Quantitative programme of research for adult English and maths

Technical report of the longitudinal survey of adult learners

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Chapter 1. Introduction

This is the technical report for the Longitudinal Survey of Adult Learners, which makes up part of a larger programme of work, the Quantitative Programme of Research for Adult English and maths. In addition to the longitudinal survey, the research programme included a Randomised Controlled Trial (RCT), qualitative research exploring the implementation of adult learning in colleges and research with learners attending courses provided by local authorities. The research included adult learners on English and maths courses from Entry Level 1 to Level 2.

This research was originally commissioned by the Department for Business, Innovation and Skills (BIS) to explore how adult learners' skills develop over time and the effectiveness of adult skills provision. The outputs are being published by the Department for Education (DfE), as during machinery of government changes in early 2017, responsibility for skills analysis moved to the DfE. This research will help the government make evidence based policy decisions on the future development of the sector.

The research was conducted by a consortium of organisations led by Kantar Public (formerly TNS BMRB). Kantar Public conducted the longitudinal surveys (main and local authority) using assessment tools designed by AlphaPlus. Support was received from the Learning and Work Institute (formerly NIACE) in the recruitment of colleges, and additional analysis was undertaken by NIESR in the reporting. The RCT was led by NIESR and AlphaPlus, with support from the Learning and Work Institute. During the development stages Professor Steve Reder at Portland State University advised on the questionnaire design and analysis.

Chapter 2. Sample Design

Overview

The longitudinal survey sample included adult learners attending publically-funded English or maths courses between Entry Level 1 and Level 2. There were several steps to the sampling process, which resulted in a quasi-random sample for the core sample and purposive samples for the sub-sample boosts. This is described in more detail in this section.

The basic process was as follows:

- A sample of colleges providing Skills for Life (SFL)-funded courses in English and maths was drawn for the wave 1 telephone recruitment stage

- A sample was selected for the core wave 1 interviews from the colleges which were eligible and agreed to take part. Wave 1 interviews were conducted in colleges. The number of learners to be requested from each college was determined from information given in the telephone recruitment interview and subsequent conversations between interviewers and the colleges

- The core wave 2 sample was drawn from the sample of learners who completed a wave 1 in-college interview and agreed to be re-contacted. Wave 2 interviews were conducted in an interviewees' home

- This core wave 2 sample referenced above, was supplemented by a sample of adult English and maths learners taken from the Individualised Learner Record (ILR)

- An additional sample of learndirect centres was recruited to provide a sub-sample of adult learners on e-learning courses

The final dataset for the wave 1 analysis included the core wave 1 sample drawn from colleges plus the sub-sample boost of e-learners. These component samples were weighted to ensure that the combined sample profile was representative of the sector as a whole.

The final dataset for the wave 2 analysis included; the wave 2 sample of learners who had completed the wave 1 interview in-college and agreed to be re-contacted. Also, the supplemental sample of learners from the ILR; and the wave 2 sub-sample boost of e-learners. These component samples were again weighted to ensure that combined sample profile was representative of the sector as a whole.

Wave 1 sample

Summary of the design

This study used a 2-stage sample design in which a sample of learning providers of SFL-funded courses was drawn, followed by a sample of classes within these providers. All learners within the sampled classes were invited to take part in the study.

Preparations for sampling

For timetabling reasons it was necessary to profile learning providers who offered SFL courses in English and maths to adults (aged 19 or above) before they had finalised the classes they would offer to autumn 2013 learners. Kantar Public used Learning Aims Reference Application (LARA) data from the ILR database from the 2012-13 academic year, on the assumption that this would be the best guide for the 2013-14 academic year. The records in this dataset represented all unique combinations of (i) learner and (ii) course. Consequently, a learner attending n courses starting at some point in the 2012-13 academic year was listed n[1] times. From this data it was possible to generate the number of learners per course and per provider as well as classifying courses by (i) subject, and (ii) level. This was the course-level dataset. Before sampling could begin, the course list needed to be reduced to an eligible set. All courses that were potentially eligible had a 'Skills For Life' code in LARA and the BIS project manager supplied a list of SFL codes eligible for the study. These are shown in Table 1.

Table 1 Codes and names of SFL courses eligible for the survey

English courses		Maths courses	
LARA code	Course name	LARA code	Course name
1	Certificate in Adult Literacy	2	Certificate in Adult Numeracy
11	GCSE in English Language	12	GCSE in Maths
13	Key Skill in Communication	14	Key Skill in Application of Number
20	Functional Skills in English	19	Functional Skills in Maths

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[1] N = number

English courses		Maths courses	
LARA code	Course name	LARA code	Course name
24	Non-NQF/QCF Skills For Life Literacy (including continuing Ufi learners from 2009/10)	25	Non-NQF/QCF Skills For Life Numeracy (including continuing Ufi learners from 2009/10)
29	QCF Basic Skills English Language	30	QCF Basic Skills Maths

The list of providers was inspected manually and ineligible providers removed from the course-level dataset. Private companies that do not specialise in learning provision, but offered it as part of a broader multi-course training programme were excluded from the study. Learndirect, the UK's largest private provider of online training, was sampled separately as a boost sample to achieve robust base and was therefore excluded from this sampling process (this is described later in this report).

In total, 12,892 courses were identified, distributed as shown in Table 2.

Table 2 Courses in wave 1 sample, by subject and level

Course level	English courses	Maths courses	Total
Entry Level*	286	225	511
	2.2%	1.7%	4.0%
Entry Level 1	391	349	740
	3.0%	2.7%	5.7%
Entry Level 2	502	490	992
	3.9%	3.8%	7.7%
Entry Level 3	685	662	1,347
	5.3%	5.1%	10.4%
Level 1	2,185	2,180	4,365
	16.9%	16.9%	33.9%
Level 2	2,471	2,466	4,937
	19.2%	19.1%	38.3%
Total	6,520	6,372	12,892
	50.6%	49.4%	100.0%

*Unknown level, most likely Entry Level 3

751,131 learners attended these courses, distributed as shown in Table 3.

Table 3 Learners in wave 1 sample, by subject and level

Course level	English learners	Maths learners	Total
Entry Level*	43,363	18,987	62,350
	11.3%	5.2%	8.3%
Entry Level 1	7,333	4,575	11,908
	1.9%	1.3%	1.6%
Entry Level 2	10,642	8,279	18,921
	2.8%	2.3%	2.5%
Entry Level 3	26,275	27,579	53,854
	6.8%	7.5%	7.2%
Level 1	150,766	154,531	305,297
	39.1%	42.2%	40.6%
Level 2	146,813	151,988	298,801
	38.1%	41.5%	39.8%
Total	385,192	365,939	751,131
	100.0%	100.0%	100.0%

*Unknown level, most likely Entry Level 3

Target sample sizes

The target wave 1 sample size per subject/level combination was 981 (calculated as: 172/(56%*59%*65%) = 7,850/8).

The number of learners in each subject/level combination differs a great deal and therefore the unscaled sampling fractions (SFa) applied to each subject/level combination also varied:

$SF_a = 981/N_a$

SF_a = (unscaled) sampling fraction for subject/level combination a

N_a = total number of 2012-13 learners for subject/level combination a

A fixed total of 374 learning providers (plus learndirect) was to be sampled on the assumption that up to 150 would agree to participate in the study. The sampling probability for each provider was a function of the sum of sampling fractions applied to learners in each subject/level combination:

$SP_p = ((\sum(N_{ap}SF_a))/7850)*374$

SP_p = sampling probability for provider p

Nap = number of 2012-13 learners for subject/level combination a at provider p

∑ = sum for all subject/level combinations present at provider p

The unscaled conditional sampling probability (CSP) for learner *i* in subject/level combination *a* at provider *p* was equal to:

CSPiap = SFa / SPp

The total unscaled sampling probability (TSP) was equal to:

TSPiap = SPp * CSPiap = SPp * (SFa / SPp) = SFa

Application of these formulae leads to equal sampling probabilities for all learners within each subject/level combination but variation between subject/level combinations (as intended).

Implementation of sample design

In theory, this was a PPS (probability proportionate to size-measure) sample design. In practice, the design needed to be adjusted before implementation. Some values of SPp exceeded one through the formula above. To overcome this, a large number (232) of providers were set aside as sampled-with-certainty, leaving a sample of 142 to obtain using the PPS method above. The values for SFa had to be adjusted to reflect the number of learners in each subject/level combination already accounted for by the providers sampled with certainty.

Before sampling, the provider dataset was stratified by (i) provider type, (ii) number of relevant learners (in tertiles), and (iii) region. Then a systematic random sample of 142 providers was drawn to add to the 232 sampled with certainty.

Some weeks after the provider sampling stage, it was decided to switch the focus of the core study on to colleges more than other types of provider. All previously unsampled colleges were therefore invited to participate in the study so long as they had enrolled at least 30 relevant students in autumn 2012. As such, 416 colleges were included in the telephone recruitment phase.

The conditional sampling probability (CSPiap) was calculated for each subject/level combination at each cooperating provider and used to calculate the target number of wave 1 learners for each provider (and for each subject/level combination within each provider).

Some of these totals were very large so Kantar Public and BIS decided to ask sampled providers what the maximum acceptable sample load would be before supplying a wave 1 learner target for each subject/level combination. Although strenuous efforts were made to maintain the sample ratios between subject/level combinations, in the end it was necessary to include all available classes from all cooperating providers to include as many participants as possible.

As a consequence, the true sampling probability for each learner is not known. It is likely to be close to 100%, but with high levels of non-response at the provider level and lower levels of non-response at the class level and individual learner level.

The sampled providers were initially contacted by post and then by telephone. They were asked to provide learners in full class groups rather than a random selection of learners from every relevant class that they ran. This reduced burden on colleges as a fully randomised sample of learners would have been labour intensive for colleges to administer. A disadvantage of this blanket approach was that it included learners of all ages attending these classes, including those who were under the age of 19. Data collected from these respondents was excluded at the data editing stage.

From the 416 providers involved in the telephone recruitment phase, 125 agreed to participate in the longitudinal research. Of these, 19 were excluded from the wave 1 sample. In some cases this was because they had indicated that a very low number of adult English or maths learners would be available to take part in the research. In other cases it was because their provision was spread across several sites with relatively small numbers per site. This would have made survey administration overly burdensome. As such, the final issued sample for wave 1 consisted of 106 colleges. From these 106 colleges, 55 went on to successfully administer questionnaires to their learners. Further information about the fieldwork processes and outcomes linked to the college recruitment exercise is provided in chapter 4.

A total of 3,916 questionnaires were returned by the recruited colleges. Since the number of questionnaires returned was lower than the colleges had originally estimated they would be able to provide, a supplemental sample from the ILR was included in wave 2, as outlined below.

The majority of the wave 1 sample consisted of learners from the Autumn Term 2013 intake. However, follow-up approaches were also made to 14 of these colleges to include their Spring Term 2014 intake of learners.

The precise effect of the sampling compromises on the representativeness of the wave 1 sample is not known, as little information is available about non-cooperating providers and unsampled classes. However, as all providers were asked to participate and all possible classes of learners were included in the study it is reasonable to treat it as having quasi-random properties.

Sub-sample of e-learners

A sub-sample of e-learners was drawn purposively from providers operating as part of the learndirect network. Attempts were also made to incorporate colleges into the e-learning sample, but this proved not to be possible. In many colleges computer enhanced learning was widely used, but pure e-learning courses (i.e. courses that were not tutor-led) were relatively uncommon. As such, learndirect provision serves as a proxy for e-learning as a whole.

