

CODE ALL THAT APPLY

Guardian's Allowance	1
Maternity Allowance	2
Statutory Maternity Pay	3
Don't Know	Y
Refused	Z

IF CLAIMED HOUSING OR COUNCIL TAX BENEFIT
{IF QxBenW = Housing or Council Tax benefit}
THEN ASK QxHCTBEN

QxHCTBen In the seven days ending last Sunday were you claiming…

CODE ALL THAT APPLY

Housing Benefit	1
Council Tax Benefit	2
Don't Know	Y
Refused	Z

IF RECEIVE BENEFITS AND NOT MENTIONED RECEIVING TAX CREDITS
{IF QxBen = Yes AND QxBenW NE Tax Credits}
THEN ASK QXTCC

QxTCC Do you receive Tax Credits, either Working Tax Credit or Child Tax Credit or both?

Yes	1
No	2
Don't Know	Y
Refused	Z

IF CLAIMED/RECEIVED TAX CREDITS
{IF QxBenW = Tax Credits OR QxTCC = Yes}
THEN ASK QxChi

QxChi Does your tax credit include a child care element to help pay for childcare expenses?

Yes	1
No	2
Don't Know	Y
Refused	Z

IF WORKING AND NOT SELF EMPLOYED
{ IF (Qwork = YES OR Govtsch = Yes OR Jobawy = Yes) AND (SelfEmp <> Self Employed)}
THEN ASK QXGROSS

I would now like to ask you some questions concerned with your earnings from the work you were doing in the seven days ending last Sunday.

QxGross What was your gross pay, that is the pay before any deductions, the last time you were paid?

ENTER IN POUNDS

ACCEPT AN ANNUAL AMOUNT IF PREFERRED

Numeric Range _____

£99995 or more	99995
No Pay received yet	99996
Don't Know	Y
Refused	Z

Permitted Range
1 TO 99996 (Numeric Range)

IF NO PAY RECEIVED
{IF QxGross = No pay received yet}
THEN ASK QXGEXP

QxGExp How much do you expect to be paid?

ENTER IN POUNDS

Numeric Range _____

£99995 or more	99995
Don't Know	Y
Refused	Z

Permitted Range
1 TO 99996 (Numeric Range)

IF GAVE AN AMOUNT AT QXGROSS OR QXGEXP
{IF (QxGross > =1 AND <99996) OR (QxGExp > =1 AND <99996)}
THEN ASK QXGPER

QxGPer What period did this cover?

One week	1
Two weeks	2
Three weeks	3
Four weeks	4
Calendar month	5
Two calendar months	6
Eight times a year	7
Nine times a year	8
Ten times a year	9
Three months/ 13 weeks	10
Six months/26 weeks	11
One year / 12 months/52 weeks	12
Less than once a week	13
One off/lump sum	14
None of these	X
Don't Know	Y
Refused	Z

IF GIVEN A GROSS AMOUNT AND NOT GIVEN A PERIOD OF A YEAR
{IF (QXGross >=1 AND <99996) AND (QxGPer NE = One year/12 month/52 weeks or None of these)}
THEN ASK QXGBAN

QxGBan Was your gross pay last time what you usually received every (PERIOD GIVEN AT QXGPer)?

Yes	1
No	2
No usual amount	3
Don't Know	Y
Refused	Z

IF NOT USUAL GROSS AMOUNT
{IF (QxGBan = No)}
THEN ASK QXGUSUAL

QxGUsual What would be your normal gross pay for the same period of time?

ENTER IN POUNDS

Numeric Range _____

£99995 or more	99995
Don't Know	Y
Refused	Z

Permitted Range
1 TO 99995 (Numeric Range)

IF DON'T KNOW GROSS AMOUNT OR DON'T KNOW HOW MUCH EXPECT TO RECEIVE OR DON'T KNOW PERIOD OF GROSS PAY OR DON'T KNOW USUAL AMOUNT
{IF (QxGross = Don't Know OR QxGExp = Don't know or QxGper = Don't know OR QxGUsual = Don't know)}
THEN ASK QXNET

QxNet What was your take home pay after all deductions, the last time you were paid?

ENTER IN POUNDS

Numeric Range _____

£99995 or more	99995
No Pay received yet	99996
Don't Know	Y
Refused	Z

Permitted Range
1 TO 99996 (Numeric Range)

IF GAVE NET AMOUNT
IF (QxNet > =1 AND <99996)
THEN ASK QXNPER

QxNPer What period did this cover?

One week	1
Two weeks	2
Three weeks	3
Four weeks	4
Calendar month	5
Two calendar months	6
Eight times a year	7
Nine times a year	8
Ten times a year	9
Three months/ 13 weeks	10
Six months/26 weeks	11
One year / 12 months/52 weeks	12
Less than once a week	13
One off/lump sum	14
None of these	X
Don't Know	Y
Refused	Z

IF GAVE NET AMOUNT AND NOT GIVEN A PERIOD OF ONE YEAR
{IF (QXNet >=1 AND <99996) AND (QxNPer NE = One year/12 month/52 weeks or None of these)}
THEN ASK QXNBAN

QxNBan Was your take home pay last time what you usually received every [TEXT FILL: PERIOD GIVEN AT QXNPer]?

Yes	1
No	2
No usual amount	3
Don't Know	Y
Refused	Z

IF NOT USUAL AMOUNT OF NET PAY
{IF (QxNBan = 2)}
THEN ASK QXNUSUAL

QxNUsual What would be your normal take home pay for the same period of time?

ENTER IN POUNDS

Numeric Range _____

£99995 or more	99995
Don't Know	Y
Refused	Z

Permitted Range
1 TO 99995 (Numeric Range)

IF WORKING AND NOT SELF EMPLOYED AND NOT PROVIDED FULL DETAILS OF THEIR INCOME
{QxNet = Don't Know OR QxNper = Don't know OR QxNUsual = Don't know}
ASK QHOUR

QHour Are you paid a fixed hourly rate?

Yes	1
No	2
Don't Know	Y
Refused	Z

IF PAID A FIXED HOURLY RATE
{IF QHour = Yes}
THEN ASK QHRATE

QHRate What is your hourly rate?

Numeric Range _____

£995 or more	995
Don't Know	Y
Refused	Z

Permitted Range
1 TO 995 (Numeric Range)

IF SELF EMPLOYED AND BEEN SELF EMPLOYED FOR A YEAR OR LONGER
{IF SelfEmp = Self Employed AND SEtime = Yes}
THEN ASK QXSEEARN

I would now like to ask you some questions concerned with your earnings

QxSEEarn How much did you earn in the last tax year, before tax but after deductions of any expenses and wages?

ENTER IN POUNDS

IF NOTHING MADE OR A LOSS, ENTER ZERO.

Numeric Range _____

£99995 or more	99995
Don't Know	Y
Refused	Z

Permitted Range
0 TO 99995 (Numeric Range)

IF SELF EMPLOYED AND BEEN SELF EMPLOYED FOR LESS THAN A YEAR
{IF SelfEmp = Self Employed AND SEtime = No}
THEN ASK QXSEEARN2

I would now like to ask you some questions concerned with your earnings

QxSEEarn2 Please look at this card and estimate the amount that you expect to earn before tax, but after deductions of any expenses and wages in the first full 12 months that you will have been self employed.

SHOW CARD 4

WEEKLY	MONTHLY	ANNUAL
No income 0	No income 0	No income.....0
Less than £10.....1	Less than £43.....1	Less than £520.....1
£10 less than £20.....2	£43 less than £86.....2	£520 less than £1040.....2
£20 less than £30.....3	£86 less than £130.....3	£1040 less than £1560.....3
£30 less than £40.....4	£130 less than £173.....4	£1560 less than £2080.....4
£40 less than £50.....5	£173 less than £217.....5	£2080 less than £2600.....5
£50 less than £60.....6	£217 less than £260.....6	£2600 Less than £3120.....6
£60 less than £70.....7	£260 less than £303.....7	£3120 less than £3640.....7
£70 less than £80.....8	£303 less than £347.....8	£3640 less than £4160.....8
£80 less than £90.....9	£347 less than £390.....9	£4160 less than £4680.....9
£90 less than £100.....10	£390 less than £435.....10	£4680 less than £5200.....10
£100 less than £120....11	£433 less than £520.....11	£5200 Less than £6240.....11
£120 less than £140....12	£520 less than £607.....12	£6240 less than £7280.....12
£140 less than £160....13	£607 less than £693.....13	£7280 less than £8320.....13
£160 less than £180....14	£693 less than £780.....14	£8320 less than £9360.....14
£180 less than £200....15	£780 less than £867.....15	£9360 less than £10400.....15
£200 less than £220....16	£867 less than £953.....16	£10400 less than £11440.....16
£220 less than £240....17	£953 less than £1040.....17	£11440 less than £12480.....17
£240 less than £260....18	£1040 less than £1127.....18	£12480 less than £13520.....18
£260 less than £280....19	£1127 less than £1213.....19	£13520 less than £14560.....19
£280 less than £300....20	£1213 less than £1300.....20	£14560 less than £15600.....20

£300 less than £320....21	£1300 less than £1387.....21	£15600 less than £16640.....21
£320 less than £340....22	£1387 less than £1473.....22	£16640 less than £17680.....22
£340 less than £360....23	£1473 less than £1560.....23	£17680 less than £18720.....23
£360 less than £380....24	£1560 less than £1647.....24	£18720 less than £19760.....24
£380 less than £400....25	£1647 less than £1733.....25	£19760 less than £20800.....25
£400 less than £450....26	£1733 less than £1950.....26	£20800 less than £23400.....26
£450 less than £500....27	£1950 less than £2167.....27	£23400 less than £26000.....27
£500 less than £550....28	£2167 less than £2383.....28	£26000 less than £28600.....28
£550 less than £600....29	£2383 less than £2600.....29	£28600 less than £31200.....29
£600 less than £650....30	£2600 less than £2817.....30	£31200 less than £33800..... .30
£650 less than £700…31	£2,817 less than £3,033….31	£33800 less than £36400……31
£700 or more……32	£3,033 or more…….32	£36,400 or more……32

Numeric Range 0 to 32 _____

Don't Know	Y
Refused	Z

Permitted Range
0 TO 32 (Numeric Range)

ASK ALL

Qxassis INTERVIEWER: WAS ANY ASSISTANCE PROVIDED BY A THIRD PARTY FOR THE COMPLETION OF THE BACKGROUND QUESTIONNAIRE?

Full translation because of language difficulties	1
No need for full translation but help needed with reading show cards/screen because of language difficulties	2
Help needed with reading show cards/screen because of partial/full blindness	3
No help needed	4
Don't Know	Y

BASELINE SURVEYS COMPLETION –

THE INTERVIEW WILL THEN PROCEED TO THE BASELINE SURVEYS. THE RULES FOR COMPLETION FOR EACH OF THE BASELINE SURVEYS AND THE ACCOMPANYING QUESTIONS FOR EACH ARE DETAILED BELOW. PLEASE NOTE THAT RESPONDENTS ARE PRE-SELECTED INTO 6 GROUPS AND EACH GROUP WILL COMPLETE TWO OF THE BASELINE SURVEYS. THESE GROUPS ARE SHOWN AT THE START OF THE QUESTIONNAIRE ON THE 'NOTES' PAGE.

LITERACY BASELINE SURVEY – RULES FOR COMPLETION

ALL RESPONDENTS SELECTED FOR THE LITERACY ASSESSMENT PROCEED TO LITINTRO/LITINRO2/LITERACY ASSESSMENT UNLESS:

IF ((Qxassis = Full translation because of language difficulties AND Bqread = Poor) OR Qxassis = Help needed with reading show cards/screen because of partial/full blindness), ASK Qxcheck1
THEN IF:
QXCHECK1 = Yes PROCEED TO LITINTRO/LITINRO2/LITERACY ASSESSMENT
QXCHECK1 = No or Don't Know PROCEED TO QSKIPLIT

IF Bqread = Cannot read English PROCEED TO QSKIPLIT

IF SELECTED FOR THE LITERACY BASELINE SURVEY AND ((Qxassis = Full translation because of language difficulties AND Bqread = Poor) OR Qxassis = Help needed with reading show cards/screen because of partial/full blindness)} ASK QXCHECK1
IF BQREAD = Cannot read English, go to QSKIPLIT

Qxcheck1 In the next part of the interview I will need you to do quite a lot of reading in English. Are you happy to continue?

Yes	1
No	2
Don't Know	Y

IF NOT (Qxcheck1 = No OR Qxcheck1 = Don't Know) Continue

LitIntro

[TEXTFILL[61]: The next part of the interview is different. I won't be reading out the questions. Instead, you will read the question and tell me your answer. You won't have to touch the computer at all. I will put your answer into the computer using the mouse.

In this part of the interview you will need to use your reading skills. But don't worry it is not an exam! It does not matter how many you get right or wrong. The survey is designed for everybody.

Before we start, it there's just few things I need to tell you.

/

The next part of the interview will be similar to the last section you completed. However in this part of the interview you will need to use your reading skills. But again, don't worry it is not an exam! It does not matter how many you get right or wrong. The survey is designed for everyone,]

LitIntro2

[TEXT FILL[62]: For most questions, there are four possible answers and you will need to choose which of the four answers you think is the right one. Sometimes you can choose more than one answer, but the question will tell you if this is the case. Some questions will ask you to put your answer in a box, so you will need to tell me which items you want in each box. Some questions include sentences with missing words. You will need to tell me which word you think completes the sentence.

In each case, choose the answer you think is right, then tell me and I will put it into the computer. If you don't know the answer to the question, just say "pass" or "don't know" and we can move on to the next question.

Once you have told me your answer, the computer won't let us back to the question again. So only tell me when you are ready. I will say "is that okay" before we move on to the next question. Say "yes" if you want to move on.

Remember there is no time limit so don't feel you have to rush. You can change your answer as many times as you like before we go on to the next question. I don't know which answers are right or wrong. Also I can't help you with any of the questions because the questions must be the same for everybody. You can stop this part of the interview at any point.

Finally you can use a pen and paper to help you, but nothing else.

/

This section will work in the same way as the last section. For each question you will need to tell me your answer and I will put it into the computer. The computer won't let us go back to a question, so only tell me your answer when you are ready. Again there is no time limit so don't feel you have to rush.

You can use a pen and paper to help you, but nothing else.

---

[61] The textfill is dependent on the assessments the respondent is pre-selected to complete and the order in which they complete them. All respondent in pre-selected Groups 1, 3, 4 will received the first part of the text fill. All respondents in Group 2 will receive the second part of the text fill. (Note. the group definitions are shown on the front page of this questionnaire.)

[62] As text fill in LitIntro

{LAUNCH LITERACY BASELINE SURVEY}

IF PRE-SELECTED FOR THE LITERACY ASSESSMENT BUT SKIPPED IT
{If BQread = Cannot Read English OR Qxcheck1 = No or Don't know}
THEN ASK QSkipLit

QSkipLit THE RESPONDENT WILL BE SKIPPING THE BASELINE LITERACY SURVEY

ALL WHO ATTEMPTED THE LITERACY BASELINE SURVEY
THEN ASK QXCOMPL

QXCOMPL INTERVIEWER: PLEASE RECORD THE OUTCOME OF THE LITERACY BASELINE SURVEY

The baseline survey was closed on the first screen	1
The respondent attempted some of the questions in the baseline survey but the baseline survey was terminated before the end	2
The end of the baseline survey was reached, and the baseline survey closed on the 'close' screen	**3**
Something else	4
Don't Know	Y

IF THE END OF THE LITERACY BASELINE SURVEY WAS NOT REACHED
{QXCOMPL = 1 or 2 or 4 or DK}
THEN ASK QRESTARTL

QRESTARTL
Would you like to restart the literacy baseline survey?

PLEASE BE AWARE THAT THIS WILL START THE LITERACY BASELINE SURVEY RIGHT FROM THE BEGINNING.

YOU SHOULD ONLY RESTART THE LITERACY BASELINE SURVEY IF YOU EXPERIENCED A TECHNICAL OR ACCIDENTAL ERROR WITH IT

Yes	1
No	2

IF WOULD LIKE TO RESTART THE LITERACY BASELINE SURVEY FROM THE BEGINNING
{QRESTARTL = 1}
THEN ROUTE BACK TO THE LITERACY LAUNCH SCREEN

IF THE BASELINE SURVEY WAS CLOSED ON THE FIRST SCREEN AND WOULD NOT LIKE TO RESTART THE BASELINE SURVEY
{QXCOMPL = 1 AND QRESTARTL = 2}
THEN ASK QFIRSTL

QFIRSTL WHY WAS THE BASELINE SURVEY CLOSED ON THE FIRST SCREEN?

THE RESPONDENT DID NOT WANT TO COMPLETE THE BASELINE SURVEY	1
I CLOSED IT BY MISTAKE	2

IF THE RESPONDENT DID NOT WANT TO COMPLETE THE BASELINE SURVEY
{QFIRSTL = 1}
THEN ASK QNOTATTEMPTL

QNOTATTEMPTL WHY DID THE RESPONDENT NOT WANT TO ATTEMPT THE BASELINE SURVEY?

PLEASE RECORD AS MUCH DETAIL AS POSSIBLE

OPEN ENDED	
Don't know	Y

IF THE BASELINE SURVEY WAS TERMINATED BEFORE THE END AND WOULD NOT LIKE TO RESTART THE BASELINE SURVEY
{QXCOMPL = 2 AND QRESTARTL = 2}
THEN ASK QTERML

QTERML WHY WAS THE BASELINE SURVEY CLOSED PART WAY THROUGH?