The e-learning sub-sample was restricted to learners from Entry Level 3 to Level 2. This is because e-learning courses are not generally suitable for learners with low levels of literacy due to learners needing to read on-screen text or instructions.

Details of potentially suitable learndirect centres were provided to Kantar Public by the learndirect head office. Kantar Public then contacted these centres and discussed details of the survey before identifying the willingness and suitability of centres to participate.

Centres which expected a very low number of adult learners (less than 20) to be starting courses within the survey window were excluded from the sample, for reasons of burden and budget.

Learndirect's e-learning courses tended to be shorter than college-based tutor-led courses. They were also more likely to operate on a 'roll-on roll-off' basis where learners could start their courses on a flexible basis rather than conforming strictly to term-based timings. Learners also tended to work independently rather than in class groups. As such, in contrast to the main sample, the e-learning sample did not consist of full class groups.

Learners in the learndirect sample attended courses with start dates between April and July 2014. In total 1600 paper questionnaires were despatched to the 26 recruited learndirect centres, which allowed coverage for the 823 responses that they expected to return. The number of returns was substantially lower than their initial estimates, with 236 completed questionnaires received by Kantar Public[2].

Wave 2 sample

The core wave 2 sample was drawn from wave 1 interviews and consisted of respondents who agreed to be re-interviewed at the end of their course.

Two supplementary samples were drawn:

- A separate sample of learners who had recently completed an SFL-funded course in English or maths was drawn to test fieldwork procedures and pilot the wave 2 questionnaire before the wave 2 fieldwork
- Since the number of learners who took part in wave 1 was lower than anticipated, a boost sample of learners was drawn from the Individualised Learner Record (ILR) to be invited to take part in the wave 2 interview and become part of the longitudinal study

Wave 2 pilot sample

The wave 2 pilot sample was drawn from the Individualised Learner Record, and included adult learners who had attended maths or English courses in 4 of the 10 largest colleges in England. Large colleges were selected to allow the pilot sample to be efficiently clustered together, reducing the travel time between appointments and allowing the completion of the pilot within the necessary timeframe.

The sample was de-duplicated to ensure that there was no overlap with the sample from the main stages of the longitudinal survey. In total 260 learners were contacted in the wave 2 pilot, of whom 40 completed a full interview.

Wave 2 core sample

The 'core' wave 2 sample consisted of respondents who had taken part in wave 1 of the survey. All wave 1 respondents were included in wave 2 with the exception of

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[2] This may be because while there was strong central support for the research, there was varying levels of co-operation by local teams. The nature of learndirect attendance is also a lot more informal than FE colleges, with learners dropping in and out during the day, which made face-to-face fieldwork more complex.

those who did not provide usable contact details or indicated that they did not want to be re-contacted after their wave 1 interview

From the 3821 learners who completed a wave 1 survey, 2291 were issued at wave 2. In addition, from the 236 e-learners who completed a wave 1 survey, 171 were issued at wave 2.

Wave 2 additional sample

As the number of completed wave 1 surveys returned by colleges was lower than colleges' initial projections, a boost sample of learners was drawn from the ILR. This sample was based on the same LARA categories as the main sample - LARA codes 1, 2, 11, 12, 13, 14, 19, 20, 24, 25, 29 and 30.

The amount of ILR sample per subject and per level was drawn to take account of the shortfall in the number of interviews in the college-based wave 1 sample. However, the number of learners recorded as attending maths Entry Level 1 courses on the ILR database was lower than the number needed to make up the shortfall. Therefore, learners on maths Entry Level 2 courses were over-sampled, as this was the most comparable group. Data were weighted to take this into account, as described in chapter 5.

In calculating the necessary amount of ILR sample to issue at wave 2, it was assumed that 50% of those who were included in the ILR CATI recruitment phase would agree to take part in the longitudinal research and, of those, 60% would go on to complete an in-home wave 2 interview (giving an overall conversion rate of 30%). The ILR sample drawn to make up shortfalls in number achieved from main wave 2 sample was as shown in Table 4. Further details of wave 2 response rates can be found in chapter 4.

Table 4 Wave 2 additional sample requirements

Course level	Projected shortfall in wave 2 interviews based on interviews achieved in wave 1 college-based phase	Sample required for ILR telephone recruitment phase (to address shortfall)	Sample issued for ILR telephone recruitment phase (taking account of limited number of lower level maths learners available)
Maths Entry Level 1	226	753	578
Maths Entry Level 2	175	582	739
Maths Entry Level 3	224	746	762
Maths Level 1	151	503	503
Maths Level 2	198	659	659
English Entry Level 1	179	597	597
English Entry Level 2	136	454	454
English Entry Level 3	236	787	787
English Level 1	136	454	454
English Level 2	164	547	547

Wave 3 sample

In the original wave 3 sample design the full sample of wave 2 learners who had agreed to be re-contacted would be put into field at wave 3. However, during the course of the wave 3 fieldwork the BIS asked the consortium to make some budget savings from the programme of research. Therefore, the original fieldwork targets were reduced from 2300 to 2000. The number of learners included in the wave 3 sample was reduced accordingly, and 88 learners who had originally attended an English Level 2, maths Level 1 or maths Level 2 course and were due to be contacted during October and November were selected at random to be removed from the sample.

Chapter 3. Questionnaire design

Overview

Different questionnaires and survey methodologies were used in different waves. Abbreviations are used throughout this report to describe the different research methods, as follows:

- PAPI = Paper and pencil Interviewing

- CATI = Computer Assisted Telephone Interviewing

- CAPI = Computer Assisted Personal Interviewing

The questionnaires that were used in the longitudinal study included:

- Wave 1 provider recruitment questionnaire (CATI)

- Wave 1 questionnaire for learners on English courses (PAPI)

- Wave 1 questionnaire for learners on maths courses (PAPI)

- Wave 1 tutor questionnaire (PAPI)

- Wave 2 questionnaire for both English and maths learners (CAPI)

- Wave 3 questionnaire for both English and maths learners (CAPI)

The questionnaires included newly designed questions alongside those taken from previous governmental and academic surveys. The learners' surveys also included the assessment questions designed specifically for this research.

Further detail about each of these questionnaires is provided below and copies of all versions of the questionnaires can be found in Appendix 2.

Wave 1 provider recruitment questionnaire

Kantar Public conducted 5-minute telephone interviews to identify if providers would be willing to take part in the research and if they had a sufficient number of eligible learners. The interview covered the following:

- Informed the institution about the research aims, the design of the survey, and what they would need to do

- Collected estimates of the number of learners expected to enrol in English and maths courses from Entry Level 1 to Level 2 in the forthcoming academic year (2013-14)

- Collected estimates of the number of classes the institution would be running at the start of the Autumn Term (September or October 2013)

- Established whether the relevant courses were run in a single setting or across multiple dispersed settings

- Collected contact details for a suitable representative of the institution who would be willing to assist the Kantar Public research team in the administration of the survey within the provider setting

It was anticipated that respondents might have difficulty providing numerical estimates during an interview, particularly as course enrolment was underway at the time of the recruitment exercise and learner numbers had not been finalised. Two steps were taken:

- Providers were sent a datasheet showing the main questions from the questionnaire, which gave respondents the chance to consider (or research) learner numbers ahead of their interviews. Respondents were asked to have the datasheet to hand when speaking to the interviewer

- The questions included information drawn from the ILR about learner numbers in the previous academic year (2012-13). Any respondents who were unable to provide estimates were prompted with these and asked whether they anticipated the number of learners and classes to substantially exceed, match, or fall short of the numbers recorded in the previous year

The provider recruitment questionnaire was programmed in a CATI script and conducted over the telephone. The procedures surrounding the recruitment exercise are described in chapter 4.

Wave 1 background questionnaire for learners of English or maths

There were separate versions of the wave 1 questionnaire for English learners and maths learners, although much of the content was common to both. Each version included 2 sections namely, the background questionnaire (described below) and the assessment section (which is outlined later in this chapter).

The background questionnaire collected profiling information about the learners and their attitudes towards English or maths. More specifically, the background questionnaires included:

- Basic details about the college and course

- Demographic information about the learner

- Reasons for starting the course

- Self-perceived abilities in reading/speaking/writing/Maths

- Attitudes towards English/maths

- Happiness

- IT usage and skills

- Qualifications

- Willingness to participate in later waves of the survey

- Contact details

The wave 1 learner questionnaires were conducted using PAPI. It was anticipated that the background interview section would take around 15 minutes to complete and the assessment section around 45 minutes for most learners. Details about the administration of the questionnaires is provided in chapter 4.

The wave 1 questionnaire booklet was formatted to allow the easy separation of the background questionnaire section from the assessment section. The background questionnaire was scanned electronically.

The wave 1 background questionnaire drew some of its main content from other existing governmental and academic surveys, as outlined below.

Self-perception of skills

The Likert scale questions asked learners to assess their own skills in using computers, working with numbers, and reading, writing and speaking English. These questions were all drawn from the 2011 Skills for Life survey which was conducted by Kantar Public on behalf of theBIS.[3] This was a general population survey which assessed the skills of people aged 19-65.

Attitudes towards maths and English

The Likert scale questions that measured learners' attitudes towards maths were based on the 'Math Anxiety Scale Survey Form[4]'. This consists of a battery of 14 questions. Six of these are positive, indicating a sense of ease, lack of discomfort and absence of fear in relation to maths. The remaining 8 are negative, indicating feelings of discomfort, restlessness, uneasiness and confusion. Very minor changes were made to the wording of some of these questions to make them more suitable for a UK sample of learners - the original having been used in the USA.

There was no equivalent of this instrument for attitudes towards English anxiety. A new set of questions was therefore designed for this purpose, following the design of the maths anxiety questions.

Happiness

The Likert scale question asking about the learners' happiness was drawn from the ONS National Well-being Measurement programme.[5] Due to time constraints it was decided to use only one of the 4 headline questions in use at the time of the survey.

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[3] Further details of the Skills for Life questionnaire can be found at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/36066/12-p168an1-2011-skills-for-life-survey-annexes.pdf

[4] Bai, H., Wang, L., Pan, W., & Frey, M. (2009). Measuring mathematics anxiety: Psychometric analysis of a bidimensional affective scale. *Journal of Instructional Psychology, 36 (3),* 185-193. (http://www.thefreelibrary.com/Measuring+mathematics+anxiety:+psychometric+analysis+of+a...-a0211235540 and http://www.thefindingsgroup.com/groups/measures/wiki/a626a/

[5] Further details of the well-being instruments can be found at: http://www.ons.gov.uk/ons/guide-method/user-guidance/well-being/index.html

Wave 1 tutor questionnaire

In addition to the main wave 1 questionnaire completed by learners, class tutors were asked to complete a separate PAPI questionnaire.

Information collected in the tutor questionnaire included: the college name; course name; course start and end dates; refusal rates within each class; and confirmation that the questionnaires had been completed in a classroom context.

Wave 2 background questionnaire for learners of English or maths

As with the wave 1 questionnaire, the wave 2 questionnaire included 2 sections: the background questionnaire (described below); and the assessment section (outlined later in this chapter). Learners were asked a number of subject specific questions. However, the majority of the questionnaire content was applicable to all learners, regardless of the subject of their course.

Wave 2 interviews were conducted in learners' homes using CAPI. There was a single script which was programmed to include only questions relevant to the subject of the course each learner had attended. Some learners had attended both English and maths courses and these learners were asked about both, resulting in a longer interview.

The wave 2 questionnaire repeated questions asked in wave 1 to allow longitudinal comparisons, along with additional questions which collected:

- Additional demographic information about learners, including income, benefits, health and disability, ethnicity and employment details

- Barriers to learning when younger

- Experiences of the course - whether completed, perceptions of its effects, reasons for non-completion, challenges

- Use of skills at work

- Use of skills at home and involvement with children's learning

To limit respondent burden it was necessary to reduce the number of items in the English and maths anxiety instruments at wave 2. Deletions were limited to items which were the least differentiated from other items in the instruments.

The wave 2 questionnaire also drew questions from a number of other governmental and academic surveys, as follows.

The Longitudinal Study of Adult Learning (LSAL)

This large scale study was conducted at Portland State University in Oregon.[6] Questions used included those regarding issues which got in the way of learning when respondents were young and the self-perceived effect of the course on the learners' skills.

The Labour Force Survey (LFS)

A number of questions were drawn from the LFS[7], although in some cases, such as employment details, it was necessary to simplify the LFS structure due to time constraints. Questions drawn from or informed by the LFS included employment details and benefits received.

ONS Harmonised Questions on Long-lasting Health Conditions and Illnesses

The background questionnaire's questions on health, illness and disability were based on the harmonised ONS design.[8]

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[6] Details of the associated survey instruments can be found at:
http://www.lsal.pdx.edu/instruments.html
[7] Further details of the survey instruments can be found at: http://www.ons.gov.uk/ons/guide-method/method-quality/specific/labour-market/labour-market-statistics/index.html
[8] Further details of ONS harmonised questions can be found at: http://www.ons.gov.uk/ons/guide-method/harmonisation/primary-set-of-harmonised-concepts-and-questions/index.html

Wave 3 background questionnaire for learners of English or maths

As in the first 2 surveys the wave 3 questionnaire included 2 sections - the background questionnaire and the assessment section.

Asthe longitudinal survey aimed to explore changes over time, much of the wave 3 survey repeated questions asked in wave 2. Measures that had already been collected at wave 2 and which were not subject to change, or were subject to change that was calculable based on the elapsed time between waves, were excluded from the wave 3 questionnaire to reduce respondent burden. This included: gender, age, and ethnicity. Also included: English as a first language; issues that got in the way of learning in the past; employment history; qualifications held in English and maths; and age of leaving full time education. A number of questions about the course attended between waves 1 and 2 were also removed.

New questions were added in wave 3 about courses that respondents had attended since completing their original English or maths course and courses they planned to attend in the future. The wave 3 questionnaire also asked questions to explore learners' perceptions of the longer term influence of the course attended between waves 1 and 2.

The majority of the new wave 3 questions were designed specifically for the, Adult English and maths programme of research, although an additional question on everyday reading activities was also included for comparative purposes. This question was based on a question from the Programme for the International Assessment of Adult Competencies (PIAAC). All new questions were reviewed by BIS and the research consortium.

As in wave 2, the wave 3 interviews were conducted in learners' homes using CAPI.

Assessments

The assessments used to measure learners' abilities in English and maths in each survey were created specifically for this research[9] and were carefully designed to sample relevant Functional Skills curricula. Separate tests were created for each level (from Entry Level 1 through to Level 2) within each of the 2 subjects. In total there were 5 English tests and 5 maths tests. However, there was substantial overlap between tests designed for adjacent levels, with some Entry Level 2 items included in Entry Level 3 tests, and some Entry Level 3 items included in Level 1 tests, and so on. This was done to ease the equating process (see chapter 6).

Comparison between assessments and Functional Skills levels

While the assessments were designed to be similar to Functional skills (FS) examinations in English and maths, there were differences in content and type of question as they were designed for different purposes. Unlike FS examinations, the assessments were not intended to assess competence at a specific level, but to provide a reliable estimate of learner ability on a scale. They were therefore designed to include items with a spread of difficulties. This, together with other measurement error effects, means that scores on the assessments would not be expected to correlate completely with outcomes on Functional English/maths examinations.

The assessments cover the Skills for Life core curriculum a little differently than FS examinations. In maths the coverage is fuller, but the assessments do not include the breadth of multi-mark functional questions seen in FS maths exams and are likely to not assess process skills to the same extent. In English, topics have different emphases in the assessments compared to FS English, and the extent of human-marked items is slightly reduced in favour of objective items. This increases reliability and improves scaling for the finer judgements of level that the assessments require, but may compromise construct validity to an extent.

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[9] The tests used in the longitudinal survey were shortened versions of those used for the RCT component of the, Programme of research for adult English and maths.

Piloting of assessments

The assessments were piloted in summer 2013 and the question responses were analysed used classical test theory methods. Analysis looked at:

- Reliability - the extent to which data generated on the test appeared to be internally consistent i.e. how far scoring seems to be explained by what we're trying to assess rather than by random error

- Item discrimination (or the point-biserial correlation) - the extent to which scoring on one particular question appeared to be associated with scoring overall. This can also be conceptualised as 'is this question assessing the same thing as the test overall, or something different?'

- Item facility, also known as 'mean item score expressed between 0 and one'. Was this question easy or difficult for these learners?

- Time taken on each item - was each question something that learners pondered over or rushed?

Results of this analysis were seen as good by the test developers. Reliability indices were in the acceptable to high range, and item means and discriminations were acceptable. The one area of contention from this analysis was timing. It seemed that some learners were rushing towards the end of tests. Therefore, it was decided to remove some items from most tests to shorten them. In addition, maths and English subject experts commented on the wording of questions and questions were re-worded to comply with subject experts' suggestions.

Which assessments were used with different groups of learners

A paper version of the assessments was incorporated into the wave 1 questionnaire booklet, with instructions for learners to try and complete the questions without outside help. At wave 2, respondents completed the assessments in digital format. The assessment questions ran on a separate software package to the CAPI software as a stand-alone section towards the end of the interview. After administering most of the background questionnaire, interviewers opened the assessment software and instructed respondents to answer the test items on the laptop without external assistance. At the end of the assessment section the laptop was returned to the interviewer, who then administered the remainder of the background questionnaire.

It was assumed that, on average, learners would experience a net increase in their skills during their courses. With this in mind, learners were asked to complete an assessment at wave 1, which was at the level below that of the course they were attending; and an assessment at wave 2 which was at the level of the course they had completed. For example, Level 1 course participants completed an Entry Level 3 assessment at wave 1 and a Level 1 assessment at wave 2.[10] Since assessments targeted at adjacent levels contained items in common and were designed to cover a range of abilities, learners would have felt challenged by some of the questions they encountered. That is, at both the start and end of their course, regardless of how much skills gain (or loss) they may have experienced during their course.

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[10] By necessity, Entry Level 1 course participants completed the same assessment at both waves (Entry Level 1 assessment).

Chapter 4. Fieldwork

Overview

This chapter outlines the procedures used during the survey fieldwork and the achieved response rates at each stage of the study. All fieldwork documents are included in Appendix 3.

Provider recruitment

Kantar Public undertook a provider recruitment exercise by telephone between August 1 2013 and September 27 2013. The sampling approach for the recruitment is outlined in chapter 2. Providers were initially invited to take part in the research by post, and were then telephoned by a professional interviewer who conducted a 5-minute interview using Computer Assisted Technology (CATI).

Interviewer briefing

An interviewer briefing was conducted by the research team on August 1 2013. The briefing covered the purpose and importance of the research, what the calls were aiming to achieve and guidance for how to conduct the interview. An information sheet was also provided for interviewers to have on hand during calls, with suggested responses to questions which would be commonly asked by respondents. These included why respondents were being contacted, the scale of the exercise, and the types of learner targeted by the research.

Advance letter and datasheet

Advance letters and an accompanying datasheet were sent out to a named person (usually the principal) in each sampled institution a week before calls began. The letter outlined the purpose, importance and design of the research and provided contact details for the research team at Kantar Public, should the institution wish to raise queries or opt out of the research.

The advance letter requested that a representative from the institution complete the datasheet ahead of the interview and have this information on hand during the call. The datasheet was used to collect information on the number of learners who were expected to enrol on eligible courses offered by the provider between September and October 2014, broken down by level and type of course and the number of classes that were expected to run at each level during the forthcoming academic year. To assist and guide the respondent responsible for collecting this data, the datasheet was pre-populated with information derived from the Individualised Learner Record (ILR) about the number of learners who had taken courses in English and maths in the previous academic year (2012/13) at that institution. The 2012/13 data distinguished between course levels, and covered courses ranging from Entry Level 1 to Level 2.

An anonymised copy of the advance letter and datasheet are included in Appendix 3.

Interviews and outcomes

When making first contact with the institutions, interviewers were tasked with establishing who the most appropriate person would be to provide the relevant information. For example, such the principal, the head of adult English and maths education and training, or the person with overall responsibility for adult English and maths education and training in the institution. Appointments were made for interviews with the relevant person, during which respondents were asked to give estimates of the number of learners and classes they were anticipating for the forthcoming academic year. If this was not possible, respondents were encouraged to estimate whether the numbers would exceed, match, or fall short of the corresponding numbers from the previous year. Respondents who had not had the chance to complete the datasheet in advance of their interview but wished to do so were offered the opportunity of a call-back at a later time.

In total, 125 interviews were conducted with eligible providers who were willing to provide the required information and take part in the next stages of the research. Table 5 shows the outcomes of the provider recruitment exercise.

Table 5 Outcomes of provider recruitment exercise

Number of sampled providers	**416**
Invalid sample data	**11**
Invalid/incomplete telephone number	10
Wrong number/unknown at number/moved	1
Valid sample (in scope of fieldwork)	**405**
Local Authority providers removed from telephone exercise	52
Refusal	17
Opt out	58
Abandoned interview	1
Unavailable during fieldwork	1
No contact	151
Interview	**125**

Wave 1

Wave 1 interviews were conducted within provider settings using Paper and Pencil Interviewing (PAPI), and took place as close as possible to the start date of the eligible course. Paper questionnaire booklets were distributed by class tutors to all learners present in the classroom on the day, and completed under tutor supervision within a one- to 2-hour slot during class time. Tutors were instructed to assist with the completion of factual information such as course name, but to ensure that the assessment was completed by individuals without external help. After completion, tutors were tasked with: collecting the questionnaires from the entire class; batching them together into a single pack per class; adding their completed tutor questionnaire; and keeping the collected data securely stored until an interviewer picked these up and returned them to Kantar Public.

This section covers fieldwork procedures and management, quality control procedures and response rates achieved during wave 1 fieldwork for both the main sample of learners and learndirect learners.

Instructing college representatives about research requirements

Once colleges had been selected following the telephone recruitment stage, they were contacted by a face-to-face interviewer who oversaw the process of confirming numbers of learners within classes with the college and distribution of the wave 1 paper questionnaires.

Interviewers attended a one-day briefing led by Kantar Public researchers ahead of making contact with colleges. The briefing covered the process for making contact with the nominated college representative, how to confirm the number of learners within classes, and how to support colleges in the distribution of questionnaire booklets.

Interviewers were provided with a contact sheet. This contained the name and telephone number of the contact at the college whom the telephone interviewer had spoken to during the recruitment stage, details about the head of the college and the target number of learners that should be included in the research from that college (broken down by subject and level of course). Interviewers made telephone contact with the college and collected up-to-date estimates of the number of learners available to take part in the study. These numbers were passed on to Kantar Public so that researchers could decide whether the college had sufficient numbers to be included in the research, and how many questionnaires would be needed in the college. An example contact sheet can be found in Appendix 3.