THE RESPONDENT DID NOT WANT TO COMPLETE THE REST OF THE BASELINE SURVEY	1
I CLOSED IT BY MISTAKE	2

IF THE RESPONDENT DID NOT WANT TO COMPLETE THE BASELINE SURVEY
{QTERML = 1}
THEN ASK QTERM2L

QTERM2L WHY DID THE RESPONDENT NOT WANT TO COMPLETE THE REST OF THE BASELINE SURVEY?

PLEASE RECORD AS MUCH DETAIL AS POSSIBLE

OPEN ENDED	
Don't know	Y

IF ANOTHER OUTCOME AND WOULD NOT LIKE TO RESTART THE BASELINE SURVEY
{QXCOMPL = 4 AND QRESTARTL = 2}
THEN ASK QOTHERL

QOTHERL PLEASE RECORD THE OUTCOME OF THE BASELINE SURVEY

PLEASE RECORD AS MUCH DETAIL AS POSSIBLE

OPEN ENDED

ASK ALL

QTECHL DID YOU EXPERIENCE ANY TECHNICAL DIFFICULTIES DURING THE BASELINE SURVEY?

Yes	1
No	2

IF DID EXPERIENCE TECHNICAL DIFFICULTIES DURING THE BASELINE SURVEY
{QTECHL = 1}
THEN ASK QTECHL

QTECHRL PLEASE RECORD WHAT TECHNICAL DIFFICULTIES YOU ENCOUNTERED. PLEASE RECORD AS MUCH DETAIL AS POSSIBLE.

OPEN ENDED

NUMERACY BASELINE SURVEY – RULES FOR COMPLETION

ALL RESPONDENTS SELECTED FOR THE NUMERACY ASSESSMENT PROCEED TO NUMINTRO/NUMINTRO2/NUMERACY ASSESSMENT, UNLESS:

IF ((Qxassis = Full translation because of language difficulties AND Bqread = Poor) OR Qxassis = Help needed with reading show cards/screen because of partial/full blindness), ASK Qxcheck2
THEN IF:
QXCHECK2 = Yes PROCEED TO NUMINTRO/NUMINTRO2/NUMERACY ASSESSMENT
QXCHECK2 = No or Don't Know PROCEED TO QSKIPNUM

IF Bqread = Cannot read English PROCEED TO QSKIPNUM

IF SELECTED FOR THE NUMERACY BASELINE SURVEY AND ((Qxassis = Full translation because of language difficulties AND Bqread = Poor) OR Qxassis = Help needed with reading show cards/screen because of partial/full blindness)} ASK QXCHECK2
IF BQREAD = Cannot read English, go to QSKIPNUM

Qxcheck2 In the next part of the interview I will need you to do quite a lot of reading in English. Are you happy to continue?

Yes	1
No	2
Don't Know	Y

IF NOT (Qxcheck2 = No OR Qxcheck2 – Don't Know) Continue

NumIntro

[TEXTFILL [63]: The next part of the interview is different. I won't be reading out the questions. Instead, you will read the question and tell me your answer. You won't have to touch the computer at all. I will put your answer into the computer using the mouse.

In this part of the interview you will need to use your number skills. But don't worry it is not an exam! It does not matter how many you get right or wrong. The survey is designed for everybody.

Before we start, it there's just few things I need to tell you.

/

The next part of the interview will be similar to the last section you completed. However in this part of the interview you will need to use your number skills. But again, don't worry it is not an exam! It does not matter how many you get right or wrong. The survey is designed for everyone,]

NumIntro2

[TEXTFILL[64]: For most questions, there are four possible answers and you will need to choose which of the four answers you think is the right one. Sometimes you can choose more than one answer, but the question will tell you if this is the case. Some questions will ask you to put your answer in a box, so you will need to tell me which items you want in each box.

In each case, choose the answer you think is right, then tell me and I will put it into the computer. If you don't know the answer to the question, just say "pass" or "don't know" and we can move on to the next question.

Once you have told me your answer, the computer won't let us back to the question again. So only tell me when you are ready. I will say "is that okay" before we move on to the next question. Say "yes" if you want to move on.

Remember there is no time limit so don't feel you have to rush. You can change you answer as many times as you like before we go on to the next question. I don't know which answers are right or wrong. Also I can't help you with any of the questions because the questions must be the same for everybody. You can stop this part of the interview at any point.

Finally you can use a pen and paper to help you, but nothing else.

/

[63] The textfill is dependent on the assessments the respondent is pre-selected to complete and the order in which they complete them. All respondent in pre-selected Groups 2, 5, 6 will received the first part of the text fill. All respondents in Group 1 will receive the second part of the text fill. (Note. the group definitions are shown on the front page of this questionnaire.

[64] As text fill in NumIntro

This section will work in the same way as the last section. For each question you will need to tell me your answer and I will put it into the computer. The computer won't let us go back to a question, so only tell me your answer when you are ready. Again there is no time limit so don't feel you have to rush.

Finally you can use a pen and paper to help you, but nothing else.

{LAUNCH NUMERACY BASELINE SURVEY}

IF PRE-SELECTED FOR THE NUMERACY ASSESSMENT BUT SKIPPED IT
{If BQread = Cannot Read English OR Qxcheck2 = No or Don't know}
THEN ASK QSkipNum

QSkipNum THE RESPONDENT WILL BE SKIPPING THE BASELINE NUMERACY SURVEY

ALL WHO ATTEMPTED THE NUMERACY BASELINE SURVEY
THEN ASK QXCOMPN

QXCOMPN INTERVIEWER: PLEASE RECORD THE OUTCOME OF THE NUMERACY BASELINE SURVEY

The baseline survey was closed on the first screen	1
The respondent attempted some of the questions in the baseline survey but the baseline survey was terminated before the end	2
The end of the baseline survey was reached, and the baseline survey closed on the 'close' screen	**3**
Something else	4
Don't Know	Y

IF THE END OF THE NUMERACY BASELINE SURVEY WAS NOT REACHED
{QXCOMPN = 1 or 2 or 4 or DK}
THEN ASK QRESTARTN

QRESTARTN
Would you like to restart the numeracy baseline survey?

PLEASE BE AWARE THAT THIS WILL START THE NUMERACY BASELINE SURVEY RIGHT FROM THE BEGINNING.

YOU SHOULD ONLY RESTART THE NUMERACY BASELINE SURVEY IF YOU EXPERIENCED A TECHNICAL OR ACCIDENTAL ERROR WITH IT

Yes	1
No	2

IF WOULD LIKE TO RESTART THE NUMERACY BASELINE SURVEY FROM THE BEGINNING
{QRESTARTN = 1}
THEN ROUTE BACK TO THE NUMERACY LAUNCH SCREEN

IF THE BASELINE SURVEY WAS CLOSED ON THE FIRST SCREEN AND WOULD NOT LIKE TO RESTART THE BASELINE SURVEY
{QXCOMPN = 1 AND QRESTARTN = 2}
THEN ASK QFIRSTN

QFIRSTN WHY WAS THE BASELINE SURVEY CLOSED ON THE FIRST SCREEN?

THE RESPONDENT DID NOT WANT TO COMPLETE THE BASELINE SURVEY	1
I CLOSED IT BY MISTAKE	2

IF THE RESPONDENT DID NOT WANT TO COMPLETE THE BASELINE SURVEY
{QFIRSTN = 1}
THEN ASK QNOTATTEMPTN

QNOTATTEMPTN WHY DID THE RESPONDENT NOT WANT TO ATTEMPT THE BASELINE SURVEY?

PLEASE RECORD AS MUCH DETAIL AS POSSIBLE

OPEN ENDED	
Don't know	Y

IF THE BASELINE SURVEY WAS TERMINATED BEFORE THE END AND WOULD NOT LIKE TO RESTART THE BASELINE SURVEY
{QXCOMPN = 2 AND QRESTARTN = 2}
THEN ASK QTERMN

QTERMN WHY WAS THE BASELINE SURVEY CLOSED PART WAY THROUGH?

THE RESPONDENT DID NOT WANT TO COMPLETE THE REST OF THE BASELINE SURVEY	1
I CLOSED IT BY MISTAKE	2

IF THE RESPONDENT DID NOT WANT TO COMPLETE THE BASELINE SURVEY
{QTERMN = 1}
THEN ASK QTERM2N

QTERM2N WHY DID THE RESPONDENT NOT WANT TO COMPLETE THE REST OF THE BASELINE SURVEY?

PLEASE RECORD AS MUCH DETAIL AS POSSIBLE

OPEN ENDED	
Don't know	Y

IF ANOTHER OUTCOME AND WOULD NOT LIKE TO RESTART THE BASELINE SURVEY
{QXCOMPN = 4 QRESTARTN = 2}
THEN ASK QOTHERN

QOTHERN PLEASE RECORD THE OUTCOME OF THE BASELINE SURVEY

PLEASE RECORD AS MUCH DETAIL AS POSSIBLE

OPEN ENDED

ASK ALL

QTECHN DID YOU EXPERIENCE ANY TECHNICAL DIFFICULTIES DURING THE BASELINE SURVEY?

Yes	1
No	2

IF DID EXPERIENCE TECHNICAL DIFFICULTIES DURING THE BASELINE SURVEY
{QTECHN = 1}
THEN ASK QTECHN

QTECHRN PLEASE RECORD WHAT TECHNICAL DIFFICULTIES YOU ENCOUNTERED. PLEASE RECORD AS MUCH DETAIL AS POSSIBLE.

OPEN ENDED

ICT BASELINE SURVEY – RULES FOR COMPLETION

IF PRE-SELECTED TO TAKE PART IN THE ICT BASELINE SURVEY AND USED A COMPUTER BEFORE
{Pre-selected for ICT baseline survey AND Cqnocom <> No)}
PROCEED TO ICTINTRO:

- **IF HAPPY TO PROCEED AT ICTINTRO {ICTIntro = Proceed}**
  THEN PROCEED TO ICTINTRO2, ICTSTART AND THEN THE ICT BASELINE SURVEY
- **IF NOT HAPPY TO PROCEED AT ICTINTRO {ICTIntro = Respondent does not want to proceed}**
  THEN RESPONDENT WILL SKIP THE ICT ASSESSMENT AND PROCEED TO QSKIPICT

IF PRE-SELECTED TO TAKE PART IN THE ICT BASELINE SURVEY AND NEVER USED A COMPUTER BEFORE
{Pre-selected for ICT baseline survey AND Cqnocom = Yes}
THEN SKIP THE ICT BASELINE SURVEY AND PROCEED TO QSKIPICT.

IF PRE-SELECTED TO TAKE PART IN THE ICT BASELINE SURVEY AND USED A COMPUTER BEFORE
{(Pre-selected for ICT baseline survey AND Cqnocom <> No)}
THEN ASK ICTINTRO

ICTIntro The next part of the interview is for you to do on your own. This part of the interview is designed to look at your computing and technology skills. But don't worry! It is not an exam. It does not matter how many you get right or wrong, it is designed for everybody. You will need to use the mouse, keyboard and screen here. [TEXTFILL: You will need to do quite a lot of reading in English.][65]

PROCEED	1
RESPONDENT DOES NOT WANT TO PROCEED	2

IF HAPPY TO CONTINUE AT ICTIntro
{ICTIntro = Proceed}
THEN ASK ICTIntro2, ICTStart and launch the ICT assessment.

ICTIntro2 Before we start there's just a few things I need to tell you.

There are 4 parts to this section of the interview:

1. Some multiple choice questions
2. Some word processing tasks
3. Some email tasks
4. Some spreadsheet tasks.

You will need to work through each question and section in turn. Once you have finished each question click on the 'NEXT' button to go onto the next question.

I don't know which answers are right or wrong. Also I can't help you with any of the questions because the questions must be the same for everybody. If you get stuck, or don't know the answer just move on to the next task or question.

Within each of the 4 sections you will be able to move forward and back from question to question. However once you have completed the whole section you will not be able to get back in it.

Some of the tasks that you will be asked to do may be similar to things you have done before. However, the programs you may have used before may be slightly different to the ones that will appear in this section. Please do your best to work through each question and section in turn. There's no time limit, so don't feel you have to rush. You can stop this part of the interview at any point. You can stop this part of the interview at any point. If you have any difficulties reading the question text, there are some large print show cards you can use, or I can show you how to enlarge the question text.

[65] Text fill will appear for respondents who used an interpreter in the background questionnaire (Qxassis = 1 OR 2). For all other respondents this text fill will not appear.

ICTStart PLEASE CLICK TO LAUNCH THE ICT BASELINE SURVEY. ONCE IT HAS LAUNCHED PLEASE MOVE THE CAPI CLOCK TO THE EDGE OF THE SCREEN, SO IT IS OUT OF THE WAY. THEN HAND THE COMPUTER OVER TO THE RESPONDENT AND ASK THEM TO BEGIN. PLEASE REMIND THEM THAT THEY SHOULD COMPLETE THE SECTIONS IN THE ORDER THAT THEY APPEAR ON THE SCREEN.

{LAUNCH ICT BASELINE SURVEY}

IF PRE-SELECTED FOR THE ICT BASELINE SURVEY AND HAVE NEVER USED A COMPUTER BEFORE OR NOT HAPPY TO COMPLETE THE ICT SECTION
{IF PRE-SELECTED FOR THE ICT BASELINE SURVEY AND (Cqnocom = No or ICTIntro = Respondent does not want to continue)}
THEN ASK QSkipICT

QSkipICT THE RESPONDENT WILL BE SKIPPING THE BASELINE ICT SURVEY BECAUSE [TEXT FILL: THEY HAVE NEVER USED A COMPUTER BEFORE / THEY WOULD PREFER NOT TO COMPLETE IT][66]

ALL WHO ATTEMPTED THE ICT BASELINE SURVEY
THEN ASK QTCHECK, QMULTIA

QTCheck Thank you for completing the last part of the survey. I just need to check with you which sections you attempted.

QmultiA So first of all, thinking about the multiple choice section, did you attempt any of the questions in this section?

Yes	1
No	2
Don't Know	Y

IF ATTEMPTED THE MULTIPLE CHOICE SECTION
{QmultiA = Yes}
THEN ASK QMultiC

QmultiC And can I just check, roughly how many questions do you think you attempted in this section? Would you say…

All of them	1
More than half	2
Less than half	3
Don't Know	Y
Refused	Z

[66] The first part of the text fill will appear if CqnoCom = No. The second part of the text fill will appear is ICTIntro = No or ICTIntroInter = No.

ALL WHO ATTEMPTED THE ICT BASELINE SURVEY
THEN ASK QWORDPA

QWordPA Thinking about the word processing section, did you attempt any of the questions in this section?

Yes	1
No	2
Don't Know	Y

IF ATTEMPTED THE WORD PROCESSING SECTION
{QWordPA = Yes)}
THEN ASK QWordPC

QWordPC And can I just check, roughly how many questions do you think you attempted in this section? Would you say…

All of them	1
More than half	2
Less than half	3
Don't Know	Y
Refused	Z

ALL WHO ATTEMPTED THE ICT BASELINE SURVEY
THEN ASK QEMAILA

QEmailA Thinking about the email section, did you attempt any of the questions in this section?

Yes	1
No	2
Don't Know	Y

IF ATTEMPTED THE EMAIL SECTION
{QEmailA = Yes}
THEN ASK QEmailC

QEmailC And can I just check, roughly how many questions do you think you attempted in this section? Would you say…

All of them	1
More than half	2
Less than half	3
Don't Know	Y
Refused	Z

ALL WHO ATTEMPTED THE ICT BASELINE SURVEY
THEN ASK QSPREADA

QSpreadA And finally thinking about the spreadsheet section, did you attempt any of the questions in this section?

Yes	1
No	2

Don't Know	Y

IF ATTEMPTED THE SPREADSHEET SECTION
{QSpreadA = Yes }
THEN ASK QSpreadC

QSpreadC And can I just check, roughly how many questions do you think you attempted in this section? Would you say…

All of them	1
More than half	2
Less than half	3
Don't Know	Y
Refused	Z

ALL WHO ATTEMPTED THE ICT BASELINE SURVEY

QTECHICT DID THE RESPONDENT REPORT ANY TECHINCAL DIFFICULTIES DURING THE ICT BASELINE SURVEY?

YES	1
NO	2

IF DID EXPERIENCE TECHNICAL DIFFICULTIES DURING THE BASELINE SURVEY
{QTECHICT = 1}
THEN ASK QTECHRICT

QTECHRICT PLEASE RECORD WHAT TECHNICAL DIFFICULTIES YOU ENCOUNTERED. PLEASE RECORD AS MUCH DETAIL AS POSSIBLE.

OPEN ENDED

IF SKIPPED THE ICT BASELINE SURVEY
{IF PRE-SELECTED FOR THE ICT BASELINE SURVEY AND PREFERRED NOT TO COMPLETE IT (ICTIntro = Respondent does not want to continue}
THEN ASK QSkipICTY

QSkipICTY Can I just check, why did you prefer not complete this section of the interview?

OPEN ENDED

Don't Know	Y
Refused	Z

END OF THE BASELINE SURVEYS

ASK ALL

ILRLink

The Data Service holds information about adult learning. The Government would like to access this information so that it can match data held about recent learning that you may have done, to relevant information you have given in this survey. You will not be identified personally in any reporting based on this information. The matched data will give the Government a better understanding of the general relationship between people's skills needs and the training that they do. Whether or not you agree, this will not affect any training that you are doing, your access to future training, or any other services that you receive from the Government.

Would you be willing for your survey data to be matched to information on adult learning?

Yes	1
No	2
[SPONTANEOUS ONLY] Don't know	3

ASK ALL

For classification purposes, I just need to ask you a few questions about yourself.