Instructing learndirect centres about research requirements

Once researchers had been provided with contact details for learndirect centres which were eligible for inclusion and willing to take part in the research, a member of the Kantar Public research team briefed the contact on the research and its requirements. Briefings were conducted either face to face or by telephone.

Packs for providers

Colleges and learndirect centres which had sufficient numbers of learners and were willing to proceed with the process were provided with packs of documents. The packs contained enough questionnaire booklets to cover entire classes of learners, with an extra 20% added to the class sizes estimated by the providers. This was to ensure that no learners were inadvertently excluded from the research. They also contained tutor questionnaires, which were used to confirm the number of learners in each class, together with the name, level, start date, and end date of the course. In addition, they contained a flow diagram outlining the process of administrating the questionnaires and letters for the named contact at the college and for class tutors explaining the purpose of the research and their contribution to the task, and thanking them for their co-operation. Finally, the packs also contained a note outlining the process for sending back the completed questionnaires and documents. The tutor questionnaire is in Appendix 2 and examples of the remaining documents are in Appendix 3.

Incentives for learners

Learners who agreed to take part in the research were told they would be given an incentive to thank them for their time upon completion of the questionnaire. Respondents were posted a £5 gift voucher to the address provided in the background questionnaire, once the paper questionnaire had been received by Kantar Public.

Interviews

The questionnaire booklets were administered by class tutors to the entire class during class time. Although completion was expected to take around an hour, tutors were instructed to allow 90 minutes to cater for those who worked more slowly. The guidelines provided to tutors specified that learners should work on their own during the assessment section and; calculators should only be used in the second half of the maths assessment. Also, that tutors should try to ensure learners did not feel intimidated by the exercise. When learners had completed their booklets, tutors collected them and stored them securely with the completed tutor questionnaire.

Fieldwork outcomes

Table 6 below outlines the questionnaire return rate for the 'core' sample, while Table 7 shows the return rate for the learndirect sample. All fieldwork was conducted face-to-face and administered by staff at the FE college or learndirect centre.

Table 6 Outcomes for 'core' sample at wave 1

	N	%
Fully completed questionnaire and assessment	3821	52
Partially completed questionnaire or assessment	95	1
Blank questionnaire	3363	46
Total	7279	100

Table 7 Outcomes for learndirect sample at wave 1[11]

	N	%
Fully completed questionnaire and assessment	236	27
Partially completed questionnaire or assessment	0	0
Blank questionnaire	631	73
Total	867	100

Wave 2

Wave 2 was designed to take place shortly after learners had completed their course, with course end dates estimated using information collected in the tutor questionnaires from tutors, and background questionnaires from learners. Since courses were of varying lengths, fieldwork was conducted continuously between February and October 2014. This section covers fieldwork procedures and documents used during wave 2, which was conducted through face-to-face in-home interviews using Computer-Assisted Personal Interviewing (CAPI) technology.

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[11] Return rates are lower for the learndirect sample, possibly due to the more flexible nature of provision making it more difficult for staff to administer questionnaires during a fixed session.

Recruiting additional sample

Kantar Public contacted learners sampled from the ILR initially via post and then by telephone to invite them to take part in the research. Advance letters were despatched a week before calls began. The letters included an explanation of the research and why the learner was being contacted, details for how to contact the research team if the respondent had any queries about the research or wanted to opt out, and reassurance that the research was voluntary and all personal information would be treated confidentially. An example advance letter can be found in Appendix 3. Table 8 shows the outcomes of the telephone recruitment exercise.

Table 8 Fieldwork outcomes for learner recruitment at wave 2 (additional ILR sample only)

Number sampled	**6882**
Invalid sample data	**1207**
Invalid/incomplete telephone number	965
Wrong number/unknown at number/moved	242
Valid sample (in scope of fieldwork)	**5675**
Refusal	1392
Abandoned interview	18
Unavailable during fieldwork	13
Respondent incapable of interview	76
No contact	886
Contact but no agreement to interview	257
Interview complete (agreed to participate)	**3033**

Interviewer briefings

As the core sample and the additional ILR sample was issued on a rolling basis interviewer briefings were conducted at several points throughout the first half of 2014 to ensure that interviewers were fully up-to-date on the requirements of the research.

Interviewers were briefed up to 5 days before their first assignment was due to begin. Interviewer briefings for interviews with core sample and learndirect respondents were scheduled in 2014 on January 31, February 3, February 4, May 29, June 17, June 20, June 26, and several dates in July 2014 (22, 24, 25, 28 and 30). A separate interviewer briefing concentrating on fresh sample respondents took place on May 12 2014.

Briefings lasted for half a day and provided information about the background and aims of the research. Also, the range of courses included and how interviews should be conducted, namely from making contact on the doorstep through to the administration of the incentive. The briefings also covered information about use of the Electronic Contact Sheet (detailed below) and the contents of the background questionnaire. There was a strong emphasis on how interviewers should administer the assessment section. This included advice on how to stop household members from helping with the assessment and how to use the software. Also, how to deal with issues around disability or special needs; and how to set the appropriate, unintimidating tone for the assessment. Interviewers were also briefed to allow learners to attempt the assessment in their own time, but not to spend an uncomfortable amount of time on individual questions. The briefings also covered general field procedures and gave interviewers the chance to raise queries to the field supervisors and researchers.

Advance letters

Advance letters were sent out to respondents a week before interviewing was due to begin, advising them that an interviewer would visit their home to administer an interview. Letters included: a reminder that the learner took part in the first stage of the research and that they had given permission to be re-contacted (for 'core sample' respondents only); contact details of the research team if they had queries about the research or wanted to opt out; and a reminder of the importance of the research. An example advance letter can be found in Appendix 3.

Electronic Contact Sheet

An Electronic Contact Sheet (ECS) was developed to screen respondents once interviewers arrived at the allocated address. The ECS was programmed to be completed before opening the interview on the interviewer's laptop, and collected information on whether the address was valid (i.e. it was a residential address and the named respondent was currently in residence) and whether contact with the named respondent was achieved. Once face to face contact had been made with the respondent, the interviewer checked that the respondent was happy to participate by outlining the purpose of the interview and voluntary nature of the research.

Interviewers had to make a minimum of 6 visits to each address before a final outcome code was assigned. A recommended calling pattern for those 6 visits was set at 3 day visits, 2 evening visits and one weekend.

Interviews

The majority of fieldwork was conducted between June 1 2014 and October 27 2014. Fieldwork took place in batches shortly after the end of courses, with most learners interviewed during the summer, as most courses came to an end between May and July. Small batches of fieldwork with core sample and learndirect respondents took place between February 1 and 28 2014 and May 1 and 31 2014. Fieldwork with the additional ILR sample respondents took place between May 12 and June 9 2014.

Interviews took place in respondents' homes and lasted slightly over an hour on average.[12] Interviewers were encouraged to return data at the end of each working day, as is the recommended advice across all face-to-face projects. Each interview produced 2 separate data files – one for the background questionnaire and one for the assessment data, which was collected in a separate software programme and was transmitted via the BTL system.

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[12] There were 4 main batches of interviews. The average length was 60 minutes for batch 1; 58 minutes for batch 2; 67 minutes for batch 3; and, 64 minutes for batch 4.

Respondents were given incentives to thank them for their time at the end of the interview. Incentives were conditional on respondents attempting the assessment section of the interview. This was dependent on their having spent time considering the questions as opposed to requiring respondents to have completed a certain number of questions, as skill levels would make this an unfair metric in some cases. Respondents were also given incentives if there were technical issues with the assessment, which prevented them from attempting the questions. This only affected a small proportion of respondents (3% of all attempted assessments).

Respondents were given £10 for completing one assessment and £30 for completing 2 assessments (if they had attended 2 separate courses at the institution). Eighty-five respondents completed 2 assessments.

Fieldwork outcomes

The outcomes for all wave 2 interviews can be found in Table 9 overleaf. The response rate for wave 2 was 68%.[13]

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[13] This is calculated as number of completed interviews divided by (number of qualifying sample - deadwood).

Table 9 Outcomes for wave 2 sample

	N	%
Total issued sample	**5453**	**100**
Deadwood	**143**	**3**
Vacant / empty housing	56	
Non-residential address	9	
Unknown whether address is residential	2	
Derelict / demolished	4	
Inaccessible	12	
Not main residence	25	
Not yet built / under construction	1	
Unable to locate address	34	
Non-contact	**520**	**10**
Residential address but no contact at address	493	
No contact at address	27	
Unproductive	**795**	**15**
Respondent away / in hospital / ill during fieldwork	70	
Broken appointment	139	
Contact made but no appointment	56	
Respondent moved	318	
Language or learning difficulties	24	
Other unproductive	188	
Refusal	**403**	**7**
Completed interview	**3592**	**66**

Wave 3

Learners' wave 3 interviews were timed to take place one year after their wave 2 interview, around a year after they completed their original Skills for Life-funded course.[14] Fieldwork took place between February and November 2015 in respondents' homes, following the same protocols as for wave 2.

Interviews took place in respondents' homes and lasted around an hour on average. As in wave 2, each interview produced 2 separate data files – one for the background questionnaire and one for the assessment data, which was collected in a separate software programme and was transmitted via the BTL system.

As a thank you for their time, respondents were given £10 for completing one assessment and £30 for completing 2 assessments (if they had attended 2 separate courses at the institution). Eighty-two respondents completed 2 assessments.

Fieldwork outcomes

To make cost savings the original wave 3 fieldwork targets were reduced from 2300 to 2000. Also, 88 learners who had originally attended an English Level 2, maths Level 1 or maths Level 2 course and were due to be contacted during October and November were selected at random to be removed from the sample.

The outcomes for all wave 3 interviews can be found in Table 10 overleaf. These are based on the sample that was put into field following the revised targets, rather than the original fieldwork targets based on all available re-contacts. The response rate for wave 3 was 62%.[15] However, although learners were sent a keeping-in-touch communication between waves 2 and 3, asking them to tell the research team if they moved address, there was no formal tracing exercise as part of the study. For comparison, if the number of movers is excluded from the valid issued sample calculations, the response rate is 68%.

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[14] This refers to the course that they were studying between wave 1 and wave 2 of the longitudinal study. As mentioned in the main body of this report, around half of learners had attended a further course during the year after they completed this course, although it is not known whether these were also Skills for Life-funded courses or not. It is also not known whether they had attended a previous Skills for Life-funded course prior to taking part in the study.

[15] This was calculated as number of completed interviews, divided by the number of valid issued sample (valid issued sample = total issued sample - deadwood).

Table 10 Outcomes for wave 3 sample

	N	%
Total issued sample	**3305**	**100**
Deadwood	**6**	**0**
Derelict / demolished	0	
Inaccessible	6	
Non-contact	**212**	**6**
Residential address but no contact at address	9	
No contact at address	203	
Unproductive	**601**	**18**
Respondent away / in hospital / ill during fieldwork	56	
Broken appointment	87	
Contact made but no appointment	65	
Respondent moved	306	
Language or learning difficulties	5	
Other unproductive	91	
Refusal	**433**	**13**
Completed interview	**2044**	**62**

Chapter 5. Data processing and outputs

Overview

This chapter outlines the processes used to produce the final data outputs from each survey. It covers the processing of the wave 1 questionnaire booklets and; the coding of open-ended questions. The chapter also addresses; appending the assessment scores to background questionnaire data; and weighting the data.

The processes associated with marking and scoring the assessments are reported separately in chapter 6.

Processing wave 1 questionnaires

Booking-in questionnaire booklets

Wave 1 questionnaire booklets were returned by the providers in batches, with a separate pack per class group. Each batch was sealed for confidentiality and to ensure batches remained discrete. They included a completed tutor questionnaire, which confirmed the name of the provider, the level of the course attended by the respondents in a given class group, and additional course information. The tutor questionnaire also included a count of the number of learners who were present on the day of the survey and had completed the wave 1 questionnaire.

Once received, the batches were inspected and the following information recorded:

- The provider identifier and serial number of the enclosed 'tutor questionnaire'

- The number of booklets

- Whether the learner count in the tutor questionnaire tallied with the number of enclosed booklets

- The completion status of individual booklets

Any discrepancies between anticipated and actual returns, or learner counts in the tutor questionnaire and the number of booklets in a given batch were investigated and resolved. The completed tutor questionnaires were sent for electronic scanning.

The completion status of booklets was determined through manual inspection of the questionnaire. Booklets which contained a legible learner name, a legible home address, at least one answer in the rest of the background questionnaire, and markings of any type in the assessment section of the booklet were initially classed as complete. They were then inspected in more detail and given a final classification.[16]

Where booklets were identified as useable, the 2 sections of the booklet were separated along the marked perforation and sent for further processing - the background questionnaire was sent for electronic scanning, while the assessment section was sent for marking. Complete records were kept of the number of booklets in each subject (English or maths) and at each level (Entry Level 1 to Level 2) sent for processing.

Data scanning

The electronic scanning process was used to digitally record handwritten responses to closed questions in the tutor and background questionnaires. The scanned data underwent light touch editing and verification[17] and 2 separate SPSS datafiles were produced for English and maths learners.

Since scanners were unable to recognise handwritten names and addresses, this information was manually retrieved from the booklets and, where legible and complete, was digitised. These contact details served 2 purposes:

- Identifying where to send the £5 incentives to respondents who had completed the survey

- Identifying the address to which face to face interviewers should travel for the wave 2 interview (in cases where respondents had consented to taking part in the next wave of the survey)

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[16] Booklets were classified into 5 categories: 1=usable background questionnaire and assessment; 2= usable background questionnaire but blank assessment; 3=entirely blank; 4=incomplete background questionnaire but complete assessment; 5=incomplete background questionnaire and blank assessment (no contact details).

[17] For example, where a respondent selected more than one option in a question which required a single response, the verification process ensured their data for that question was erased and a 'blank' response recorded. Where respondents answered a question which they were instructed to skip, the data for that question was erased and a 'blank' was recorded.

Linking assessment outcome to background questionnaire

The assessments were marked and scores were derived from the results, as described in chapter 6. To conduct further analysis of the scores it was necessary to match individual learners' assessment outcomes to their demographic and attitudinal data from the background questionnaire. The link was made via a unique identifier which appeared on both sections of the questionnaire booklet (background questionnaire and assessment). Due to partial completion, there were some cases where an assessment did not have a corresponding background questionnaire and vice versa. Cases which lacked background questionnaire data were not incorporated into the final datasets.

Processing wave 2 questionnaires

As the wave 2 questionnaires were scripted in CAPI, data was collected in a digital format and did not require manual processing. Learners' responses to the background questionnaire were exported into SPSS, and separate datafiles were produced for English and maths learners.

Assessment responses were sent directly to markers via the BTL software system. The procedures associated with marking and scoring the assessments are described in chapter 6.

Coding open-ended questions

The wave 2 questionnaire included several open-ended questions. Responses were coded by an in-house team of professional coders, and carried out using a web-based package called Ascribe. All coded data were incorporated into the final wave 2 SPSS datafiles.

Three types of coding were undertaken:

- Partial open-ended questions allow respondents to enter an answer which cannot be categorised into a pre-existing response option. For each partial open-ended question, the coding team checked whether any of the verbatim responses given in the 'other specify' category could be coded as an existing response option (this exercise is commonly known as back-coding). On questions where the 'other' answer category exceeded 10% of the total number of responses, answers were reviewed and new codes were created if necessary

- For full open-ended questions, verbatim responses were reviewed by the coding team and a code frame was created out of frequently recurring responses

- The coding team also coded respondents' answers to a series of standard demographic questions which were designed to capture respondents' employment details. This data was used to categorise respondents using the Standard Occupational Classification (SOC2010)

Kantar Public researchers maintained close contact with the coding team throughout fieldwork to ensure that coding was carried out at regular intervals. Once around 60% of the coding had been completed, the coding was accessed by the research team to check the quality of coders' work in terms of what had been back-coded to each answer category and what new codes had been added to the code frame. For quality assurance purposes, any new coders had all of their work checked until the required standard was reached and thereafter their work was systematically spot-checked. In addition, 5% of open-ended answers were randomly selected and the coding verified by senior coders.

Linking assessment outcome to background questionnaire

The wave 2 assessments were marked and scored according to the procedures described in chapter 6. The scores achieved by individual respondents were linked to the rest of their data by means of a unique 'keycode': this was generated automatically via the BTL on-screen assessment system. Scores were added to the respondents' data in the final wave 2 SPSS datasets.

Weighting

The data collected at wave 1, wave 2, and wave 3 were weighted to account for differential sampling probabilities and non-response bias. This section describes the approach to the survey data weighting.

Table 11 (below) summarises the number of interviews in each wave. Please refer to chapter 2 for an explanation of the different wave 2 samples.

Table 11 Interview counts at wave 1 and wave 2

	English	**Maths**
Wave 1 interview count	2,031	1,825
Wave 2 core interview count	922	763
Wave 2 additional ILR sample boost	969	1,035
Total wave 2 interview count	1,891	1,798
Wave 3 interview count	1,079	1,022

Taking account of the 3 waves (wave 1, wave 2 and wave 3) and the 2 strands of survey respondents (English and maths), the weighting of the survey data involved the following:

- Estimation of demographic distributions in the populations of learners undertaking English or maths courses, which were used as the weighting targets

- Estimation of wave 1 respondents' probability to respond to wave 2, given their characteristics recorded at wave 1

- Estimation of wave 2 respondents' probability to respond to wave 3, given their characteristics recorded at wave 2

- Deriving cross-sectional weights for the wave 1, wave 2 and wave 3 English and maths datasets

- Deriving longitudinal weights for the wave 2 and wave 3 longitudinal respondents in the English and maths datasets

Generally speaking, both cross-sectional and longitudinal weights were used to compensate for patterns of non-response and address bias in the survey data. They align the distribution of key demographic characteristics in the wave 1, wave 2 and wave 3 English and maths interviewed samples to the weighting targets. Weighting targets represent the distributions of these key demographic characteristics in the populations that the study targets (the actual populations of learners aged 19 or older undertaking courses on English or maths).

The actual populations of these learners are to a certain extent overlapping, as they include learners who attended both English and maths courses. The weights applied here, however, treated interviews in English and interviews in maths within each wave as distinct samples from non-overlapping populations. This approach enhanced sample efficiency, as it avoided additional weights to control for the proportion of learners on both types of course in the sample. This methodological decision was deemed as optimal, given that learners who study English and maths at the same time were not analysed as a separate group.

The calculation of weights assumed that wave 1 respondents had equal probabilities of being included in the interviewed samples (given the quasi-random sample selection scheme applied at wave 1[18]). It focused on aligning the sample profile to the profile of the target population with regards to sample profiling variables, which were expected to be correlated with the survey data. At wave 2, the survey sample size was boosted with a sample of respondents drawn from ILR, who had not been interviewed at wave 1 (see chapter 2). These fresh wave 2 respondents were assumed to have (a) equal probabilities of being included in the wave 2 sample between them; and (b) on average, equal inclusion probabilities to the longitudinal wave 2 respondents.

The next sub-section discusses in more detail the different steps involved in weighting the datasets.

Estimation of weighting targets

The weighting concentrated on the following sample profiling variables. Firstly, respondent gender interlocked with their age at the start of their course. Secondly, respondent gender interlocked with the level of the course they were undertaking. Finally, the region where respondents lived (or where they studied, if this was not available).[19] The population distributions of these characteristics were derived using the 2013-14 Individualised Learner Records (ILR) Aims database.

Populations of English or maths learners were identified based on the ILR variable LARS_BASICSKILLSTYPE. Gender was identified using the variable SEX. Age at the start of the course was computed based on the variables DATEOFBIRTH and LEARNSTARTDATE. Level was derived based on the variables LARS_SUBENTRYLEVEL and LARS_NOTIONALNVQLEVEL. Finally, region was defined using the variable POSTCODE.

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[18] This assumption is dictated by the fact that probabilities of selection were not known for all respondents.

[19] Kantar Public explored the possibility of using course completion status as an additional post-stratification variable. However, the wording of the question recording completion status for the survey is substantially different to that used by the ILR. Aligning profiling variable distributions with measurement differences would defy the objective of post-stratification. Subsequently, completion status was not included as a post-stratification variable.

The ILR Aims database is structured at course level and includes multiple records for the same learner if they are undertaking more than one course. The database was deduplicated at random based on a unique learner number (variable ULN). De-duplication of cases in the dataset was only conducted within subject, maintaining only one case per learner where learners are doing more than one course in the same subject. De-duplication between subjects was not undertaken, as the 2 populations were treated as distinct, in the context of the post-stratifications.

The 2 populations extracted from the 2013-14 ILR database excluded learners who started their course before September 2013 and learners who were under 19 years old at the start of their course. Tables 12 to 14 show the marginal distributions of the profiling variables used in the post-stratification of the wave 1 and wave 2 English and maths datasets.

Table 12 Population distribution: Subject by gender by age at the start of the course

Subject	Gender	Age at start of course	Distribution within subject
English	Male	18 to 24	16.5%
		25 to 29	6.7%
		30 to 40	9.5%
		41 plus	9.7%
	Female	18 to 24	16.0%
		25 to 29	9.6%
		30 to 40	16.8%
		41 plus	15.3%
Maths	Male	18 to 24	17.3%
		25 to 29	6.6%
		30 to 40	8.7%
		41 plus	8.5%
	Female	18 to 24	18.8%
		25 to 29	9.5%
		30 to 40	15.9%
		41 plus	14.7%

Table 13 Population distribution: Subject by gender by level of the course

Subject	Gender	Level	Distribution within subject
English	Male	Entry Level 1	3.3%
		Entry Level 2	3.7%
		Entry Level 3	6.8%
		Level 1	15.2%
		Level 2	13.3%
	Female	Entry Level 1	3.9%
		Entry Level 2	4.7%
		Entry Level 3	8.6%
		Level 1	19.6%
		Level 2	20.9%
Maths	Male	Entry Level 1	1.3%
		Entry Level 2	2.1%
		Entry Level 3	6.8%
		Level 1	16.6%
		Level 2	14.2%
	Female	Entry Level 1	1.9%
		Entry Level 2	2.7%
		Entry Level 3	8.6%
		Level 1	22.3%
		Level 2	23.4%

Table 14 Population distribution: Subject by region

Subject	Region	Distribution within subject
English	North East	6.5%
	North West	18.6%
	Yorkshire and The Humber	11.1%
	East Midlands	7.1%
	West Midlands	12.0%
	East of England	6.5%
	London	20.5%
	South East	10.0%
	South West	7.8%
Maths	North East	7.1%
	North West	19.4%
	Yorkshire and The Humber	12.6%
	East Midlands	7.6%
	West Midlands	12.1%
	East of England	7.0%
	London	15.4%
	South East	10.4%
	South West	8.3%

Estimating response probabilities for wave 2 and wave 3 respondents

Wave 1 respondents' probabilities to respond to wave 2 or wave 2 respondents' probabilities to respond to wave 3 play an important role in the weighting of the wave 2 and wave 3 English and maths datasets. To estimate these response probabilities, Kantar Public used logistic regression models that predicted (a) the outcome of either obtaining or not obtaining a wave 2 interview from a wave 1 respondent, given respondent characteristics recorded at wave 1 and (a) the outcome of either obtaining or not obtaining a wave 3 interview from a wave 2 respondent, given respondent characteristics recorded at wave 2.