Name Firstly, could you tell me your full name?

ENTER TITLE

ENTER FIRSTNAME

ENTER SURNAME/FAMILY NAME

Telephone And what is your telephone number?

ENTER TELEPHONE NUMBER

Numb er not given

Recon It is possible that we will want to contact you again for additional information. Would you be willing to be contacted again by TNS-BMRB?

Yes	1
No	2

IF WILLING TO BE RECONTACTED BY BMRB
{Recon = Yes}
THEN ASK Recon2

Recon2 If additional information was being collected for The Department for Business, Innovation and Skills (BIS), would you be willing for TNS-BMRB to pass on your name and contact details to the Department for Business, Innovation and Skills or another research organisation so they could contact you?

Yes	1
No	2

ASK ALL

End THANK AND CLOSE

Yes	1

ASK ALL

QAdvice DID THE RESPONDENT ASK FOR ANY INFORMATION ABOUT WHERE THEY CAN FIND OUT ABOUT TRAINING COURSE OR CAREERS ADVICE?

Yes	1
No	2

IF RESPONDENT DID REQUEST FURTHER INFORMATION ABOUT TRAINING COURSES OR CAREERS ADVICE
{qAdvice = 1}
THEN READ OUT QADVICE2

QAdvice2

You can find out further general information about training courses and careers advice on the DirectGov website:

www.direct.gov.uk/careersadvice.

This website also has details about the Careers Advice Service and Nextstep. Nextstep is the skills and career advice service for adults aged 20 or over. Further information about NextStep and your local Nextstep office can be accessed here:
http://www.direct.gov.uk/en/EducationAndLearning/AdultLearning/DG_071762

If you would like to find out information about literacy and numeracy courses you can find this out at the Get On website:
http://geton.direct.gov.uk/index.html
or you can contact the Learndirect helpline on 0800 66 0800 who will provide you with information about where to go to improve literacy and numeracy skills.

Annex 4 - Performance analysis of assessment tools

4.1 Summary

This annex provides a summary of the analysis carried out on the functionality of the assessment tools which were used in the Skills for Life 2011 Survey (SfL2011) to assign respondents to Literacy, Numeracy and ICT Levels. The analysis provides evidence that the assessments are functioning as expected and provide reliable assessment results.

Literacy assessment

The literacy assessments used in SfL2011 and SfL2003 are identical (other than a small modification to the system, which successfully dealt with a small problem with recording responses for some items and respondents, in 2003), ensuring direct comparability between the findings.

The literacy assessment appears to discriminate well between respondents at different Literacy Levels within the SfL2011 sample and has good internal reliability (but, noting the issue raised in Annex 2, relatively narrow curriculum coverage). With the exception of only a handful of items, candidates are getting the intended number of items correct, meeting the design brief of an assessment where candidates get most questions correct to boost confidence and encourage completion of the survey.

Although classical discrimination measures cannot be used to analyse an adaptive assessment at item Level, looking at each block of the assessment separately, stronger candidates do better than weaker candidates on all items they attempt, suggesting that the assessment has good internal reliability and that items discriminate well.

Numeracy assessment

As for literacy, the numeracy assessments used in SfL2011 and SfL2003 surveys are identical which ensures direct comparability between the findings.

The similarity between Numeracy outcome Levels in SfL2003 and SfL2011 is largely repeated at item Level. Most candidates attempted more questions at the level of difficulty of their final result than at any other level of difficulty. This and other performance evidence indicate that the assessment is functioning as designed, adapting well to candidate responses and ensuring they can answer correctly a good proportion of the questions presented.

ICT assessment

The average time taken by candidates to complete the ICT assessment (23 minutes, 36 seconds) is within the required specification of assessment duration of less than 25 minutes, with candidates spending longest on the word processing task (perhaps reflecting the keyboard activity involved and the assessment of file handling which is embedded in this assessment topic). Individual tasks discriminate well in terms of topic outcome, suggesting

good internal reliability. No comparisons can be drawn between SfL2011 and SfL2003, as the ICT assessment used in 2011 was very different in terms of content and approach to the 2003 assessment.

4.2 Introduction

This Annex undertakes basic quantitative performance analysis of the literacy, numeracy and ICT assessment instruments used in the 2011 Skills for Life 2011 Survey (SfL2011). It looks at information about how the assessments functioned in making judgements about interviewees' skills. It should be read in conjunction with Annex 2 which provides further information about the design of the assessments. The purpose of this performance analysis is:

1. to check the effectiveness of the assessments in being able to identify respondents' skills Levels;

2. to check the effectiveness of individual items in being able to discriminate between respondents with stronger and weaker skills; and

3. to confirm that there are no significant differences in the functioning and administration of the survey assessment tools which would impact adversely on the comparability of the 2003 Skills for Life Survey (SfL2003) and SfL2011.

It should be noted that the literacy and numeracy assessments were created in 2002 for use in SfL2003, which ran from late 2002 to 2003. Design and piloting of the tools was done in a very short timeframe at that time (around 2-3 months for development and a similar period for trials) and information relating to that work is included in the SfL2003 survey report.[67] The ICT assessment was developed during the 2009 research development and piloting project which took place in advance of SfL2011 (further detail of this are included in Annex 2).

The analysis presented in this annex looks only at the performance of the tools based on the SfL2011 main stage survey dataset (and the SfL2003 datasets for comparison, in the cases of the literacy and numeracy assessments).

4.3 Item Response Theory modelling of literacy and numeracy assessments

The literacy assessment is adaptive, with questions being selected for candidates based on scores from prior responses. Item Response Theory (IRT) is an alternative statistical method to the (better known and more widely used in the UK) Classical Test Theory (CTT) for considering

[67] Williams, J., S. Clemens, S. Oleinikova, and K. Tarvin (2003) *The Skills for Life Survey: a National Needs and Impact Survey of Literacy, Numeracy and ICT skills*. Department for Education and Skills Research Report 490, available online at: https://www.education.gov.uk/publications/eOrderingDownload/RR490.pdf, accessed on 28/03/12.

assessment performance and supporting assessment design.[68] It is used extensively in the USA for assessment evaluation but much less so in the UK due to concerns raised at the time of its mainstream introduction (mid 1970s) about the underlying assumptions it makes about the characteristics being assessed, and the fact that it is statistically much more complex than CTT.[69] Nevertheless it offers particular benefits over traditional methods for adaptive assessments and parallel forms assessment scenarios. The potential benefits for the adaptive assessments used in the Skills for Life surveys are that it offers the possibility of creating unified scales of item difficulty and respondent ability even though respondents have not all attempted the same items.

Modern adaptive assessments commonly use IRT to dynamically select items for candidates within assessments, although in the assessments in this survey the adaptive pathways through the assessment are predefined as described in Annex 2. IRT offers a potential post hoc method of analysing the assessments' performance in terms of putting candidates on a scale of ability and the extent to which individual items contribute to that scaling. Put crudely it deals with the critical limitation of Classical Test Theory in adaptive testing – that the difficulty of a question is based on evidence from only those candidates who attempted it and says nothing of those who did not attempt it. Since the adaptive assessments used in SfL2011 provide different routes depending on candidate performance, question difficulty allows a comparison only of items within blocks of questions where the same candidates have taken each item (and little or no way of comparing between items in different blocks). IRT defines an ability scale of candidates and a difficulty scale of items, and thus can, for example, predict candidate performance on items they have not attempted by looking at performance on items they have attempted.

Initial IRT modelling of the literacy and numeracy assessment was undertaken with a view to providing an alternative measurement of item difficulty to the standard analyses presented in this annex, with the potential to look at scaling issues across performance levels. However, it was not possible to scale across performance levels because the iterative analysis to create item performance scales did not converge sufficiently. There are a number of possible reasons for this:

1. In the assessments we are looking at, the assumption of unidimensionality is invalid. IRT makes an underlying assumption of unidimensionality – i.e. that candidates have an underlying ability in numeracy (in the case of the numeracy assessment analysis) which does not vary from topic to topic within numeracy. Candidates who are better at fractions

[68] Further information on IRT can be found in:

Baker, F. B. (2001) *The Basics Of Item Response Theory.* ERIC Clearinghouse on Assessment and Evaluation. Available online at: http://info.worldbank.org/etools/docs/library/117765/Item%20Response%20Theory%20-%20F%20Baker.pdf, accessed on 28/03/12.

[69] The main concerns raised at the time (largely relating to the assumption of unidimensionality) are presented in:

Goldstein, H. (1979). *Consequences of Using the Rasch Model for Educational Assessment.* British Educational Research Journal 5(2), 211 – 220, available online at: http://www.bris.ac.uk/cmm/team/hg/full-publications/1979/rasch-model-consequences.pdf, retrieved 28/03/12.

They are placed into context by the more recent retrospective by:

Panayides, P., C. Robinson, C. and P. Tymms (2010) *The Assessment Revolution That Has Passed England By: Rasch Measurement.* British Educational Research Journal 36 (4), 611-626. Available online at: http://dro.dur.ac.uk/6405/1/6405.pdf, accessed on 28/03/12.

will also be better at percentages, and calculating area, etc. As mentioned above, the assumption of unidimensionality is a concern in IRT analyses, and is a substantial assumption for these assessments (for example, it is not obvious why respondents skills in the various aspects of numeracy should all vary in the same way – respondents may have spiky profiles, as discussed in Chapter 13).

2. There are insufficient candidates (particularly for some items – a number of items have candidate volumes below 200, some below 100) for the model to be accurate.

3. The assessment contains many weak items – for example items which measure in part or whole things other than the underlying skill to be measured (in practical terms this is a variation of 1 but relating to items with high levels of measurement error rather than topics with different characteristics in terms of how respondents perform).

Further work, for example based on multiple group IRT modelling, might permit item difficulty and respondent ability scales to be produced.

4.4 Literacy assessment

4.4.1 Introduction

In this section we look at a range of metrics for the literacy assessment. These are:

- A summary of the outcomes for candidates taking the assessment (including the Level outcomes and also an analysis of incomplete assessment instances);
- An analysis of missing data at item level in the 2011 assessment and how this is dealt with in the analysis in this annex;
- An analysis of the pathways taken through the adaptive assessment by candidates; and
- An analysis of item Level performance data for candidates in 2011 with a comparison of performance in SfL2003.

In SfL2011, 6049 results for literacy assessments were obtained of which 5798 (96 per cent) were considered as complete assessments, as shown in Annex Table 4.1. The average time taken by respondents to complete the literacy assessment was approximately 19 minutes.

Annex Table 4.1 Outcome of SfL2011 literacy assessment attempts

	Frequency	Proportion %
Not attempted - accidental/technical error	147	2.4
Not attempted - respondent chose not to attempt (spontaneous)	32	0.5
Attempted but not completed - accidental/technical error part way through	16	0.3
Attempted but not completed - respondent chose not to complete	30	0.5
Not attempted - respondent cannot read English so routed around	18	0.3
Not attempted - respondent chose not to attempt at qxcheck1	8	0.1
Entry Level 1 or below	246	4.1
Entry Level 2	121	2
Entry Level 3	458	7.6
Level 1	1657	27.4
Level 2 or above	3316	54.8
Total	**6049**	**100**

Base: SfL2011 All aged 16-65 pre-selected for the literacy assessment (6049)

The adaptive routing of candidates is described in Annex 2. Each Level/block of items in the algorithm has only one entry and exit point. This means that the number of candidates attempting each item within a block of items should be identical.

As Annex Table 4.2 shows, this was not always the case in the data supplied. Item response numbers highlighted in yellow are for items where the number of responses recorded is fewer than expected.

For example, in the Level 2 block of layer 1 (Items MY11 to MY5), 95 fewer candidates attempted the first item than did the remaining 7. This is presumed to be the result of a 'glitch' in either the assessment administration or the post-processing of the results, though it is not immediately obvious which of these might be responsible. In general, the problem mostly appears to apply to the first item in the blocks, though there are exceptions to this.

The glitch affects 14 of the 70 items in the assessment. For these 14 items, typically two per cent of candidates' responses are unrecorded although noting the way the assessment functions during testing the respondents' answers were taken into account correctly in judging subsequent routing and outcome decisions (the recording of responses is functionally separate from routing decision making).

Annex Table 4.2 Item responses and average scores

Item code	Item Number	Block	N	Minimum	Maximum	Average score	Std. Deviation
RR101	1	Screen 1	5798	0	1	0.88	0.324
RR102	2	Screen 1	5798	0	1	0.92	0.277
RR103	3	Screen 1	5798	0	1	0.77	0.418
RR104	4	Screen 1	5798	0	1	0.68	0.467
BB101	5	Screen 2	5404	0	1	0.86	0.347
BB102	6	Screen 2	5434	0	1	0.98	0.156
BB103	7	Screen 2	5436	0	1	0.83	0.372
BB104	8	Screen 2	5436	0	1	0.83	0.373
MY111	9	Screen 3	5285	0	1	0.93	0.249
MY112	10	Screen 3	5305	0	1	0.95	0.228
MY113	11	Screen 3	5305	0	1	0.79	0.407
MY114	12	Screen 3	5305	0	1	0.79	0.41
MY115	13	Screen 3	5305	0	1	0.97	0.168
MY11	39	Layer 1 Level 2	3195	0	1	0.56	0.496
MY12	40	Layer 1 Level 2	3290	0	1	0.01	0.095
MY13	41	Layer 1 Level 2	3290	0	1	0.61	0.488
MY21	42	Layer 1 Level 2	3290	0	2	1.61	0.792
MY22	43	Layer 1 Level 2	3290	0	2	1.19	0.982
MY3	44	Layer 1 Level 2	3290	0	5	1.5	1.174
MY4	45	Layer 1 Level 2	3290	0	2	1.77	0.641
MY5	46	Layer 1 Level 2	3290	0	5	4.2	0.955
MY61	64	Layer 2 Level 2	3089	0	2	1.37	0.93
MY62	65	Layer 2 Level 2	3141	0	2	1.43	0.902
MY71	66	Layer 2 Level 2	3141	0	2	1.18	0.984
MY72	67	Layer 2 Level 2	3141	0	2	1.89	0.462
MY81	68	Layer 2 Level 2	3141	0	3	2.78	0.779
MY82	69	Layer 2 Level 2	3141	0	3	2.29	1.273
MY9	70	Layer 2 Level 2	3141	0	2	1.07	0.677
RR11	27	Layer 1 Level 1	1969	0	2	1.71	0.705
RR12	28	Layer 1 Level 1	2017	0	2	1.4	0.915
RR13	29	Layer 1 Level 1	2017	0	2	1.7	0.718
RR14	30	Layer 1 Level 1	2017	0	2	1.18	0.984
RR15	31	Layer 1 Level 1	2017	0	2	1.56	0.828
RR2	32	Layer 1 Level 1	2017	0	2	1.04	0.998
RR31	33	Layer 1 Level 1	2017	0	1	0.55	0.497
RR32	34	Layer 1 Level 1	2017	0	1	0.71	0.455
RR33	35	Layer 1 Level1	2017	0	1	0.59	0.491
RR34	36	Layer 1 Level 1	2017	0	1	0.88	0.327
RR41	37	Layer 1 Level 1	2017	0	2	1.65	0.757

Item code	Item Number	Block	N	Minimum	Maximum	Average score	Std. Deviation
RR42	38	Layer 1 Level 1	2017	0	2	1.16	0.988
BB6	47	Layer 2 Entry Level	460	0	3	2.3	1.061
BB7	48	Layer 2 Entry Level	481	0	4	2.13	1.538
BB8	49	Layer 2 Entry Level	481	0	4	1.07	1.284
BB91	50	Layer 2 Entry Level	481	0	1	0.1	0.303
BB92	51	Layer 2 Entry Level	481	0	1	0.28	0.452
BB93	52	Layer 2 Entry Level	481	0	1	0.37	0.483
RR5	53	Layer 2 Level 1	2158	0	1	0.78	0.413
RR61	54	Layer 2 Level 1	2185	0	1	0.7	0.459
RR62	55	Layer 2 Level 1	2185	0	1	0.82	0.387
RR63	56	Layer 2 Level 1	2185	0	1	0.69	0.461
RR64	57	Layer 2 Level 1	2184	0	1	0.7	0.456
RR71	58	Layer 2 Level 1	2185	0	1	0.72	0.451
RR72	59	Layer 2 Level 1	2184	0	1	0.84	0.363
RR73	60	Layer 2 Level 1	2184	0	1	0.78	0.415
RR74	61	Layer 2 Level 1	2184	0	1	0.84	0.366
RR8	62	Layer 2 Level 1	2185	0	6	4.66	1.482
RR9	63 a and b	Layer 2 Level 1	2185	0	4	3.13	1.596
BB21	14	Layer 1 Entry Level	486	0	1	0.65	0.479
BB22	15	Layer 1 Entry Level	493	0	1	0.47	0.5
BB23	16	Layer 1 Entry Level	495	0	1	0.65	0.476
BB3	17	Layer 1 Entry Level	495	0	4	2.74	1.505
BB41	18	Layer 1 Entry Level	495	0	1	0.4	0.49
BB42	19	Layer 1 Entry Level	495	0	1	0.68	0.465
BB43	20	Layer 1 Entry Level	495	0	1	0.32	0.467
BB51	21	Layer 1 Entry Level	495	0	1	0.63	0.482
BB52	22	Layer 1 Entry Level	495	0	1	0.55	0.498
BB53	23	Layer 1 Entry Level	495	0	1	0.61	0.489
BB62	24	Layer 1 Entry Level	495	0	1	0.39	0.487
BB63	25	Layer 1 Entry Level	495	0	1	0.8	0.403
BB61	26	Layer 1 Entry Level	495	0	1	0.3	0.457

Base: SfL2011 All aged 16-65 with 'un-imputed' literacy score (5798)

Note: Item response numbers highlighted in yellow are for items where the number of responses recorded is fewer than expected.