The first step to the construction of the logistic regression models that predict response probabilities at wave 2 and wave 3 involved a thorough examination of variables in the wave 1 and wave 2 datasets (respectively) in order to determine sets of candidate predictor variables for the models. During this process, variables with substantial proportions of missing values were excluded from the set of candidate predictors, to avoid suppressing the statistical power of the models (due to missing data points). Also, depending on their frequency distributions, some categorical variables were re-coded to merge low frequency categories together.

For the response probability model at wave 2, a total of 22 candidate variables were tested as candidate predictors (of whether a wave 2 interview was obtained by a wave 1 respondent). A stepwise logistic regression process was used to construct the final model. This process eliminated uninformative candidate predictor variables using the likelihood ratio test statistic. The predictors in the final model were:

(a) respondents' gender;

(b) respondents' age at the start of their course;

(c) whether the course was English or maths;

(d) level of the course;

(e) whether the respondent started the course because their employer wanted them to;

(f) whether the respondent started the course because they were encouraged by their family;

(g) whether the respondent started the course as a stepping stone to other training or qualifications;

(h) respondents' ethnic background;

(i) whether respondent (at wave 1) had children living in their household to whom they are a parent or guardian;

(j) whether respondents (at wave 1) were willing to be re-contacted for future research; and,

(k) the post-stratification weight applied in wave 1[20].

Similarly, for the response probability model at wave 3, a total of 31 candidate variables were tested as candidate predictors (of whether a wave 3 interview was obtained by a wave 2 respondent) and a stepwise logistic regression process was employed to construct the final model (by eliminating uninformative candidate predictor variables using the likelihood ratio test statistic). The predictors in the final model were:

(a) respondents' gender;

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[20] Post-stratification of the wave 1 datasets preceded the modelling of response probabilities.

(b) respondents' age at the start of their course;

(c) whether the course was English or maths;

(d) the level of the course;

(e) whether illness was a barrier to the respondent's learning at a younger age;

(f) whether learning disabilities were a barrier to the respondent's learning at a younger age;

(g) whether family-life difficulties were a barrier to the respondent's learning at a younger age;

(h) whether the respondent was claiming benefits at wave 2;

(i) whether the respondent was in paid employment at wave 2;

(j) whether the respondent consented to his/her survey data being linked to external databases (such as the Individualised Learner Records or employment and benefits data) at wave 2; and,

(k) the post-stratification weight applied in wave 2.

Tables 15 and 16 show key parameters of the models. The odds ratios reveal the relationship between a certain sample group's odds of responding to wave 2[21] and the odds of a reference group. For example, the odds of response was 1.288 times higher for respondents whose age at the start of their course was 25 to 29 years old compared with respondents who were 19 to 24 years old. The lower and upper bounds of 95% odds ratio confidence intervals (C.I.) indicate the range of values that are most probable for the odds ratios. Finally, p-values for the coefficients that are under 0.05 indicate statistical significance of the predictor[22].

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[21] The odds of responding to wave 2 represent the ratio of the probability of responding to wave 2 to the probability of not responding.
[22] Some variables have been forced into the model even though they do not appear as statistically significant. Given that the objective of this model is to predict response probabilities rather than explain what motivates response, there are no negative side-effects from including the specific predictors in the final model.

Table 15 Predictive model of response probability to wave 2: model parameters

Predictor	Category [vs. reference category], if predictor is categorical	Odds Ratio	Lower bound of odds ratio (95% C.I.)	Upper bound of odds ratio (95% C.I.)	p-value for coefficient
Respondents' gender	Male [vs. female]	1.189	1.003	1.410	0.046
Respondents' age at the start of the course	25 to 29 [vs. 18 to 24]	1.288	1.006	1.649	0.044
	30 to 40 [vs. 18 to 24]	1.254	0.992	1.585	0.058
	41 or above [vs. 18 to 24]	1.558	1.238	1.960	<0.01
Whether respondent's course was on English or on Maths	Maths [vs. English]	0.907	0.783	1.051	0.194
Level of respondent's course	EL2 [vs. EL1]	0.837	0.560	1.252	0.386
	EL3 [vs. EL1]	0.713	0.497	1.024	0.067
	L1 [vs. EL1]	0.842	0.589	1.206	0.349
	L2 [vs. EL1]	0.877	0.607	1.266	0.483
Whether the respondent started the course because their employer wanted them to	Yes [vs. no]	0.568	0.292	1.106	0.096
Whether the respondent started the course because they were encouraged by their family	Yes [vs. no]	2.306	1.376	3.864	0.002
Whether the respondent started the course as a stepping stone to other training or qualifications	Yes [vs. no]	0.838	0.717	0.980	0.027
Respondents' ethnic background	White [vs. non-white or not known]	1.135	0.974	1.324	0.105

Predictor	Category [vs. reference category], if predictor is categorical	Odds Ratio	Lower bound of odds ratio (95% C.I.)	Upper bound of odds ratio (95% C.I.)	p-value for coefficient
Whether respondent (at wave 1) had children living in their household to whom they are a parent or guardian	Yes [vs. no or not known]	1.164	0.988	1.372	0.070
Whether respondents (at wave 1) are willing to be re-contacted for future research	Yes [vs. no or not known]	27.658	21.129	36.206	<0.01
The post-stratification weight applied in wave 1		0.972	0.821	1.151	0.742
Constant		0.044			<0.01

Table 16 Predictive model of response probability to wave 3: model parameters

Predictor	Category [vs. reference category], if predictor is categorical	Odds Ratio	Lower bound of odds ratio (95% C.I.)	Upper bound of odds ratio (95% C.I.)	p-value for coefficient
Respondents' gender	Female [vs. male]	1.163	0.985	1.373	0.075
Respondents' age at the start of the course	18 to 24 [vs. 41 or above]	0.625	0.511	0.764	<0.01
	25 to 29 [vs. 41 or above]	0.702	0.563	0.875	0.002
	30 to 40 [vs. 41 or above]	0.774	0.648	0.924	0.005
Whether respondent's course was on English or on Maths	English [vs. maths]	0.999	0.871	1.147	0.992
Level of respondent's course	EL1 [vs. L2]	1.331	0.977	1.815	0.070
	EL2 [vs. L2]	1.546	1.155	2.068	0.003
	EL3 [vs. L2]	1.479	1.159	1.889	0.002
	L1 [vs. L2]	1.375	1.128	1.675	0.002
Respondents' region	North East [vs. South East]	1.163	0.725	1.865	0.531
	North West [vs. South East]	1.354	1.005	1.824	0.046
	Yorkshire & Humberside [vs. South East]	1.785	1.286	2.480	0.001
	East Midlands [vs. South East]	1.438	1.006	2.057	0.046
	West Midlands [vs. South East]	1.168	0.861	1.585	0.317
	South West [vs. South East]	1.684	1.180	2.405	0.004
	East of England [vs. South East]	1.614	1.124	2.316	0.009
	London [vs. South East]	0.883	0.660	1.181	0.401
Whether illness was a barrier to the respondent's learning at a younger age	No [vs. yes]	0.679	0.491	0.938	0.019
Whether learning disabilities were a barrier to the respondent's learning at a younger age	No [vs. yes]	1.223	1.016	1.473	0.033

Predictor	Category [vs. reference category], if predictor is categorical	Odds Ratio	Lower bound of odds ratio (95% C.I.)	Upper bound of odds ratio (95% C.I.)	p-value for coefficient
Whether family-life difficulties were a barrier to the respondent's learning at a younger age	No [vs. yes]	0.798	0.661	0.965	0.020
Whether the respondent is in paid employment at wave 2	Not in employment [vs. in employment]	1.256	1.081	1.458	0.003
Whether the respondent is claiming benefits at wave 2	Claiming benefits [vs. not claiming benefits]	1.271	1.086	1.488	0.003
Whether respondent was interviewed at wave 1	No [vs. yes]	1.133	0.972	1.320	0.111
Linkage consent at wave 2	Yes [vs. no]	1.880	1.454	2.430	<0.01
Post-stratification weight applied in wave 2		0.812	0.693	0.952	0.010
Constant		0.707			0.242

Calculating cross-sectional weights

Kantar Public derived post-stratification variables from the wave 1, wave 2, and wave 3 datasets. These were: respondents' gender interlocked with their age at the start of their course; respondents' gender interlocked with the level of the course they were undertaking; and the region where respondents live. In some cases where survey data was missing, deriving the variables involved data imputations.[23]

The weighting was implemented using the RIM weighting algorithm. This matched the distribution of the post-stratification variables in the achieved wave 1, wave 2, and wave 3 English and maths samples to their distribution in their corresponding target populations (i.e. the weighting targets) with minimal disruption of the structure of the achieved samples.

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[23] The wave 1 English and the wave 1 maths survey datasets in aggregate were missing information on gender for 8 cases and information on age at the start of the course for 238 cases. These were randomly imputed to reflect the distributions of the non-missing survey data. For the wave 2 and wave 3 English and maths datasets, it was possible to infer any missing values from auxiliary information available at the ILR database or from previous survey waves (consequently, missing values were not imputed randomly).

The post-stratification weights were trimmed[24] so their variance (and therefore the design effect due to the post-stratification) were suppressed, and then scaled to the achieved sample sizes (see Table 11). For wave 1, design effects due to post-stratification are estimated at 1.31 for the English[25] and 1.35 for the maths survey data[26]. For wave 2, design effects are 1.53 for English[27] and 1.61 for maths[28]. Finally, for wave 3, design effects are 1.74 for English[29] and 1.89 for maths[30]. Tables 17 to 19 show the weighted distributions of the post-stratification variables in the wave 1 and wave 2 English and maths samples.[31]

Table 17 Weighted distributions: Subject by gender by age at the start of the course

Subject	Gender	Age at start of course	Weighting target	Wave 1	Wave 2	Wave 3
English	Male	18 to 24	16.5%	16.2%	15.8%	15.8%
		25 to 29	6.7%	6.3%	6.8%	6.2%
		30 to 40	9.5%	9.3%	9.6%	9.8%
		41 plus	9.7%	9.4%	9.7%	9.7%
	Female	18 to 24	16.0%	16.1%	15.6%	15.7%
		25 to 29	9.6%	9.9%	9.8%	9.8%
		30 to 40	16.8%	16.9%	17.1%	17.2%
		41 plus	15.3%	15.8%	15.6%	15.8%
Maths	Male	18 to 24	17.3%	16.9%	17.5%	17.0%
		25 to 29	6.6%	6.6%	6.3%	6.5%
		30 to 40	8.7%	8.7%	8.8%	8.8%
		41 plus	8.5%	8.5%	8.6%	8.5%
	Female	18 to 24	18.8%	18.9%	18.6%	18.4%
		25 to 29	9.5%	9.6%	9.4%	9.6%
		30 to 40	15.9%	16.0%	15.9%	16.3%
		41 plus	14.7%	14.8%	14.8%	14.9%

[24] Weighting factors that exceeded the median weighting factor by 5 times were suppressed to equal 5 times the median weighting factor.

[25] Mean wave 1 English weight (trimmed) = 1; Standard deviation of wave 1 English weight (trimmed) = 0.561, Design effect = 1 + (0. 560/1)^2 = 1.31.

[26] Mean wave 1 maths weight (trimmed) = 1; Standard deviation of wave 1 maths weight (trimmed) = 0.605, Design effect = 1 + (0. 594/1)^2 = 1.35.

[27] Mean wave 2 maths weight (trimmed) = 1; Standard deviation of wave 2 maths weight (trimmed) = 0. 732, Design effect = 1 + (0. 729/1)^2 = 1.53.

[28] Mean wave 2 maths weight (trimmed) = 1; Standard deviation of wave 2 maths weight (trimmed) = 0. 769, Design effect = 1 + (0. 782/1)^2 = 1.61.

[29] Mean wave 3 maths weight (trimmed) = 1; Standard deviation of wave 3 maths weight (trimmed) = 0.861, Design effect = 1 + (0.861/1)^2 = 1.74.

[30] Mean wave 3 maths weight (trimmed) = 1; Standard deviation of wave 3 maths weight (trimmed) = 0. 947, Design effect = 1 + (0. 947/1)^2 = 1.89.

[31] Small differences between the weighted distributions and the weighting targets are due to trimming the weighting factors to a maximum of 5 times the median weighting factor.

Table 18 Weighted distributions: Subject by gender by level of the course

Subject	Gender	Level	Weighting target	Wave 1	Wave 2	Wave 3
English	Male	Entry Level 1	3.3%	3.2%	3.4%	3.4%
		Entry Level 2	3.7%	3.6%	3.8%	3.9%
		Entry Level 3	6.8%	6.3%	7.0%	7.1%
		Level 1	15.2%	15.7%	14.2%	13.7%
		Level 2	13.3%	12.5%	13.4%	13.3%
	Female	Entry Level 1	3.9%	3.6%	4.0%	4.1%
		Entry Level 2	4.7%	4.8%	4.8%	4.9%
		Entry Level 3	8.6%	8.9%	8.9%	9.0%
		Level 1	19.6%	20.2%	19.5%	19.1%
		Level 2	20.9%	21.3%	21.0%	21.4%
Maths	Male	Entry Level 1	1.3%	1.3%	1.4%	1.4%
		Entry Level 2	2.1%	2.1%	2.1%	2.1%
		Entry Level 3	6.8%	6.8%	6.8%	7.0%
		Level 1	16.6%	16.2%	16.5%	16.1%
		Level 2	14.2%	14.2%	14.4%	14.3%
	Female	Entry Level 1	1.9%	1.9%	1.9%	1.9%
		Entry Level 2	2.7%	2.8%	2.8%	2.8%
		Entry Level 3	8.6%	8.7%	8.7%	8.8%
		Level 1	22.3%	22.4%	22.1%	22.4%
		Level 2	23.4%	23.5%	23.3%	23.3%

Table 19 Weighted distributions: Subject by region

Subject	Region	Weighting target	Wave 1	Wave 2	Wave 3
English	North East	6.5%	3.4%	5.1%	5.1%
	North West	18.6%	19.2%	18.4%	18.9%
	Yorkshire and The Humber	11.1%	11.4%	11.1%	11.4%
	East Midlands	7.1%	7.3%	7.3%	7.4%
	West Midlands	12.0%	12.4%	12.3%	12.5%
	East of England	6.5%	6.7%	6.7%	6.8%
	London	20.5%	21.2%	20.9%	20.6%
	South East	10.0%	10.3%	10.2%	9.1%
	South West	7.8%	8.1%	8.0%	8.2%
Maths	North East	7.1%	6.6%	7.1%	6.0%
	North West	19.4%	19.5%	19.3%	19.6%
	Yorkshire and The Humber	12.6%	12.7%	12.4%	12.8%
	East Midlands	7.6%	7.7%	7.5%	7.7%
	West Midlands	12.1%	12.2%	12.3%	12.4%
	East of England	7.0%	7.1%	7.0%	7.2%
	London	15.4%	15.5%	15.6%	15.5%
	South East	10.4%	10.5%	10.5%	10.2%
	South West	8.3%	8.3%	8.4%	8.5%

Calculating longitudinal weights

Longitudinal weights were specifically constructed to facilitate analysis on longitudinal respondents; that is, respondents who had taken part to both wave 1 and wave 2 (i.e. the longitudinal wave 2 respondents) or analysis on respondents who had taken part to all three survey waves (i.e. the longitudinal wave 3 respondents). These weights were designed to match the longitudinal respondents' profile to the weighting targets.

Longitudinal wave 2 English and maths weights were calculated to be equal to the wave 1 English and maths post-stratification weights respectively, divided by the probability that a wave 1 respondent will take part in wave 2. This probability was estimated based on respondent characteristics recorded at wave 1.

Longitudinal wave 3 English and maths weights were calculated by adjusting the corresponding longitudinal wave 2 weights by the inverse of the probability that a wave 2 respondent will take part in wave 3 (as estimated based on respondent characteristics recorded at wave 2).

The longitudinal English and maths weights were trimmed[32] to suppress the variance of the weighting factors and limit the design effects due to the longitudinal weights. They were then scaled to the size of the longitudinal sample of English and maths learners in wave 2 (see Table 11). For the longitudinal wave 2 weights, design effects are estimated at 1.60 for the English[33] and 1.61 for the maths longitudinal survey data[34]. For wave 3 weights, design effects are estimated at 1.59 for the longitudinal English[35] and 1.63 for the longitudinal maths survey data[36].

Tables 20 to 22 show the weighted distributions of the longitudinal wave 2 and wave 3 English and maths respondents[37] against the weighting targets. Disparities between the weighted profile of the longitudinal respondents and the weighting targets are a side-effect of the trimming that was applied to the longitudinal weights.[38]

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[32] Weighting factors that exceeded the median weighting factor by 5 times were suppressed to equal 5 times the median weighting factor. Weighting factors that were smaller than the median weighting factor divided by 5 were set to be equal to the median weighting factor divided by 5.

[33] Mean longitudinal wave 2 English weight (trimmed) = 1; Standard deviation of longitudinal wave 2 English weight (trimmed) = 0.561, Design effect = $1 + (0.774/1)^2 = 1.60$.

[34] Mean longitudinal wave 2 English weight (trimmed) = 1; Standard deviation of longitudinal wave 2 maths weight (trimmed) = 0.605, Design effect = $1 + (0.781/1)^2 = 1.61$.

[35] Mean longitudinal wave 3 English weight (trimmed) = 1; Standard deviation of longitudinal wave 3 English weight (trimmed) = 1.319, Design effect = $1 + (1.319/1.715)^2 = 1.60$.

[36] Mean longitudinal wave 3 maths weight (trimmed) = 1; Standard deviation of longitudinal wave 3 maths weight (trimmed) = 0.767, Design effect = $1 + (0.767/1)^2 = 1.63$.

[37] Differences between the weighted distributions and the weighting targets are due to the trimming of the weighting factors.

[38] If the weights had not been trimmed, the weighted distribution of the longitudinal respondents would perfectly align to the weighting targets. However, the design effects due to the longitudinal weights would be higher, thus suppressing the size of the effective sample of longitudinal respondents. Trimming the weights and accepting some differences between the weighted distribution of longitudinal respondents and the weighting targets was therefore deemed as preferable in this instance.

Table 20 Weighted distributions: Subject by gender by age at the start of the course

Subject	Gender	Age at start of course	Weighting target	Longitudinal wave 2 respondents	Longitudinal wave 3 respondents
English	Male	18 to 24	16.5%	12.2%	12.8%
		25 to 29	6.7%	7.0%	6.2%
		30 to 40	9.5%	8.9%	9.6%
		41 plus	9.7%	9.7%	10.1%
	Female	18 to 24	16.0%	15.4%	13.5%
		25 to 29	9.6%	9.8%	10.2%
		30 to 40	16.8%	20.8%	20.2%
		41 plus	15.3%	16.2%	17.5%
Maths	Male	18 to 24	17.3%	13.0%	13.4%
		25 to 29	6.6%	7.9%	8.2%
		30 to 40	8.7%	6.9%	7.2%
		41 plus	8.5%	7.9%	8.1%
	Female	18 to 24	18.8%	18.9%	16.4%
		25 to 29	9.5%	11.6%	10.4%
		30 to 40	15.9%	19.0%	21.3%
		41 plus	14.7%	14.8%	15.0%

Table 21 Weighted distributions: Subject by gender by level of the course

Subject	Gender	Level	Weighting target	Longitudinal wave 2 respondents	Longitudinal wave 3 respondents
English	Male	Entry Level 1	3.3%	2.5%	2.2%
		Entry Level 2	3.7%	4.2%	4.9%
		Entry Level 3	6.8%	8.7%	8.5%
		Level 1	15.2%	10.4%	10.8%
		Level 2	13.3%	12.0%	12.4%
	Female	Entry Level 1	3.9%	3.3%	3.2%
		Entry Level 2	4.7%	6.7%	6.9%
		Entry Level 3	8.6%	9.2%	9.0%
		Level 1	19.6%	21.2%	20.3%
		Level 2	20.9%	21.8%	22.0%
Maths	Male	Entry Level 1	1.3%	1.3%	1.4%
		Entry Level 2	2.1%	3.3%	3.2%
		Entry Level 3	6.8%	6.9%	6.2%
		Level 1	16.6%	14.7%	14.4%
		Level 2	14.2%	9.5%	11.6%
	Female	Entry Level 1	1.9%	1.9%	1.2%
		Entry Level 2	2.7%	3.7%	3.8%
		Entry Level 3	8.6%	9.8%	9.7%
		Level 1	22.3%	26.2%	26.3%
		Level 2	23.4%	22.7%	22.2%

Table 22 Weighted distributions: Subject by region

Subject	Region	Weighting target	Longitudinal wave 2 respondents	Longitudinal wave 3 respondents
English	North East	6.5%	5.0%	2.9%
	North West	18.6%	20.1%	19.7%
	Yorkshire and The Humber	11.1%	15.0%	16.9%
	East Midlands	7.1%	6.7%	7.7%
	West Midlands	12.0%	14.2%	14.6%
	East of England	6.5%	7.7%	8.1%
	London	20.5%	7.4%	16.3%
	South East	10.0%	16.6%	3.6%
	South West	7.8%	7.3%	10.1%
Maths	North East	7.1%	7.0%	4.8%
	North West	19.4%	21.0%	21.3%
	Yorkshire and The Humber	12.6%	16.4%	14.3%
	East Midlands	7.6%	8.2%	8.5%
	West Midlands	12.1%	11.9%	11.8%
	East of England	7.0%	11.2%	12.1%
	London	15.4%	7.6%	8.7%
	South East	10.4%	9.7%	10.2%
	South West	8.3%	7.0%	8.2%

SPSS Outputs

The raw SPSS datasets were checked and cleaned[39] and underwent basic editing. This included: the addition of sample variables needed for analysis; the addition of weighting variables; and the derivation of new variables required for analysis. During editing it was discovered that the data included several learners who were under 19 and these cases were deleted.[40]

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[39] As part of this process, redundant variables were deleted, variables were renamed or re-ordered to match the questionnaires, and values were standardised.
[40] In some cases, learners aged under 19 attended eligible classes in the provider settings, and were included in Wave 1 as this was administered to all learners in the classroom. To ensure that the final

The final outputs consisted of 8 SPSS datafiles:

- Wave 1 English dataset

- Wave 1 maths dataset

- Wave 2 English dataset

- Wave 2 maths dataset

- Longitudinal (wave 1 and 2) English dataset

- Longitudinal (wave 1 and 2) maths dataset

- Longitudinal (wave 1, 2 and 3) English dataset

- Longitudinal (wave 1, 2 and 3) maths dataset

The number of cases in the wave 2 datasets exceeds the number of interviews conducted at wave 2. This is due to the fact that a minority of learners attended multiple courses and completed assessments in both English and maths. Where this was the case, the learner was assigned multiple records in the dataset: their responses to demographic, attitudinal and behavioural questions were replicated across records, but answers concerning their course, together with the score for their assessment, were unique to each record.