The numbers of candidate records in each block with apparently anomalous numbers of items attempted are shown in Annex Table 4.3.

Annex Table 4.3 Missing item responses

Adaptive Assessment Block	Number of 'missing' responses
Screen 1	0
Screen 2	34
Screen 3	20
Layer 1 Entry Level	11
Layer 1 Level 1	48
Layer 1 Level 2	95
Layer 2 Entry Level	21
Layer 2 Level 1	28
Layer 2 Level 2	52
Total	309
Total item responses in SfL2011 data	177016
Missing responses as a proportion of overall responses	**0.17%**

Base: SfL2011 All aged 16-65 with 'un-imputed' literacy score (5798)

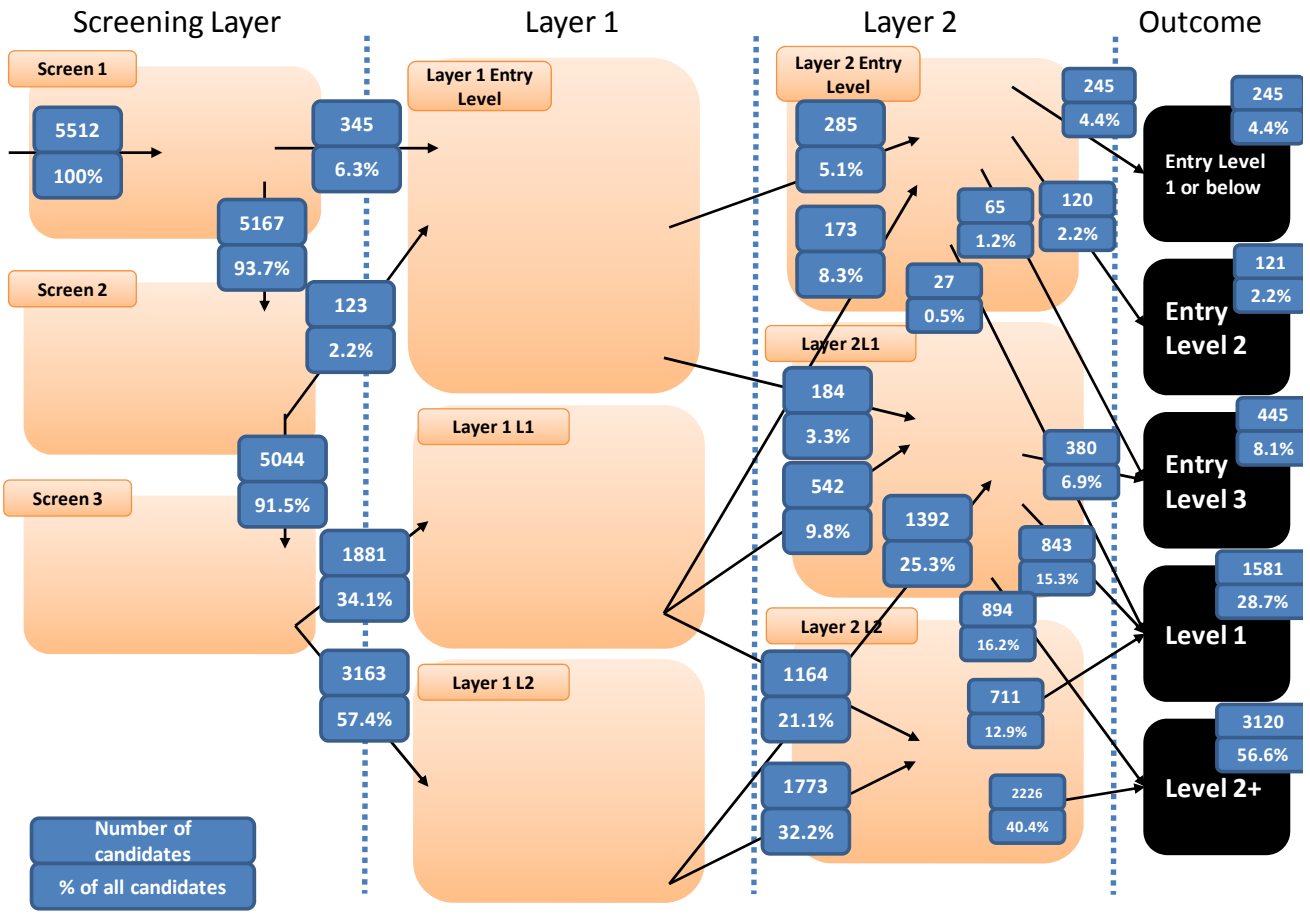
Other than a predominance of items at the start of assessment blocks there was no discernible pattern to the missing items in terms of outcome level of candidate. Considering this, and as the numbers of missing items are modest in terms of the overall sample size, anomalous records have been removed from the working data for this annex leaving a sample of 5,512 records on which the remaining adaptive routing analyses in sections 4.4.2 and 4.4.3 are based.

4.4.2 Pathways

Of the 5,512 recorded completions of the literacy assessment, the pathways followed by candidates are as shown in Annex Figure 4.1 below.[70] The diagram shows the number of candidates following each of the possible routes through the assessment blocks (and this number as a proportion of all candidates).

[70] Note that according to the data two candidates have been administered and attempted the Entry Level 3 (and subsequently Level 1) screening block although they only scored 1 on the Entry Level 2 items. One further candidate appears, from the data supplied, to have entered the Layer 2 Entry Level 3 & Entry Level 2 item block with 8 marks from the Layer 2 Level 1 item block. A small number of candidates have, according to the data, been presented with and responded to two blocks within one layer. In layer 1, four candidates did so, the first two attempting both the Entry and Level1 blocks and the latter two both the Level 1 and Level 2 blocks. In layer 2, there were nine candidates who attempted more than one block of items. Seven of these did Level 1 and Level 2 items in layer 2. The remaining two did layer 2 Entry Level and layer 2 Level 1 items or layer 2 Entry Level and layer 2 Level 2 items. Note that these two also appear in the list for multiple blocks in layer 1, meaning that these two seem to have been presented with most of the test items - however, this is likely to be due to errors in the post-processing of the test data rather than evidence of errors in the test administration.

Annex Figure 4.1 Pathways of SfL2011 respondents through the literacy assessment



Base: SfL2011 All aged 16-65 with 'un-imputed' literacy score excluding results with one or more anomaly (5512)

Points to note are as follows:

- Nine per cent of candidates (468 candidates) were routed to the Entry Level layer 1, having not completed all of the screening phase, indicating an early assessment of Entry Level performance. Six per cent (367 candidates) obtained an Entry Level 1 or 2 outcome. This suggests that the important early low-level screening questions are doing their job although this analysis does not conclusively show that those assessed at this level after screening are those who ultimately obtain Entry Level 1 or 2 as an assessment outcome.

- Thirty four per cent (1,881 candidates) were assessed as being at Level 1 after screening. Ultimately 29 per cent (1,581 candidates) obtained that outcome from the assessment.

- Fifty seven per cent (3,163 candidates) were assessed as being at Level 2 after the initial screening stage. Ultimately, 57 per cent (3,120 candidates) obtained a Level 2 outcome.

Annex Figure 4.1 suggests that each of the phases and blocks of the assessment is performing as intended, bearing in mind that it is overall proportions rather than individual candidates' outcomes that are being recorded at each stage.

4.4.3 Item performance

Annex Table 4.4 shows item performance in terms of mean score achieved for candidates grouped by the final Level they obtained.[71] By observation, it can be seen that for all items, candidates' performance improves substantially with outcome level, suggesting the items are discriminating and this part of the assessment has good internal reliability. Although statistical significance has not been calculated (it is not generally used with this type of test performance analysis), with the differences observed in mean score by outcome level and the number of respondents particularly above Entry Level 2, it is clear that the differences are likely to be statistically significant.

Moving on to consider the intermediate layer of the assessment, layer 1, the Entry level block is the only block in this layer with more than one entry point. The performance of items in this block is described in Annex Table 4.5 by entry point. It shows that candidates entering from the screening block 1 exit point did less well on all items (except BB62) than those entering from screening block 2 – further evidence of internal reliability, and the effective performance of the screening layer.

Annex Table 4.4 Screening phase item performance by outcome level

Screening Blocks 1 - 3		LITERACY ASSESSMENT OUTCOME									
		Entry Level1 or below		Entry Level 2		Entry Level 3		Level 1		Level 2 or above	
Item code	Item number	Mean	N	Mean	N	Mean	N	Mean	N	Mean	N
RR101	1	0.48	245	0.73	121	0.8	445	0.87	1581	0.94	3120
RR102	2	0.43	245	0.64	121	0.84	445	0.93	1581	0.97	3120
RR103	3	0.18	245	0.28	121	0.51	445	0.74	1581	0.89	3120
RR104	4	0.15	245	0.26	121	0.38	445	0.62	1581	0.81	3120
BB101	5	0.4	93	0.57	75	0.65	387	0.82	1519	0.93	3093
BB102	6	0.68	93	0.89	75	0.93	387	0.97	1519	1	3093
BB103	7	0.48	93	0.53	75	0.67	387	0.79	1519	0.89	3093
BB104	8	0.33	93	0.44	75	0.6	387	0.79	1519	0.91	3093
MY111	9	0.74	58	0.58	59	0.85	356	0.93	1490	0.96	3081
MY112	10	0.62	58	0.68	59	0.84	356	0.94	1490	0.98	3081
MY113	11	0.24	58	0.36	59	0.52	356	0.72	1490	0.88	3081
MY114	12	0.34	58	0.58	59	0.61	356	0.74	1490	0.85	3081
MY115	13	0.69	58	0.78	59	0.87	356	0.97	1490	0.99	3081

Base: SfL2011 All aged 16-65 with 'un-imputed' literacy score excluding results with one or more anomaly (5512)

[71] Note that for items with 1 mark (right/wrong) the mean score corresponds to the facility value, in other words, the relative ease of the question (0 being no correct responses, 1 being 100 per cent correct responses).

Annex Table 4.5 Layer 1 Entry Level Block item performance by entry point

Layer 1 Entry Level Block		Layer 1 Entry Level Block by Entry Point					
		From Screening Block 1		From Screening Block 2		Total	
Item code	Item number	Mean	N	Mean	N	Mean	N
BB21	14	0.61	345	0.78	125	0.65	470
BB22	15	0.45	345	0.58	125	0.48	470
BB23	16	0.64	345	0.76	125	0.67	470
BB3	17	2.65	345	3.13	125	2.77	470
BB41	18	0.38	345	0.5	125	0.41	470
BB42	19	0.66	345	0.8	125	0.7	470
BB43	20	0.32	345	0.38	125	0.33	470
BB51	21	0.64	345	0.7	125	0.66	470
BB52	22	0.54	345	0.61	125	0.56	470
BB53	23	0.61	345	0.65	125	0.62	470
BB62	24	0.4	345	0.36	125	0.39	470
BB63	25	0.78	345	0.88	125	0.81	470
BB61	26	0.29	345	0.34	125	0.3	470

Base: SfL2011 All aged 16-65 with 'un-imputed' literacy score excluding results with one or more anomaly (5512) entering Layer 1 Entry Level Block (470)

Moving to layer 2, Annex Table 4.6 shows the item performance for the layer 2 Entry Level block by entry point. Candidates entering from the layer 1 Entry Level block do less well than those entering from the layer 1 Level 1 block. This indicates good internal reliability, and, taking into account previous tables, suggests that the majority of candidates classified as Entry Level at screening obtain that Level as a final outcome. This is confirmed in Annex Table 4.7 which shows that around 60 per cent of candidates obtain the outcome predicted at screening.

Annex Table 4.6 Layer 2 Entry Level Block item performance by entry point

Layer 2 Entry Level Block		Layer 2 Entry Level block by Entry Point					
		From Layer 1 Entry Level Block		From Layer 1 Level 1 Block		Total	
Item code	Item number	Mean	N	Mean	N	Mean	N
BB6	47	2.14	285	2.58	173	2.31	458
BB7	48	1.88	285	2.64	173	2.17	458
BB8	49	0.89	285	1.43	173	1.1	458
BB91	50	0.06	285	0.18	173	0.1	458
BB92	51	0.23	285	0.4	173	0.29	458
BB93	52	0.31	285	0.49	173	0.37	458

Base: SfL2011 All aged 16-65 with 'un-imputed' literacy score excluding results with one or more anomaly (5512) entering Layer 2 Entry Level Block (458)

Annex Table 4.7 Provisional assessment by final outcome

Screening Result	Assessment Outcome (number of candidates)						Assessment Outcome (proportion of candidates)					Proportion that screening layer classified successfully
	Entry Level 1 or below	Entry Level 2	Entry Level 3	Level 1	Level 2 or above	Total	Entry Level 1 or below %	Entry Level 2 %	Entry Level 3 %	Level 1 %	Level 2 or above %	%
Exit screening at screen 1 (Entry Level 1 or 2 provisional result)	152	46	58	62	27	345	44	13	17	18	8	57
Exit screening at screen 2 (Entry Level 3 or Level 1 provisional result)	35	16	31	29	12	123	28	13	25	24	10	49
Proceed to Layer 1 Level 1 (Level 1 provisional result)	58	59	236	729	799	1881	3	3	13	39	42	39
Proceed to Layer 1 Level 2 (Level 2 provisional result)	-	-	120	761	2282	3163	-	-	4	24	72	72
Total	245	121	445	1581	3120	5512	100	100	100	100	100	60

Base: SfL2011 All aged 16-65 with 'un-imputed' literacy score excluding results with one or more anomaly (5512)

Note. Table cells highlighted in yellow indicate candidates where the assessment outcomes are as predicted by the screening segment outcome.

4.4.4 Item level comparisons for literacy

Annex Table 4.8 shows the average scores achieved by candidates in the 2003 and 2011 surveys for each item[72]. Note that results for eight items (BB104, BB61, BB93, MY5, MY115, MY9, RR104, RR42, RR9) are absent as these are not included in the 2003 dataset due to the data non-capture problem experienced during that survey (data non-capture issues are discussed further in Annex 6). With the exception of the three items highlighted, mean scores are comparable across SfL2003 and SfL2011.

[72] For sections 4.4.2 and 4.4.3 the analysis is based on only those respondents with no anomalous data, but given that the anomalies relate only to data collection rather than routing, the analysis in section 4.4.4 includes analysis of all respondents with valid outcomes.

Annex Table 4.8 Item mean scores for SfL2003 and SfL2011 literacy

Item code	Item number	2003			2011		
		Mean	Maximum	N	Mean	Maximum	N
RR101	1	0.88	1	7421	0.88	1	5798
RR102	2	0.93	1	7421	0.92	1	5798
RR103	3	0.78	1	7420	0.77	1	5798
BB101	5	0.87	1	7010	0.86	1	5404
BB102	6	0.98	1	7053	0.98	1	5434
BB103	7	0.82	1	7050	0.83	1	5436
MY111	9	0.93	1	6852	0.93	1	5285
MY112	10	0.96	1	6883	0.95	1	5305
MY113	11	0.81	1	6883	0.79	1	5305
MY114	12	0.74	1	6883	0.79	1	5305
BB21	14	0.69	1	529	0.65	1	486
BB22	15	0.47	1	537	0.47	1	493
BB23	16	0.75	1	537	0.65	1	495
BB3	17	2.9	4	537	2.74	4	495
BB41	18	0.38	1	537	0.4	1	495
BB42	19	0.8	1	537	0.68	1	495
BB43	20	0.36	1	537	0.32	1	495
BB51	21	0.64	1	537	0.63	1	495
BB52	22	0.58	1	537	0.55	1	495
BB53	23	0.65	1	537	0.61	1	495
BB62	24	0.38	1	537	0.39	1	495
BB63	25	0.84	1	537	0.8	1	495
RR11	27	1.79	2	2639	1.71	2	1969
RR12	28	1.44	2	2711	1.4	2	2017
RR13	29	1.73	2	2711	1.7	2	2017
RR14	30	1.23	2	2711	1.18	2	2017
RR15	31	1.69	2	2711	1.56	2	2017
RR2	32	1.21	2	2711	1.04	2	2017
RR31	33	0.59	1	2711	0.55	1	2017
RR32	34	0.72	1	2710	0.71	1	2017
RR33	35	0.69	1	2710	0.59	1	2017
RR34	36	0.92	1	2711	0.88	1	2017
RR41	37	1.73	2	2711	1.65	2	2017
MY11	39	0.62	1	4062	0.56	1	3195
MY12	40	0.01	1	4173	0.01	1	3290
MY13	41	0.66	1	4173	0.61	1	3290
MY21	42	1.64	2	4172	1.61	2	3290
MY22	43	1.25	2	4172	1.19	2	3290

		2003			2011		
Item code	Item number	Mean	Maximum	N	Mean	Maximum	N
MY3	44	1.85	5	4173	1.5	5	3290
MY4	45	1.82	2	4173	1.77	2	3290
BB6	47	0.85	3	677	2.3	3	460
BB7	48	2.41	4	463	2.13	4	481
BB8	49	0.8	4	463	1.07	4	481
BB91	50	0.14	1	463	0.1	1	481
BB92	51	0.34	1	463	0.28	1	481
RR5	53	0.8	1	2519	0.78	1	2158
RR61	54	0.71	1	2539	0.7	1	2185
RR62	55	0.79	1	2539	0.82	1	2185
RR63	56	0.74	1	2539	0.69	1	2185
RR64	57	0.66	1	2539	0.7	1	2184
RR71	58	0.72	1	2539	0.72	1	2185
RR72	59	0.85	1	2539	0.84	1	2184
RR73	60	0.78	1	2539	0.78	1	2184
RR74	61	0.91	1	2539	0.84	1	2184
RR8	62	5.07	6	2539	4.66	6	2185
MY61	64	1.34	2	4362	1.37	2	3089
MY62	65	1.4	2	4419	1.43	2	3141
MY71	66	1.13	2	4418	1.18	2	3141
MY72	67	1.89	2	4418	1.89	2	3141
MY81	68	2.82	3	4419	2.78	3	3141
MY82	69	2.24	3	4419	2.29	3	3141

Base: SfL2011 All aged 16-65 with item level 'un-imputed' literacy score (5798), SfL2003 All aged 16-65 with item level 'un-imputed' literacy score (7421).

Note: Item response numbers highlighted in yellow are for items which are not comparable to results from SfL2003.

For the three items BB6, BB8, RR8, Annex Table 4.9 shows the item performance information from the SfL2011 dataset and the SfL2003 working dataset.[73]

[73] A working dataset (i.e. an unpublished working file created during the SfL2003 project work) was used rather than the final SfL2003 dataset as this dataset includes item level data resolved to a binary outcome for each item (1 or 0).

Annex Table 4.9 Item mean scores for BB6, BB8 and RR8 in SfL2003 and SfL2011

Item code and assessment location	Item number	SfL2003 working dataset mean score	SfL2011 mean score	Maximum score
BB6 (Layer 2 Entry Level Block) Entry Level 2 Comprehension Drag-and-Drop	47	0.9	2.3	3
BB8 (Layer 2 Entry Level Block) Entry 2 Writing Drag-and-Drop	49	0.8	1.1	4
RR8 (Layer 2 Level 1 Block) Level 2 writing Drag-and-Drop	62	5.1	4.7	6

Base: SfL2011 and SfL2003 unweighted. All aged 16-65 with item outcomes for the items in question. Base sizes shown for each item: BB6: SfL2003 n=677, SfL2011 n=460; BB8: SfL2003 n=463, SfL2011 n=481; RR8: SfL2003 n=2539, SfL2011 n=2185.

The reason for the differences observed is unknown – the main possibilities are considered to be:

- The possibility that the SfL2003 working dataset has data processing errors for the items shown.
- The possibility that these three items functioned differently in 2003 than in 2011, for example the questions or the marking were different (considered unlikely noting other work to demonstrate no software changes).
- Cohort skills have changed between 2003 and 2011.

No further investigation is possible. The impact of adjusting the 2011 item scores to the 2003 levels to control for the higher scores in 2011 on BB6 and BB8 would be to increase the number of Entry level 1 and 2 candidates by a small amount and reduce the number of Entry level 3 candidates (and perhaps even more slightly reduce the number of Level 1 candidates) in the 2011 results. However, such adjustment is not advisable since the differences observed cannot definitively be attributed to an error.

The impact of controlling for lower scores in 2011 on RR8 would probably be to increase the number of Level 1 and Level 2 candidates slightly, and reduce the number of Entry Level 3 candidates in the 2011 results accordingly.

4.4.5 Conclusions

The issues with the data non-capture (missing entire results sets for candidates, as well as missing item data for certain items), the wider issues of designing the survey assessment tools to short timescales in 2002, and the fact that assessment of Skills for Life has moved on since 2002, were all well understood and factored into the decision to re-use the original literacy and numeracy assessments in SfL2011 for reasons of comparability. So, to an extent, the analysis in this section is for the purposes of confirmation of the assessments' performance. Nevertheless the SfL2003 and SfL2011 assessment tools, and the outcomes they produced are directly comparable as this Annex demonstrates, so robust comparisons between the two surveys can be drawn.

The analysis presented illustrates a literacy assessment which appears to be discriminating well between respondents at different skill Levels, and has good internal reliability (noting the issue raised in Annex 2 of the relatively narrow curriculum coverage). Additionally, with the exception of only a handful of items, candidates are getting the intended number of items correct (85 per cent of the 1 mark screening items, 62 per cent of the 1 mark items thereafter, and scoring 70 per cent of the maximum available marks on the items with partial scores available). This meets the design brief set of an adaptive assessment where candidates get most questions correct, in order to boost confidence and encourage completion of the assessment.

4.5 Numeracy assessment

4.5.1 Introduction

In this section we look at a range of metrics for the numeracy assessment. These are:

- An outline analysis of the pathways taken through the adaptive assessment by candidates.

- An analysis of item level performance data for SfL2011 candidates with a comparison of performance in SfL2003.

Note that no data collection or anomalous data issues, such as item-level missing data or data non-capture, were observed in the SfL2011 numeracy assessment data. The average time taken for the numeracy assessment was approximately 15 minutes.

4.5.2 Pathways

The numeracy assessment adaptive algorithm permits a very large number of different routes through the assessment items so a pathways analysis similar to that used for literacy is not practical. Annex Table 4.10 shows the average number of questions attempted by candidates based on grouping the candidates into their assessment outcome levels, along with the standard deviation for these figures to give a sense of the spread around the average.

Annex Table 4.10 Candidate assessment outcome by number of questions of each Level attempted

Assessment Outcome	Number of candidates	Average number of questions attempted at each Level per candidate					Standard Deviation for number of questions attempted at each Level per candidate				
		Entry Level 1	Entry Level 2	Entry Level 3	Level 1	Level 2	Entry Level 1	Entry Level 2	Entry Level 3	Level 1	Level 2
Entry 1	392	8.8	3.7	4.1	1.9	0.5	2.44	1.00	1.15	0.90	0.50
Entry 2	1047	4.6	4.0	6.1	3.2	1.1	1.61	0.93	1.14	0.79	0.70
Entry 3	1483	2.5	2.7	5.9	4.9	3.0	1.04	1.25	1.27	1.40	1.52
Level 1	1646	2.0	1.3	4.4	5.8	5.5	0.15	0.64	1.06	1.08	1.37
Level 2	1230	2.0	1.0	3.2	4.5	8.4	0.00	0.06	0.48	1.23	1.39

Base: SfL2011 All aged 16-65 with 'un-imputed' numeracy score (5798)

Table cells highlighted in yellow indicate question Levels for which the most candidate item attempts were made (grouped by candidates according to assessment outcome Level)

Annex Table 4.10 shows that, with the exception of Entry Level 2, candidates have attempted more questions at the Level of their final result than at any other Level. Noting that in steps 1 and 2 of the assessment most candidates are forced to attempt 5-7 items at a different Level to their outcome (as the adaptive algorithm has not fully started at that point), and subtracting these from the items attempted, Annex Table 4.11 shows an estimation of the average number of 'mis-levelled' items presented.

Annex Table 4.11 Assessment outcome, by number of questions of each Level attempted by candidates

Assessment Outcome	Average number of items presented per candidate at outcome level in steps 3-7	Average number of items presented per candidate at other levels in steps 3-7
Entry 1	5.8	5.2
Entry 2	2.0	9.1
Entry 3	4.9	6.1
Level 1	3.8	7.1
Level 2	7.4	3.6

Base: SfL2011 All aged 16-65 with numeracy score (5798)

As illustrated in Annex Table 4.11, for steps 3 to 7 candidates receive most items at their Level at the extremities of the assessment range (Entry Level 1 and Level 2), but in the intermediate Levels candidates receive more items at Levels other than their target Level. This is likely to reflect the following factors:

- Spiky profiles and the fact that individual candidates perform at different levels in different topics (see Chapter 10).

- An assessment which reacts to each question rather than the literacy assessment which makes fewer adaptive judgements based on combined responses to blocks of questions.

- The lack of clear assessment standards at Entry Levels at the times the assessments were written.

4.5.3 Item level comparisons for numeracy

Annex Table 4.12 shows item facilities for the numeracy assessment in the datasets from SfL2003 and SfL2011.[74] Comparing item facilities from 2003 and 2011, where the larger (>25 per cent) differences occur (items shown in yellow), candidate volumes are very low. Items 33 and 44 (shown in green) show an increased facility in 2011 compared to 2003 (for item 33 a facility of 0.25 in 2011, compared to 0.21 in 2003, and for item 34 a facility of 0.26 in 2011 compared to 0.24 in 2003). Both items cover metric weights (kilogrammes and grammes) perhaps reflecting changes in understanding of these measures as imperial notation becomes increasingly uncommon (although potentially reflecting other changes as well). As a result, no further issues were investigated relating to whether the 2003 and 2011 implementations of the assessment were identical.

[74] Strictly perhaps the term 'facility' should not be used as the candidates attempting each item differ from one item to the next. Appendix Table 4.12 shows the average achieved score for each item for those candidates that attempted it.

Annex Table 4.12 Item mean scores for SfL2003 and SfL2011 numeracy

	2003			2011		
Item	Mean	Maximum	N	Mean	Maximum	N
Q11	0.98	1	7998	0.98	1	5798
Q12	0.99	1	7998	0.98	1	5798
Q13	0.93	1	7998	0.9	1	5798
Q14	0.73	1	7998	0.69	1	5798
Q21	0.39	1	54	0.16	1	63
Q22	0.5	1	54	0.33	1	63
Q23	0.72	1	54	0.44	1	63
Q24	0.64	1	393	0.6	1	393
Q25	0.91	1	7998	0.89	1	5798
Q26	0.79	1	7944	0.76	1	5735
Q27	0.89	1	7944	0.88	1	5735
Q28	0.71	1	7944	0.67	1	5735
Q29	0.67	1	7605	0.65	1	5405
Q31	0.28	1	18	0.17	1	42
Q32	0.35	1	97	0.32	1	120
Q33	0.21	1	449	0.25	1	386
Q34	0.24	1	1785	0.26	1	1462
Q35	0.46	1	4438	0.45	1	3205
Q36	0.54	1	6116	0.56	1	4218
Q37	0.85	1	3093	0.85	1	2167
Q41	0.81	1	368	0.73	1	327
Q42	0.19	1	468	0.2	1	383
Q43	0.91	1	2004	0.93	1	1467
Q44	0.28	1	2601	0.33	1	1956
Q45	0.88	1	4356	0.88	1	3058
Q46	0.38	1	4929	0.4	1	3462
Q47	0.84	1	1270	0.82	1	951
Q51	0.79	1	489	0.62	1	370
Q52	0.94	1	1485	0.89	1	1121
Q53	0.46	1	1993	0.43	1	1447
Q54	0.71	1	2413	0.74	1	1747
Q55	0.66	1	4493	0.66	1	3342
Q56	0.55	1	4100	0.49	1	2938
Q57	0.58	1	1023	0.62	1	645
Q61	0.91	1	1218	0.84	1	991
Q62	0.8	1	1537	0.77	1	1192

Annex Table 4.12 Item mean scores for SfL2003 and SfL2011 numeracy

	2003			2011		
Item	Mean	Maximum	N	Mean	Maximum	N
Q63	0.72	1	1967	0.73	1	1381
Q64	0.44	1	3196	0.43	1	2398
Q65	0.62	1	3839	0.61	1	2856
Q66	0.39	1	3265	0.34	1	2215
Q67	0.97	1	974	0.95	1	575
Q71	0.88	1	834	0.79	1	652
Q72	0.77	1	1124	0.69	1	898
Q73	0.88	1	2597	0.87	1	1976
Q74	0.89	1	4050	0.89	1	2977
Q75	0.71	1	3558	0.74	1	2557
Q76	0.76	1	2824	0.73	1	1927
Q77	0.71	1	1011	0.71	1	618

Base: SfL2011 All aged 16-65 with 'un-imputed' numeracy score (5798), SFL2003 All aged 16-65 with 'un-imputed' numeracy score (7998)

The item facility values suggest that the assessment performing as designed, with candidates getting around two thirds of questions right once through the step 1 screening phase (items Q11 to Q14 where the vast majority of questions are answered correctly).

4.5.4 Conclusions

Despite around five per cent of missing data at assessment level in 2003 (which is discussed in Annex 6) the Skills for Life numeracy assessments in 2003 and 2011 are identical and therefore direct comparisons of the results can be made robustly. The similarity of the SfL2003 and SfL2011 cohort performance at assessment outcome Level is largely repeated at item level - the average facility for each item is typically similar for the two surveys.

Based on this analysis, the assessment appears to be functioning as designed, adapting well to candidate responses and ensuring they can answer correctly a good proportion of the questions presented.

4.6 Investigation of potential issues with the literacy and numeracy assessment integrity (in 2003 and 2011)

Following completion of the SfL2011 fieldwork and initial reporting in 2011, BIS asked the project team to consider the possibility that the version of the 2003 literacy and numeracy assessment tools used in the Skills for Life survey research development and piloting project in 2009 and in SfL2011 could have differed from the version used in SfL2003 in a way that would have affected the assessment results.

Extensive investigations were undertaken in May to June 2011. It has not been possible to find an authenticated copy of the original software as installed on the interviewers' laptops for the survey in June 2002. The software is the property of BIS and copies were held during SfL2003

by BIS, BMRB, Bradford Technology Ltd (BTL), and AlphaPlus. None of these have been able to identify a copy of the version installed on the interviewer laptops during the survey in 2003.

The earliest available version of the software is a CD-Rom created in January 2005 which contains an installable version of the product with file dates mostly before June 2002 but with a small number of files from July 2003. Extensive investigation has led to the conclusion that the versions of software used in 2002 and the work from 2009 to 2011 are identical, other than for the introduction of the security wrapper in the SfL2011 version, which has no impact on the functioning of the assessment. The basis of this conclusion is as follows:

1) No evidence at all has been presented for a change being made at any time to the software following November 2002.
2) Other than the single BTL archive version which is equivalent to the oldest version found, no product versions exist in BTL's archive of software (if procedures were followed at the time then any new versions would have been registered in the archive).
3) No evidence exists within BTL's source control system for software alterations made. This assurance has been provided by BTL who wrote the original product in 2001/02 and subsequently produced the assessment tool security wrapper in 2009. This is compelling evidence that there was 'no change to the literacy and numeracy assessment tools following their use in 2003 Skills for Life survey.'
4) While the source management system only deals with source code files, the vast majority of media resources (the other files which might have been changed post-2002 survey) are dated before the 2002 start of SfL2003, and the handful that aren't have been discounted as having any influence on assessment functioning.
5) With the exception of the discussion about a possible software update in November 2002, no email or file evidence exists of any changes after this date. None of the team working on the project at the time has any memory of changes at all following the release of the assessments for the SfL2003 fieldwork in 2002.

Following the review of the software, as part of the production of the spiky profiles analysis, item performance information from both the SfL2003 and SfL2011 datasets were produced This allowed an additional comparison to be made – comparing the performance of each item in the two surveys – which is presented in Annex Section 4.4.4 (and in Annex Section 4.5.3 for the numeracy assessment). This is useful because any material difference between the assessments used in the two surveys (i.e. affecting comparability between SfL2003 and SfL2011 outcomes) would be identifiable by differences in item level performance.

4.7 ICT assessment

4.7.1 Assessment duration

In addition to the individual results files recording performance on each component of the ICT assessment, a single log file was maintained on each interviewer's machine. This log was used to record the start and stop times for each assessment component for all respondents. The log files were frequently backed up.

Time data was extracted from the logs for a random sample of 300 respondents and processed to yield the duration of each component of the assessment. Annex Table 4.13 gives the averages of these times.

Annex Table 4.13 Average times taken for each component of the ICT assessment

Component	Average time minutes:seconds	Over 10 minutes %	Under 30 seconds %
Multiple Choice Questionnaire	04:53	3	0
Word processing	08:13	32	5
Email	05:21	9	7
Spreadsheet	05:08	11	15
Total of average times	23:36		

Base: SfL2011 Random sample of 300 completed ICT assessments

The total of average times (23 minutes, 36 seconds) is fairly close to the 25 minute design time for the assessment.

The mark obtained by those respondents who spent less than 30 seconds on a component was mostly zero, or at best a very small score. These are probably respondents who attempted only one or two tasks, or none, and 'clicked-through' the majority of the assessment component tasks although this could not be determined from the data (with times for individual items not recorded and 'not attempted' recorded with the same result as 'no score').

The average time spent on the word processing tasks was approximately 8 minutes, significantly longer than the 5 minutes spent on each of the other components. This possibly reflects the greater amount of keyboard activity required to complete the word processing tasks. Also, all file handling skills (open, save, save-as and insert) were assessed in the word processing tasks.

4.7.2 Item and task statistics

The following analysis is based on the responses from the 2018 respondents who completed all four components of the assessment.

Multiple choice assessment

Annex Table 4.14 shows that, for nearly every item in the multiple choice questionnaire (MCQ), the proportion of respondents answering the item correctly increased with the Level attained.

Item 12 is the only item with a noticeably lower (but not low) facility than the other items at Level 2. This possibly reflects a lack of awareness and need to use wildcard searches. This item also had the highest number, bar one, of 'don't know' responses. The incorrect response that was most frequently given suggests that those respondents believed that all word processors use the .doc file format.

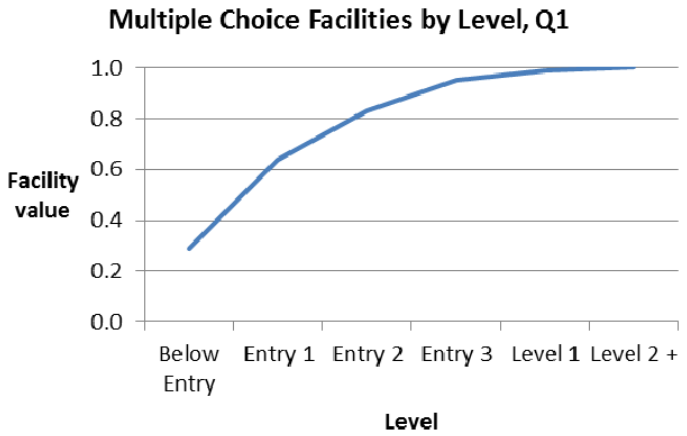
Annex Table 4.14 Multiple choice component item facilities

Question	MULTIPLE CHOICE LEVELS					
	Below Entry	Entry 1	Entry 2	Entry 3	Level 1	Level 2 or above
	%	%	%	%	%	%
1	0.29	0.64	0.83	0.95	0.99	1.00
2	0.07	0.27	0.22	0.69	0.87	0.97
3	0.00	0.55	0.43	0.77	0.96	1.00
4	0.07	0.09	0.39	0.39	0.57	0.89
5	0.14	0.18	0.87	0.92	0.99	1.00
6	0.00	0.09	0.13	0.42	0.76	0.97
7	0.00	0.09	0.13	0.49	0.86	0.99
8	0.07	0.00	0.39	0.78	0.98	1.00
9	0.00	0.27	0.17	0.55	0.87	0.99
10	0.00	0.09	0.17	0.24	0.63	0.92
11	0.00	0.45	0.48	0.49	0.50	0.82
12	0.00	0.00	0.13	0.17	0.35	0.69
13	0.07	0.00	0.17	0.41	0.68	0.91
14	0.14	0.27	0.17	0.44	0.75	0.98
15	0.00	0.00	0.13	0.19	0.48	0.85
Unweighted	14	11	23	263	580	1127

Base: SfL2011 All aged 16-65 with 'un-imputed' scores for all four elements of the ICT assessment (2018)

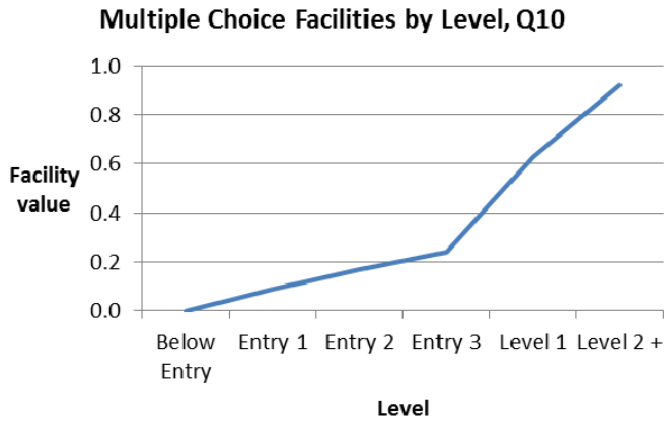
As an example, the response to Q1 (an Entry Level 1 question about SMS messages on mobile phones) of the MCQ shows a steep initial increase in facility with attainment. Almost all respondents answered this 'easy' question correctly.

Annex Figure 4.2 MCQ Question 1 facility by assessment outcome level



The response to Q10 (a Level 1 question about techniques for ensuring document accuracy) shows that this question discriminated effectively at the target Level, with 23 per cent at Entry Level 3 answering this 'harder' question correctly compared to 63 per cent at Level 1.

Annex Figure 4.3 MCQ Question 10 facility by assessment outcome level



Word processing assessment

For every task in the word processing assessment, the proportion of respondents completing the task correctly increased with the Level attained. This is shown in Annex Table 4.15. Tasks that Level 2 respondents found to be more difficult (5.3.2, 5.3.3, 6.3.2 and 6.4) were associated with alignment and text wrapping of inserted objects (image, text box) and entering footer text.

Annex Table 4.15 Word processing component item facilities

Task	Correct task outcome	WORD PROCESSING LEVELS					
		Below Entry	Entry 1	Entry 2	Entry 3	Level 1	Level 2 or above
		%	%	%	%	%	%
1.1	Document text correct	.46	1.00	1.00	1.00	1.00	1.00
1.2	Correct key pressed	.00	.76	.84	.86	.88	.94
2.1	Document text correct	.00	.41	.79	.88	.94	.98
2.2	Undo correctly applied	.00	.02	.49	.83	.92	.98
3.1	Document text correct	.00	.16	.73	.90	.92	.94
4.1	Correct document file <Looking Glass House.doc> opened	.00	.04	.64	.96	1.00	1.00
4.2	Document text correct	.00	.00	.04	.36	.47	.70
4.3	Correct text found	.00	.00	.09	.46	.69	.82
4.4	Correct document file <Looking Glass House.doc> saved	.00	.00	.25	.86	.96	.99
5.1	Spell checker used	.00	.07	.50	.86	.91	.95
5.2.1	Font style bold set	.00	.00	.02	.28	.58	.92
5.2.2	Font style italic set	.00	.00	.01	.19	.45	.84
5.2.3	Font name Verdana correctly set	.00	.00	.02	.33	.65	.95
5.2.4	Font size 12 correctly set	.00	.00	.01	.21	.60	.90
5.3.1	Correct image <Kitchen Services.jpg> inserted	.00	.00	.10	.73	.97	.99
5.3.2	Right alignment set	.00	.00	.00	.02	.12	.46
5.3.3	Square text wrapping set	.00	.00	.00	.05	.17	.59
5.4	Image size changed	.00	.00	.04	.48	.82	.95
6.1	Correct table inserted	.00	.00	.07	.45	.83	.96
6.2	All table cell text correct	.00	.00	.02	.37	.79	.96
6.3.1	Textbox inserted	.00	.00	.01	.24	.76	.99
6.3.2	Square text wrapping set	.00	.00	.00	.01	.09	.52
6.3.3	Textbox text correct	.00	.00	.00	.04	.29	.73
6.4	Footer text correct	.00	.00	.00	.02	.17	.57
6.5	Document file correctly saved as <Leaflet.doc>	.00	.00	.01	.18	.62	.94
Unweighted		167	255	400	367	329	500

Base: SfL2011 All aged 16-65 with 'un-imputed' scores for all four elements of the ICT assessment (2018)

Email assessment

For most tasks in the email assessment, the proportion of respondents completing the task correctly increased with the Level attained. This is shown in Annex Table 4.16. The exception is

the 'send new message' task (3.1) where Entry 2 Level respondents appear to have had less difficulty with the task than the Entry Level 3 respondents. However, there were only 18 respondents (0.9 per cent) from the base total of 2018 in the Entry Level 2 group compared to 211 (10.3 per cent) in the Entry Level 3 group, so these particular results may not be meaningful.

Annex Table 4.16 Email component item facilities

Task	Correct task outcome	EMAIL LEVELS				
		Below Entry Level 2 %	Entry Level 2 %	Entry Level 3 %	Level 1 %	Level 2 or above %
1.1	Inbox folder correctly opened	.57	.78	.99	1.00	1.00
1.2	Correct message selected	.47	.50	.98	.99	.99
1.3	Correct message deleted	.12	.11	.40	.58	.76
2.1.1	Reply message sent	.00	.61	.96	.97	1.00
2.1.2	Correct message replied to	.00	.50	.93	.96	.98
2.1.3	Recipient name(s) correct	.00	.50	.93	.96	.98
2.1.4	Message subject correct	.00	.44	.93	.96	.98
2.1.5	Reply message text correct	.00	.44	.93	.96	.98
2.2.1	Message forwarded	.00	.06	.10	.79	.96
2.2.2	Correct message forwarded	.00	.00	.09	.79	.95
2.2.3	Recipient name(s) correct	.00	.06	.04	.71	.91
2.2.4	Message subject correct	.00	.00	.09	.78	.95
3.1.1	New message sent	.00	.33	.11	.25	1.00
3.1.2	Recipient name(s) correct	.00	.22	.08	.23	.96
3.1.3	Message subject correct	.00	.22	.06	.16	.89
3.1.4	Message body correct	.00	.00	.00	.02	.43
3.1.5	Correct file attached to email	.00	.06	.06	.19	.95
3.2.1	New contact correctly added to address book	.00	.00	.00	.03	.63
3.2.2	Contact name correct	.00	.06	.03	.11	.85
3.2.3	Company name correct	.00	.00	.00	.03	.66
3.2.4	Email address correct	.00	.06	.03	.10	.80
3.3.1	Messages sorted	.00	.00	.03	.08	.87
3.3.2	Messages sorted on correct field	.00	.00	.02	.06	.83
Unweighted		518	18	209	173	1100

Base: SfL2011 All aged 16-65 with 'un-imputed' scores for all four elements of the ICT assessment (2018)

Task 3.1.4 (enter specified text into the message body) has a facility value of 0.43 at Level 2. This is likely to reflect the requirement for the text entered to exactly match that specified. Any error in the entered text forfeited the mark.

Spreadsheet assessment

Annex Table 4.17 shows that for every task in the spreadsheet assessment, the proportion of respondents completing the task correctly increased with the Level attained. Tasks that were judged to be more difficult by Level 2 respondents were 4.3.2, 5.2 and 5.3.3.

Annex Table 4.17 Spreadsheet component item facilities

Task	Correct task outcome	SPREADSHEET LEVELS			
		Below Entry Level 3	Entry Level 3	Level 1	Level 2 or above
		%	%	%	%
1.1	Correct value (45.6) entered	.37	.95	.98	.98
2.1	Correct date (09/05/2010) entered	.28	.96	.98	.99
2.2.1	Correct cell range (B8:B11) selected	.00	.39	.77	.93
2.2.2	Bold font style set	.00	.39	.77	.93
2.3.1	Autosum used on correct cell	.02	.85	.93	1.00
2.3.2	Correct formula (=SUM(E8:E12)) entered	.00	.81	.90	.99
3.1.1	Correct cell range (C8:C11) selected	.00	.03	.54	.95
3.1.2	Number cell type set	.00	.03	.51	.93
3.1.3	Correct decimal places (0) set	.00	.02	.50	.91
3.2	Correct formula (=C11*D11) entered	.00	.11	.69	.85
4.1	Correct formula (=B12-B14) entered	.00	.06	.50	.80
4.2	Range correctly sorted	.00	.01	.11	.69
4.3.1	Chart created	.00	.01	.45	.99
4.3.2	Chart source data range (A4:B10) correct	.00	.00	.05	.29
4.3.3	Data correctly plotted by columns	.00	.01	.45	.98
4.3.4	Chart type (Pie) correct	.00	.01	.43	.98
4.3.5	Chart title (Park Visitors) correct	.00	.00	.23	.82
4.3.6	Chart data labels correctly shown	.00	.00	.27	.85
4.3.7	Chart legend shown in correct position	.00	.00	.44	.99
5.1.1	Row height changed	.00	.31	.84	.97
5.1.2	Row height increased	.00	.31	.84	.98
5.2	Correct formula (=$B$2*B8) entered	.00	.00	.02	.23
5.3.1	Replicate action completed	.00	.00	.22	.82
5.3.2	Source range (C8) correct	.00	.00	.12	.62
5.3.3	Destination range (C9:C19) correct	.00	.00	.03	.33
Unweighted		730	612	333	343

Base: SfL2011 All aged 16-65 with 'un-imputed' scores for all four elements of the ICT assessment (2018)

Task 4.3.2: the low success rate for selecting the correct data range for the chart is possibly due to including data labels in the selection, as this did not affect the display of the chart in the chart Wizard.

Task 5.2: the low success rate for entering the formula =$B$2*B8 is probably due to unfamiliarity with absolute cell references. Some respondents entered a formula of the form =B8*1.41 per cent, using the value rather than an absolute reference to the cell containing the value.

Task 5.3.3: the low success rate for replicating a formula to the correct destination range may be due to respondents completing the task by replicating multiple times to a single cell, either using drag replication or copy-&-paste, rather than in a single action. The task mark was awarded for replication of a cell formula to a specified range, completed in one step using either the mouse to drag replicate or by copy-&-paste.

4.7.3 Comparison of word processing and spreadsheet skill levels

The data in Annex Table 4.18 is an extract from the SfL2011 ICT Levels results. It compares respondent outcomes for word processing and spreadsheet skills – the two areas of weakest ICT skills and knowledge. A direct comparison of skill Levels from Entry Level 3 to Level 2 and above appears to show that spreadsheet skills are at a higher standard in the population than word processing skills. This is counterintuitive as greater skill standards might reasonably be expected for word processing.

Annex Table 4.18 Comparison of outcome levels for word processing and spreadsheet components

	Word processing	Spreadsheet
	%	%
Entry Level 3	18.2	30.2
Level 1	16.5	16.5
Level 2 and above	24.5	16.9
Entry Level 3 and above	59.2	63.6
Unweighted	2253	2228

Base: SfL2011 All aged 16-65 with word processing and multiple choice scores

However, there are mitigating factors that need to be taken into account. One consideration is that all file handling (open, save, save-as, insert and attachments) was assessed in the word processing and email components. Any loss of marks for these actions would reduce the overall attainment for these components only, but these skills are, of course, common to spreadsheet works as well.

In the Skills for Life standards, spreadsheet skills are not defined below Entry Level 3. A minimum of three marks was required to obtain Entry Level 3 in the spreadsheet assessment and these could be obtained using basic skills that are common to word processing, i.e. enter text, amend text and format text (tasks 1.1, 2.1 and 2.2.2). The successful accomplishment of these three tasks did require selection of specified single cells; a specific spreadsheet skill, but not a difficult thing to deduce from the spreadsheet grid. It may be that respondents willing to try to apply basic word processing skills in an unfamiliar context could, without much difficulty, have obtained the Entry Level 3.

Omitting the Entry Level 3 respondents gives the results shown in Annex Table 4.19.

Annex Table 4.19 Level 1 and Level 2 outcomes for spreadsheet and word processing components

	Word processing	Spreadsheet
	%	%
Level 1	16.5	16.5
Level 2 and above	24.5	16.9
Level 1 and above	41.0	33.4
Unweighted	2253	2228

Base: SfL2011 All aged 16-65 with word processing and spreadsheet scores

Even omitting the Entry Level 3 results, the level of spreadsheet skills in the population appears to be higher than might be expected.

4.7.4 ICT assessment conclusions

The average time taken by candidates (23 minutes, 36 seconds) is within the required specification of test duration (less than 25 minutes), with candidates spending longest on the word processing task (perhaps reflecting the keyboard activity involved and the assessment of file handling which is embedded in this assessment topic.

For each skill area, individual ICT tasks discriminate well in terms of topic outcomes, suggesting good internal reliability. This is also the case for the multiple choice questions. No comparisons can be drawn between the SfL2011 and SfL2003 samples as the ICT assessment used in 2011 was very different in terms of content and assessment approach to the 2003 assessment.

4.8 Overall conclusions

This Annex provides a summary of the assessment performance analysis work undertaken during SfL2011 for each of the literacy, numeracy and ICT survey assessment instruments. The literacy and numeracy assessments discriminate well between respondents and appear to have good internal reliability. Results at item level show good comparability with results from 2003 further suggesting that the SfL2003 and SfL2011 literacy and numeracy results can be compared with confidence.

The ICT assessment discriminates well in terms of topic outcomes, suggesting good internal reliability. However, no comparisons can be drawn between the SfL2011 and SfL2003 results as different assessments were used.

Annex 5 - The use of correlation coefficients in the 2011 Skills for Life survey

5.1 Introduction

In producing correlation coefficients for the Skills for Life survey, two questions needed to be considered:

- Should the correlation coefficients be based on unweighted data (typical of the research literature) or on weighted data?

- Should the classic Pearson correlation coefficient be used - which assumes the data are parametric - or the more appropriate but less well known Spearman correlation coefficient which is used for non-parametric data?

The initial preference was to base correlation coefficients on the Spearman non-parametric method but on unweighted data as this fits with reader expectations. However, the report uses weighted data that includes real and imputed results so it is important to show what difference it would make if these conditions were included.

This annex summarises the results of this analysis.

5.2 Unweighted or weighted data?

Generally speaking unweighted and weighted correlations are very similar so the unweighted versions tend to be used in the literature (because of smaller sampling errors).

That is the case here. There is no difference at all between the weighted and unweighted literacy/numeracy coefficient and an average difference of -0.01 between the weighted and unweighted between-skill ICT coefficients (ranging from -0.03 to +0.00).

Conclusion: The unweighted correlation coefficients can be used.

5.3 Pearson or Spearman coefficients?

The Pearson correlation coefficient is one of the most widely cited statistics but it makes parametric assumptions of the data that are not appropriate in this case. With ‘parametric assumptions’ it is presumed that the data are normally distributed and that the interval between ‘scores’ have the same meaning. Neither is true of the Skills for Life data. However, the Pearson coefficient is regarded as robust to violations of these assumptions when the sample size is large (e.g. n>200).

The Spearman correlation coefficient converts the data into ranks, losing some information in the process but dropping the parametric assumptions in the process. The question is whether it drops so much information as to make the coefficient incompatible with the well-known Pearson coefficient.

On average, the Spearman correlations are very slightly higher than the Pearson correlations (+0.02). Cell-level differences range from -0.01 (literacy / numeracy; SR = +0.53, R = +0.54) to +0.10 (ICT multiple choice/spreadsheet, SR = +0.60, R = +0.50).

Conclusion: Using the Spearman coefficients produces numbers that are meaningful (i.e. same magnitude) for a reader used to Pearson coefficients but are more appropriate for the real distribution of the data. Although the Pearson coefficient is regarded as robust, it is hard to prove in a specific case.

For the analysis provided in this report, the Spearman correlation coefficient using un-weighted data has been employed.

Annex 6 - Quantification of the 'data-non capture' issue affecting the 2003 Skills for Life Survey

6.1 Introduction

In SfL2003 there was an issue in which the data for some entire assessments were not captured (i.e. the responses were not recorded). The source of this bug remains unknown but has not affected SfL2011. This means that, although the weighting and imputation strategy is consistent between the two surveys, there is the potential for inconsistency due to the presence of this bug in SfL2003 and absence of it in SfL2011.

This annex attempts to quantify this inconsistency so that a judgment can be made about the comparability of the two surveys.

6.2 Scale of the problem

The total number of missing literacy assessments in 2003 was 653 (7.5 per cent of the total number of assessments) and the total number of missing numeracy assessments was 445 (5.1 per cent). The total number of cases missing both assessments was 197 (2.3 per cent), with 901 cases (10.3 per cent) missing one assessment. Clearly the likelihood of missing the second assessment was much higher if the first assessment was missing but far from automatic. The order of the two assessments was randomised but the order has not been retained in the dataset. Consequently, it is not known whether the identity of the first assessment was an influential factor.

6.3 Analysis

The first analysis is to find out whether the problem was clustered; i.e. affecting some interviewers/laptops more than others. Unfortunately, an interviewer identity (ID) variable is not included in the SfL2003 dataset. Instead there is the Primary Sample Unit (PSU) ID. Most interviewers working on this project will have worked on between 1 and 3 PSUs and the majority of interviews in any one PSU will have been carried out by a single interviewer. Consequently, the PSU ID is a reasonable proxy for an interviewer/laptop effect.

The non-capture problem is clustered. The probability of 0, 1, 2, 3, 4, 5, 6 or 7+ missing assessments per PSU was calculated, using as parameters the overall likelihood of non-capture (7.5 per cent for literacy, 5.1 per cent for numeracy) and the number of interviews in the PSU. From this it is possible to calculate an expected distribution across the 695 PSUs covered in the survey and compare it with the actual distribution (Annex Table 6.1). A Chi-square test is unnecessary to prove that these distributions differ from each other. In particular, there is a

larger number of badly affected assignments than expected and a correspondingly larger number of unaffected assignments too.

Annex Table 6.1 Expected number of missing assessments per PSU compared to actual number of missing assessments per PSU

	LITERACY		NUMERACY	
Number of missing assessments	Expected number of PSUs	Actual number of PSUs	Expected number of PSUs[75]	Actual number of PSUs
0	274	372	367	459
1	251	177	231	146
2	119	72	75	44
3	38	33	17	23
4	9	20	3	7
5	2	6	0	9
6	0	6	0	0
7+	2	9	1	7

It was also observed that the smaller the number of interviews in a PSU the greater the non-capture rate. The correlation between these numbers is fairly weak but statistically significant: .10 (literacy) and .11 (numeracy). This raises the possibility that data non-capture was more common among interviewers who achieved lower than average response rates, although this is hard to prove without an interviewer ID variable.

The second analysis was to see whether the likelihood of data non-capture could be modelled using variables that are expected to be correlated with Literacy and Numeracy Level. If so, the data non-capture problem could induce a systematic bias to the estimates. This is made more likely by the clustered nature of the problem. Some population sub-groups are themselves clustered. Any overlap between their clusters and the 'problem' clusters will mean these groups are under-represented in the 'completed assessments' sample.

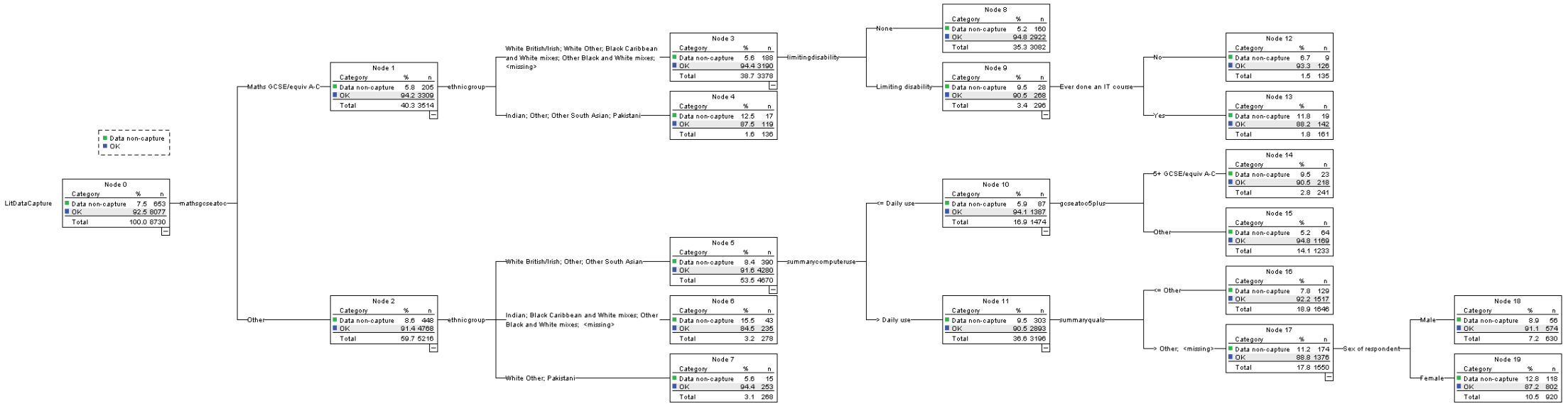
The CHAID method (a Chi-squared Automatic Interaction Detector method) was employed to identify groups that differ in terms of their non-capture rate.[76] The weaker the model, the more 'random' the non-capture effect appears to be. The 'fit' of these literacy and numeracy data non-capture models was assessed by calculating the logistic regression 'variance explanation' score (the Nagelkerke 'pseudo' R^2) with terminal CHAID node as a single predictor variable and a binary dependent variable recording whether assessment data was missing or not.

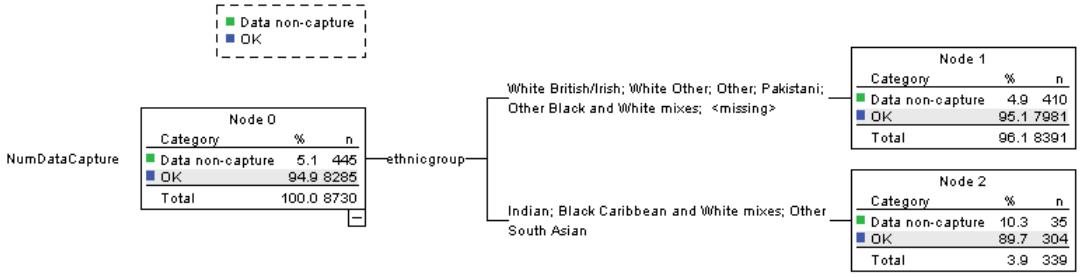
[75] Sums to 694 due to rounding.

[76] The variables in the model were chosen from the pool of strong predictors of literacy and/or numeracy (see Annex 7 for details).

For both literacy and numeracy the model fit was weak although the potential for systematic bias is clearly stronger with literacy than numeracy (NR^2 = .028 for literacy and .005 for numeracy). The two CHAID trees are shown in Annex Figure 6.1 (on the next page):

Annex Figure 6.1 Literacy and numeracy data-non capture CHAID trees





One of the outputs of the CHAID method is to produce a probability of data non-capture for all cases in the dataset. The probability of literacy assessment non-capture was moderately (and negatively) correlated with Literacy Level (non-parametric R = -.34) but the probability of numeracy assessment non-capture was only weakly correlated with Numeracy Level (NPR = -.10).

Combining the weak models for predicting non-capture with these low to moderate correlations with assessment performance, the non-capture problem should have little to no impact on the reported distribution of skill Levels, especially for numeracy. To illustrate this, new weights have been computed that additionally compensate for varying probabilities of data non-capture. The adjusted distribution of skill Levels is shown below (Annex Table 6.2).

Annex Table 6.2 SfL2003 Literacy and Numeracy Levels – reported distributions and adjusted distributions

	LITERACY		NUMERACY	
Level	Reported	New weights	Reported	New weights
	%	%	%	%
Entry Level 1 or below	3.4	3.5	5.5	5.5
Entry Level 2	2.0	2.0	15.9	15.9
Entry Level 3	10.8	11.1	25.5	25.5
Level 1	39.5	39.5	27.6	27.6
Level 2	44.2	43.8	25.5	25.4
Literacy – Entry Level 3 or below / Numeracy – Entry Level 2 or below	16.2	16.7	21.4	21.4

Note: The overall literacy and numeracy distributions are reported in Tables 4.1 and 4.4 in Chapter 4 of the main report

Clearly, the weights make no difference to the numeracy skills distribution but have the effect of increasing the proportion with literacy EL3 or below from 16.2 per cent to 16.7 per cent which, with rounding, would mean a reported 17 per cent rather than the reported 16 per cent. If these revised figures were to be treated as the official figures, a statistically significant reduction in the proportion with literacy EL3 or below would be observed between SfL2003 and SfL2011.

6.4 Conclusion

It was concluded that the non-capture problem affecting SfL2003 - while not absolutely trivial - does not seriously distort comparisons between the two surveys.

Annex 7- Regression model coefficients

7.1 Introduction to the tables

Chapter 6 in the main report, sought to explore the relationship between skill Levels and personal characteristics, and examined the personal characteristics associated with 'weak' skills using regression analysis. This annex presents the regression model coefficients.

Each table below (Annex Tables 7.1 to 7.6) shows the regression model odds ratios, together with an estimated margin of error for each ratio, taking the sample design into account.

Odds are a way of expressing the probability of having weak skills:

Odds = probability of having weak skills / probability of not having weak skills

Odds range from 0 to infinity but odds outside of the range 1/99 to 99 are rare since this range covers probability values between 1 per cent and 99 per cent.

Odds can be converted into probabilities:

Probability of having weak skills = odds of having weak skills / (odds + 1)

The 'base odds' quoted at the bottom of each table shows the odds of weak skills for individuals with characteristics set at the reference category for each categorical variable in the model and at the mean for each metric variable in the model. For example, in table 1 the base odds (0.114) refer to someone white British/Irish, aged 35-44, without a learning difficulty and neither of whose parents stayed in education beyond age 16. This person has a 10.2 per cent probability of having weak literacy skills.

The odds ratios are multiplicative factors, shifting the odds up or down. For example, in Annex Table 1, the odds of weak literacy skills are reduced if at least one parent stayed in education beyond the age of 16. If we change this one characteristic, the odds of weak literacy skills changes from 0.114 to 0.039. Instead of a 10.2 per cent probability of having weak literacy skills, this person will have a 3.7 per cent probability of having weak literacy skills, a considerable reduction.

To obtain the full odds for any individual, simply take the base odds and multiply by the relevant odds ratio for each variable.

The one exception to this is the 'centred base likelihood of weak skills' variable which is included in each final model and is a summary of the influence of fixed characteristics with a mean of zero. For this variable, multiply the unsigned value by the quoted odds ratio and add 1. However, for negative values, divide this score into 1. For example, in Annex Table 7.2, the unit odds ratio is 116.606. If an individual's base probability of weak literacy skills is 2 per cent

above the mean, then the correct odds ratio is (2 per cent*116.606)+1 = 3.33. If an individual's base probability of weak literacy skills is 2 per cent below the mean, then the odds ratio is 1/((2 per cent*116.606)+1) = 0.30.

Annex Table 7.1 Literacy: fixed characteristics (reference characteristics underlined and italicised)

	Odds ratio	95% C.I. for Odds ratio	
		Lower	Upper
35-44	1.000		
16-19	1.221	.784	1.903
20-24	.984	.646	1.500
25-34	.829	.620	1.108
45-54	1.301	.984	1.718
55-65	**1.464**	1.127	1.901
Neither parent stayed in education beyond 16	1.000		
One or more parents stayed beyond 16	**.341**	.250	.464
No learning difficulty	1.000		
Yes, learning difficulty	**4.511**	3.258	6.244
White British/Irish	1.000		
White Other EFL	1.135	.452	2.850
White Other ESOL	**9.693**	5.950	15.791
Indian EFL	**3.087**	1.493	6.384
Indian ESOL	**8.272**	4.730	14.466
Pakistani EFL	**2.872**	1.130	7.299
Pakistani ESOL	**22.185**	8.071	60.978
Other South Asian (mostly ESOL)	**5.561**	3.029	10.211
Black Caribbean and mixed BC/White	1.740	.881	3.439
Other Black and mixed Black/White EFL	**6.968**	3.658	13.276
Other Black and White mixes ESOL	**10.793**	5.773	20.179
Other EFL	2.025	.744	5.513
Other ESOL	**10.389**	5.679	19.005
Base odds	.114		

Note. Figures in bold are significantly different from the base category at the 95% level.

Annex Table 7.2 Literacy: fixed and acquired characteristics (reference characteristics underlined and italicised)

	Odds ratio	95% C.I. for Odds ratio	
		Lower	Upper
Centred base likelihood of weak literacy skills	116.606	51.799	262.496
Highest qualification: Level 3	1.000		
Highest qualification: Degree	1.011	.670	1.525
Highest qualification: Other HE	1.101	.706	1.718
Highest qualification: Level 2	1.327	.900	1.959
Highest qualification: Level 1	**1.694**	1.181	2.429
Highest qualification: Other unclassified	**2.488**	1.636	3.785
Highest qualification: None	**2.489**	1.677	3.695
No English GCSE/equivalent A-C*	1.000		
English GCSE/equivalent A*-C	**.474**	.367	.614
Daily computer use	1.000		
Other computer use	**1.778**	1.402	2.254
Never used computer	**2.528**	1.791	3.569
Never been on ICT course	1.000		
Been on ICT course	**.687**	.547	.862
Intermediate occupations	1.000		
Higher managerial and professional occupations	.862	.483	1.536
Lower managerial and professional occupations	.987	.615	1.586
Small employers and own account workers	.908	.541	1.521
Lower supervisory and technical occupations	1.416	.871	2.304
Semi-routine occupations	1.457	.953	2.227
Routine occupations	**2.125**	1.360	3.321
Never worked/ long term unemployed	**2.225**	1.076	4.600
Full-time students	1.235	.596	2.560
Industry: Human health/social work	1.000		
Industry: Other/unclassified/not applicable	**1.699**	1.046	2.759
Industry: Agriculture/forestry/fishing	.809	.322	2.034
Industry: Manufacturing	1.023	.689	1.519
Industry: Construction	1.311	.856	2.009
Industry: Wholesale and retail trade	1.041	.735	1.474

Annex Table 7.2 Literacy: fixed and acquired characteristics (reference characteristics underlined and italicised)			
Industry: Transport/storage	.684	.390	1.198
Industry: Accommodation/food service	1.287	.857	1.934
Industry: Information/communication	.589	.208	1.669
Industry: Finance/insurance	1.270	.617	2.615
Industry: Professional/scientific/technical	.942	.476	1.863
Industry: Admin/support services	1.179	.733	1.897
Industry: Public sector admin and defence	**.401**	.212	.760
Industry: Education	**.356**	.186	.683
Industry: Arts, entertainment, recreation	.583	.244	1.394
Industry: other services	1.087	.545	2.168
Base odds	.096		

Note. Figures in bold are significantly different from the base category at the 95% level

Annex Table 7.3 Numeracy: fixed characteristics (reference characteristics underlined and italicised)

	Odds ratio	95% C.I. for Odds ratio	
		Lower	Upper
35-44	1.000		
16-19	**1.559**	1.142	2.127
20-24	**1.519**	1.116	2.067
25-34	.991	.790	1.243
45-54	1.177	.955	1.451
55-65	**1.403**	1.134	1.737
Male	1.000		
Female	**1.575**	1.356	1.828
Neither parent stayed in education beyond 16	1.000		
One or more parents stayed beyond 16	**.406**	.331	.498
No learning difficulty	1.000		
Yes, learning difficulty	**4.306**	3.239	5.725
White British/Irish	1.000		
White Other EFL	.582	.281	1.208
White Other ESOL	**2.495**	1.480	4.206
Indian EFL	1.194	.588	2.424
Indian ESOL	**3.326**	1.707	6.479
Pakistani EFL	**2.507**	1.161	5.416
Pakistani ESOL	**8.237**	2.799	24.245
Other South Asian (mostly ESOL)	**2.896**	1.577	5.319
Black Caribbean and mixed BC/White	**2.968**	1.662	5.301
Other Black and mixed Black/White EFL	**5.173**	2.394	11.180
Other Black and White mixes ESOL	**5.631**	3.206	9.892
Other EFL	1.570	.772	3.194
Other ESOL	**2.240**	1.057	4.749
Base odds	.186		

Note. Figures in bold are significantly different from the base category at the 95% level

Annex Table 7.4 Numeracy: fixed and acquired characteristics (reference characteristics underlined and italicised)

	Odds ratio	95% C.I. for Odds ratio	
		Lower	Upper
Centred base likelihood of weak numeracy skills	41.054	19.251	87.553
Highest qualification: Level 3	1.000		
Highest qualification: Degree	**.576**	.416	.796
Highest qualification: Other HE	.971	.716	1.317
Highest qualification: Level 2	**1.464**	1.130	1.898
Highest qualification: Level 1	**1.556**	1.230	1.968
Highest qualification: Other unclassified	**1.459**	1.042	2.043
Highest qualification: None	**2.062**	1.550	2.743
No Maths GCSE/equivalent A-C*	1.000		
English GCSE/equivalent A*-C	**.436**	.359	.530
Daily computer use	1.000		
Other computer use	**1.603**	1.330	1.933
Never used computer	**2.404**	1.772	3.260
Intermediate occupations	1.000		
Higher managerial and professional occupations	**.598**	.370	.965
Lower managerial and professional occupations	.969	.703	1.337
Small employers and own account workers	1.024	.702	1.495
Lower supervisory and technical occupations	**1.464**	1.018	2.105
Semi-routine occupations	1.245	.904	1.713
Routine occupations	**1.640**	1.165	2.308
Never worked/ long term unemployed	1.565	.806	3.040
Full-time students	1.439	.869	2.384
Industry: Human health/social work	1.000		
Industry: Other/unclassified/not applicable	.958	.650	1.411
Industry: Agriculture/forestry/fishing	.681	.326	1.423
Industry: Manufacturing	**.682**	.494	.942
Industry: Construction	.708	.490	1.023
Industry: Wholesale and retail trade	.929	.693	1.244
Industry: Transport/storage	.680	.435	1.061

Annex Table 7.4 Numeracy: fixed and acquired characteristics (reference characteristics underlined and italicised)			
Industry: Accommodation/food service	1.011	.707	1.447
Industry: Information/communication	.660	.357	1.220
Industry: Finance/insurance	**.288**	.135	.614
Industry: Professional/scientific/technical	.775	.453	1.326
Industry: Admin/support services	1.071	.760	1.509
Industry: Public sector admin and defence	**.540**	.364	.801
Industry: Education	**.527**	.350	.795
Industry: Arts, entertainment, recreation	.751	.462	1.222
Industry: other services	1.202	.726	1.991
Base odds	.295		

Note. Figures in bold are significantly different from the base category at the 95% level

Annex Table 7.5 ICT: fixed characteristics (reference characteristics underlined and italicised)			
	Odds ratio	95% C.I. for Odds ratio	
		Lower	Upper
35-44	1.000		
16-19	**.349**	.164	.743
20-24	**.420**	.237	.743
25-34	**.447**	.293	.682
45-54	1.400	.971	2.018
55-65	2.611	1.851	3.682
Neither parent stayed in education beyond 16	1.000		
One or more parents stayed beyond 16	**.386**	.266	.559
No learning difficulty	1.000		
Yes, learning difficulty	**2.797**	1.722	4.544
English is first language (EFL)	1.000		
English is not first language (ESOL)	**2.674**	1.577	4.535
Base odds	.361		

Note. Figures in bold are significantly different from the base category at the 95% level

Annex Table 7.6 ICT: fixed and acquired characteristics (reference characteristics underlined and italicised)

	Odds ratio	95% C.I. for Odds ratio	
		Lower	Upper
Centred base likelihood of weak ICT skills	38.230	12.704	115.050
Highest qualification: Level 3	1.000		
Highest qualification: Degree	**.557**	.322	.964
Highest qualification: Other HE	1.225	.726	2.064
Highest qualification: Level 2	**1.677**	1.058	2.659
Highest qualification: Level 1	**1.653**	1.074	2.544
Highest qualification: Other unclassified	**2.123**	1.107	4.069
Highest qualification: None	**5.359**	3.159	9.093
No Maths GCSE/equivalent A-C*	1.000		
English GCSE/equivalent A*-C	**.447**	.315	.636
Not been on ICT course	1.000		
Been on ICT course	**.354**	.260	.481
No limiting long-term disability/illness			
Limiting long-term disability/illness	**1.547**	1.050	2.279
Intermediate occupations	1.000		
Higher managerial and professional occupations	1.832	.767	4.376
Lower managerial and professional occupations	1.205	.683	2.129
Small employers and own account workers	**3.044**	1.494	6.201
Lower supervisory and technical occupations	**2.699**	1.517	4.803
Semi-routine occupations	**2.288**	1.329	3.938
Routine occupations	**3.726**	2.085	6.659
Never worked/ long term unemployed	2.774	.671	11.463
Full-time students	1.167	.270	5.046
Industry: Human health/social work	1.000		
Industry: Other/unclassified/not applicable	.513	.217	1.210
Industry: Agriculture/forestry/fishing	.992	.250	3.942
Industry: Manufacturing	**.514**	.285	.926
Industry: Construction	**.417**	.202	.863
Industry: Wholesale and retail trade	**.549**	.313	.964
Industry: Transport/storage	.532	.247	1.146

Annex Table 7.6 ICT: fixed and acquired characteristics (reference characteristics underlined and italicised)

Industry: Accommodation/food service	.761	.408	1.420
Industry: Information/communication	**.180**	.043	.744
Industry: Finance/insurance	.485	.203	1.159
Industry: Professional/scientific/technical	**.283**	.105	.767
Industry: Admin/support services	.973	.529	1.789
Industry: Public sector admin and defence	**.382**	.171	.854
Industry: Education	.672	.352	1.283
Industry: Arts, entertainment, recreation	.540	.227	1.285
Industry: other services	.750	.314	1.790
Base odds	.412		

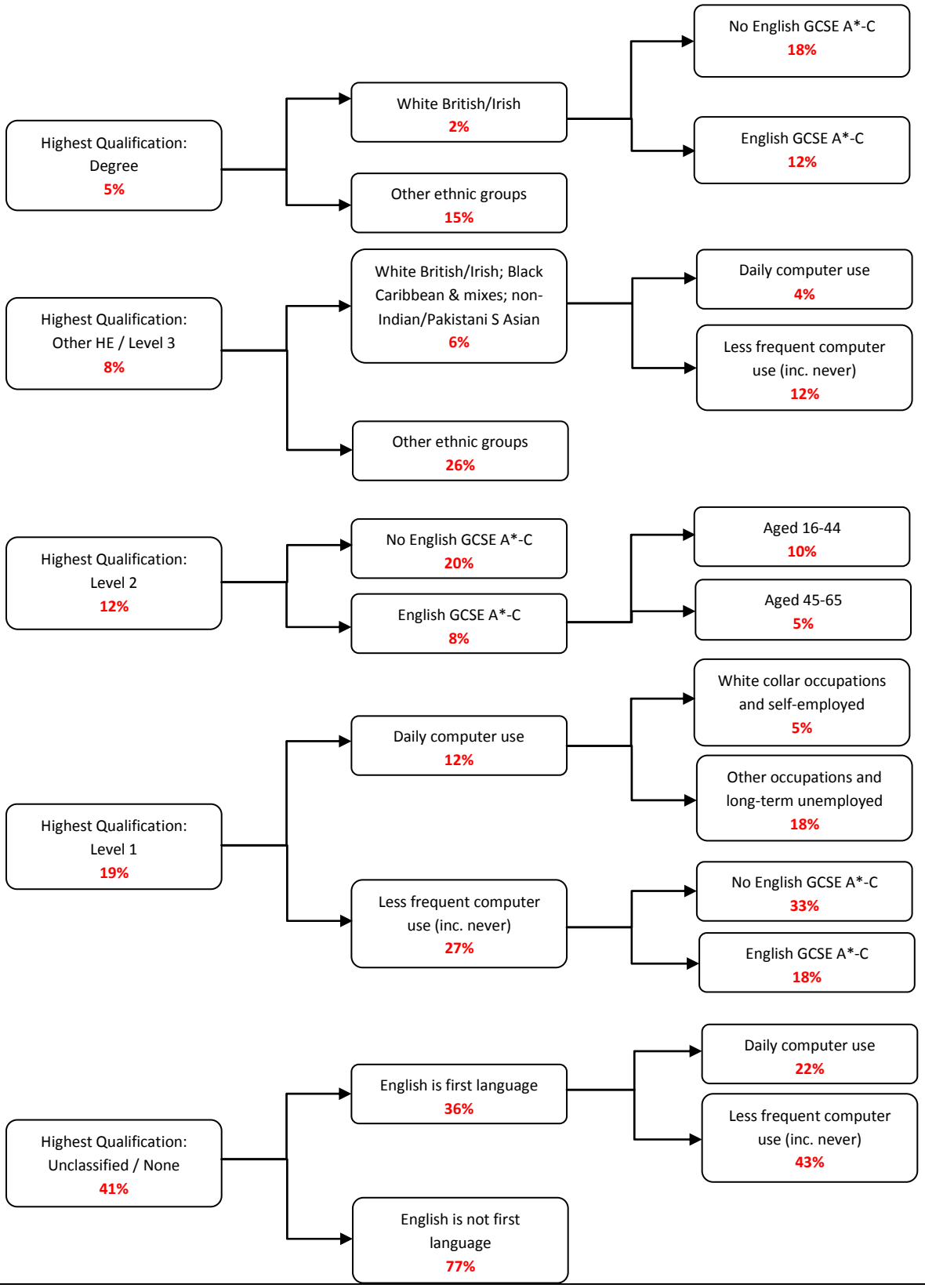
Note. Figures in bold are significantly different from the base category at the 95% level

Annex 8 - Tree diagrams based on the regression model variables

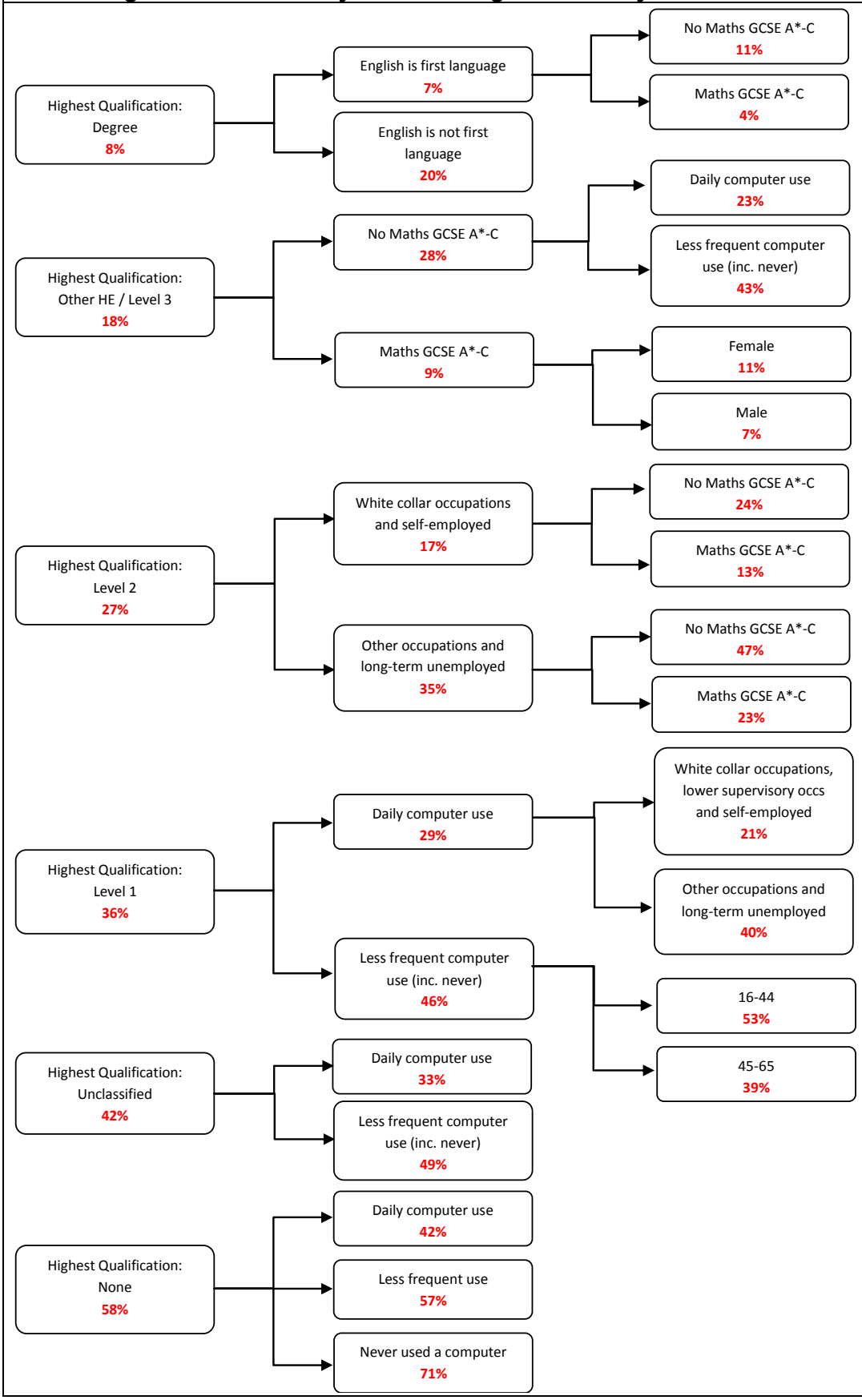
The following charts show tree diagrams formed from the predictor variables in the literacy, numeracy and ICT regression models described in Chapter 6. Tree diagrams are produced by progressively splitting the sample into classes of increasing homogeneity. They are a useful visual display of how the various factors interact with each other. However, they employ a different approach to variable selection than that used for the regression models. One of the consequences of this is that the order in which variables are entered into the diagram differs from the regression estimates of relative influence.

In each Figure, the percentage figure refers to the class proportion with Entry Level 3 or below literacy (Figure 8.1), Entry Level 2 or below numeracy (Figure 8.2), or Entry Level 2 or below ICT practical skills (Figure 8.3). For example, 18 per cent of 'other ethnic group' (i.e. not White British) respondents with a degree, but no English GCSE at grade A* - C have Entry Level 3 or below literacy.

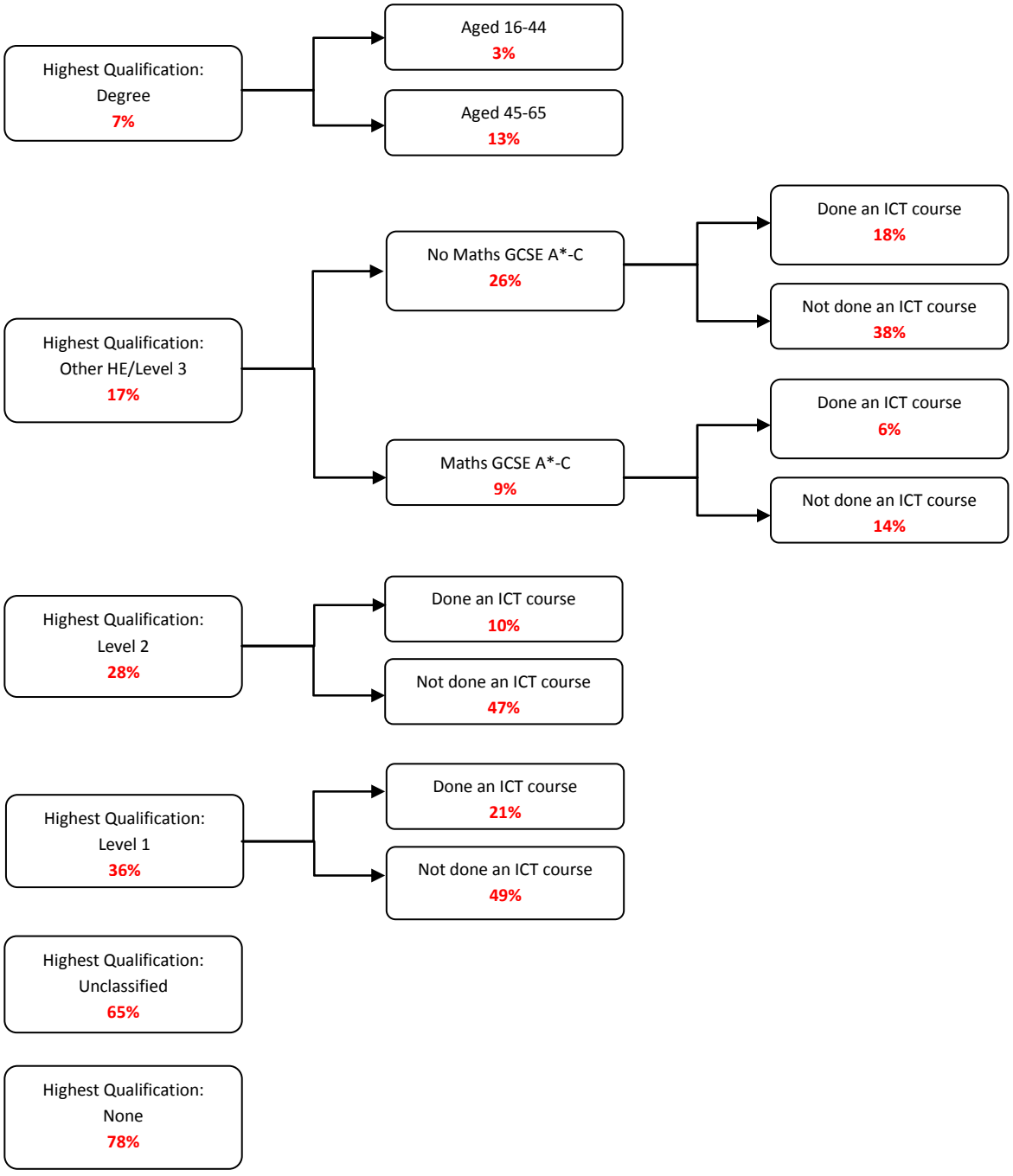
Annex Figure 8.1 Literacy – Percentage with Entry Level 3 or below literacy



Annex Figure 8.2 Numeracy – Percentage with Entry Level 2 or below numeracy



Annex Figure 8.3 ICT – Percentage with Entry Level 2 or below ICT practical skills



This publication is also available on our website at www.bis.gov.uk

Any enquiries regarding this publication should be sent to:

Department for Business, Innovation and Skills
1 Victoria Street
London SW1H 0ET
Tel: 020 7215 5000

If you require this publication in an alternative format, email enquiries@bis.gsi.gov.uk, or call 020 7215 5000.

URN 12/P168AN1