Matching survey records to the Individualised Learner Record (ILR)

At each wave of interviewing respondents were asked to consent to have their survey responses linked to the Individualised Learner Record (ILR). The ILR contains a vast amount of administrative data for all learners in England and Wales for each academic course which they enrol on. Each learner in the ILR is assigned a Unique Learner Number (ULN) which is used throughout their education and in connection to every course they attend. By identifying the ULN of respondents who took part in the survey it becomes possible to track their educational attainment and other outcomes both prior to and subsequent to the survey.

data only contained eligible individuals (who were already 19 at the start of the course, or turned 19 during their course), anyone born later than 1st December 1994 was removed.

Kantar Public undertook a matching exercise to identify the ULN of learners who completed the first wave of the survey and agreed to have any answers collected during the survey linked to the ILR. It was not necessary to identify the ULN of learners who took part in the second wave, as these learners were either part of the core sample and had already taken part in wave 1 (and would therefore be matched to the ILR on this basis); or they were part of the additional sample who were selected from the ILR boost and already had a known ULN (see chapter 2).

The first stage of matching involved identifying common variables which were present in the survey data and the ILR. These were as follows:

> A: College name
>
> B: Course name
>
> C: Course end date
>
> D: Learner surname
>
> E: Learner postcode
>
> F: Learner address (first line and town)
>
> G: Year of birth
>
> H: Gender
>
> I: Telephone number
>
> J: Email
>
> K: Learner forename initial
>
> L: College UKPRN

Combinations of identifying variables were specified, and these were used during the matching process to categorise the quality of the matches which were made. Where the number of identifying criteria successfully matched was higher, the more confident we could be that the learner who took part in the survey was correctly identified in the ILR. The combination rules are shown in Table 23.

The first stage of matching was carried out using Queries in a Microsoft Access database which contained the identifying variables from both the ILR and the survey. Once the automated process was completed, a manual search was conducted based on the same criteria but allowing for the possibility that the identifying variables contained typographic errors (e.g. a slightly misspelt surname or college name, which would have hindered automatic matching).

Since learners appear multiple times in the ILR for every course they are attending in a single academic year, it was important to also identify the course which the learner had been interviewed in relation to. Once a learner's ULN was identified in the ILR, a series of look-ups were undertaken in Excel, cross matching the learner's ULN and course data from the survey to identify the correct course.

At the end of this process, we successfully identified ULNs and courses for 857 English learners and 775 maths learners. This translates to 55% of English learners and 55% of maths learners who agreed to linkage at wave 1.[41]

Table 23 Combinations of variables used to identify matches between survey records and ILR records

Combination	Matching variables												Quality of match
1	A	B	C	D	E	F	G	H	I	J	K	L	secure match
2	A	B	C	D	E	F	G	H			K	L	confident match
3	A	B	C	D	E	F					K	L	
4	A	B	C	D	E		G	H			K	L	
5	A	B		D	E	F	G	H			K	L	
6	A		C	D	E	F	G				K	L	
7	A	B		D	E	F	G				K	L	
8	A	B	C	D		F	G				K	L	
9	A	B	C	D	E	F					K	L	
10		B	C	D	E	F	G	H	I	J			good match
11	A		C	D	E	F	G	H	I	J		L	
12		B	C	D	E	F	G	H					
13	A		C	D	E	F	G	H					
14	A	B	C	D	E	F					K	L	

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[41] 1570 of the English learners who took part in wave 1 of the survey agreed to data linkage and 1408 maths learners who took part in wave 1 of the survey agreed to data linkage. Matching was not conducted in wave 3.

Combination	Matching variables												Quality of match
15	A	B	C	D	E						K	L	
16	A	B	C		E	F	G	H	I	J		L	acceptable match
17	A	B	C		E	F	G	H				L	
18		B	C	D	E	F					K		
19		B	C	D	E						K		
20	A		C	D	E	F					K	L	
21	A		C	D	E						K	L	
22				D	E	F	G	H			K	L	
23				D	E	F	G					L	
24				D	E	F	G	H	I	J	K		
25				D	E	F	G	H					
26				D	E	F	G						
27				D		F	G						
28				D	E		G						
29				D	E	F					K		
30				D	E						K		
31				D		F					K		

Chapter 6. Deriving scores from maths, English reading and English writing tests

Marking the assessments

The survey tests were developed and assessed by AlphaPlus. The different types of questions (items) in the tests were marked in different ways. The maths, reading and SPAG (spelling, punctuation and grammar) items were objectively scored i.e. no marker judgement was involved in scoring. Most of the items were dichotomously scored (right/wrong – 1 or 0), although some, particularly in the maths tests, were multi-mark items.

The extended writing tasks (Ex W) were scored in an entirely different way. Markers were required to judge learners' scripts, whether submitted on paper in wave 1 or the on-screen tests in waves 2 and 3. They were marked using a 0 – 11 scale, which covered the range of levels[42] in the project, as shown in Table 24.

Table 24 Markers' rubric for extended writing

Level	Total marks Task 1	Total marks Task 2	Total marks Task 3
Working below E1	0		
Working towards E1	1		
Fully achieved E1	2		
Working towards E2	3		
Fully achieved E2	4	4	
Working towards E3	5	5	
Fully achieved E3		6	
Working towards L1		7	
Fully achieved L1		8	8
Working towards L2		9	9
Fully achieved L2			10
Working towards L3			11

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[42] This chapter uses the following abbreviations: E1 (Entry Level 1); E2 (Entry Level 2); E3 (Entry Level 3); L1 (Level 1); and, L2 (Level 2).

Scoring the assessments

Consider 4 test scores:

- 15 marks on a 20-mark Entry Level 3 test

- 17 marks on a 25-mark Entry Level 3 test

- 6 marks on a 20-mark Level 1 test

- 8 marks on a 25-mark Level 1 test

The above illustrates that it is not easy to compare the number of correct answers from tests that may be at different levels, and / or of differing lengths. This is because there is no way of telling the relative value of scores on easier or harder; and / or longer or shorter tests. What we need is a more advanced measurement approach if we are to interpret scores from different tests.

As well as comparing scores from tests of differing lengths, we need an approach which will produce credible results across a wide ability range (Entry Level 1 to Level 2) and which will work for both single mark (dichotomous) and multi-mark (polytomous) items. Further, in the writing test, we have tests made up of 2 types of task - objective SPAG items, and a human-marked extended writing task. We need a credible approach to scaling writing tests to permit scores to be compared meaningfully between different test versions and modes.

In providing a statistic to show a learner's ability in English or maths, we are estimating their skills levels based on their answers to test questions. Therefore, such ability estimates will have associated with them a certain amount of error of measurement. Such error of measurement can exist at the level of an individual learner's score (a standard error of measurement – SEM), and globally, at the level of a test or of a set of equated tests (i.e. an equate). In this latter case, error of measurement can be conceptualised as a reliability coefficient. As well as measurement error, if we are using a model with certain assumptions contained within it, there remains the question of the extent to which the pattern of responses to particular items fits the assumptions of the model. Developed measurement models will provide a range of 'fit statistics' to quantify the extent to which an observed pattern of responses fits the assumptions of the measurement model used.

Tests based on objective items (reading, maths and SPAG)

Measurement model

Item response theory (IRT) is a family of measurement models. It exists in various formats, with a range of model parameters. The first parameter is known as ability-difficulty (described below), but IRT models with more parameters exist. The 2 parameter model contains ability-difficulty, and a parameter to correct for widely differing item discriminations. The 3-parameter model adds a parameter to correct for guessing and is used in tests made up of multiple-choice questions (MCQs). As the tests in this research did not contain many MCQs the 3-parameter model was not used.

The 2-parameter model was seriously considered at the start of this work. This was to model varying item discriminations, especially for modelling more advanced items, such as multi-mark items. However, it was decided to use the one-parameter, Rasch[43] model of IRT (Rasch, 1960/1980; Bond & Fox, 2007). Rasch modelling was carried out via the Winsteps software (Linacre, 2009). This decision was made for the following reasons:

- The initial, classical analysis had shown item discriminations to be within an acceptable range. It is not the case that the Rasch model requires all discrimination parameters to be identical; rather, it is the case that – for Rasch to model item difficulty and person ability acceptably – item discrimination needs to be within a moderate range

- The task of building a long scale of ability is innately susceptible to using a one-parameter model. Jones (1993) and North (1993) both give detailed expositions of their work on similar tasks, and insight can be gained from studying their methods

- Winsteps is a widely used Rasch program; it is rigorous, and the accuracy of its output has been rigorously tested. The implications of Winsteps-based Rasch analysis are familiar to many researchers. Further, the program contains a wide range of outputs and was available to the analysts in this project

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[43] Named after its inventor, the Danish mathematician, Georg Rasch.

The Rasch model posits that persons' abilities and items' difficulties can be related on a common scale. The relationship between person ability and item difficulty is probabilistic. That is, if an able person encounters an easy item, he or she will probably get it right. Further, we can alter this equation to estimate a person's ability based on their responses to items of known difficulty. The scale upon which both person ability and item difficulty reside is 'logits' (log odds ratio). This has a mean of 0 and ranges from approximately - 5 to +5 logits.

Rasch's core model was operationalised for dichotomous items (right or wrong; 1 or 0). However, various extensions have been developed to model data from polytomous, multi-mark items. In this research, Masters' partial credit model was operationalised, by setting the command ISGROUPS = 0 within the Winsteps control file (Linacre, undated a).

Equating approaches

An important task in this project is equating (also known as linking, calibrating or anchoring) estimates of persons' ability. This is the process that allows us to relate a person's score on, for example, an input Entry Level 3 test with their score on their output, Level 1, test. In this project, 2 approaches to linking were taken. These are described below.

a) Concurrent calibration

Consider the following (dummy) example of 2 test datasets shown in Table 25.

Table 25 Dummy dataset to illustrate concurrent calibration

Person_ID	Item_ID							
	XYZ501	XYZ502	XYZ503	XYZ504	XYZ505	XYZ701	XYZ702	XYZ705
ABC123	0	0	2	1	1			
ABC124	1	0	2	0	2			
ABC125	1	0	0	2	0			
ABC126	0	0	1	0	2			
ABC127	0	0	0	1	2			
ABC128	1	1	2	1	1			
ABC129	1	0	1	1	2			
ABC130	1	0	1	2	1			
ABC131	1	0	0	0	2			
ABC132	0	0	0	1	1			
ABC201		0			2	1	0	4
ABC202		2			2	1	0	4
ABC203		1			1	0	0	3
ABC204		2			3	1	0	3
ABC205		1			3	0	2	1
ABC206		0			4	1	2	2
ABC207		0			0	0	1	3
ABC208		2			0	0	0	3
ABC209		0			2	1	2	2
ABC210		1			4	1	2	3

In this dummy data file, 2 test datasets are merged. Test 1 contains 5 items (XYZ501, XYZ502, XYZ503, XYZ504 and XYZ505). Ten people respond to those 5 items (IDs ABC123 to ABC132). Test 2 also contains 5 items (XYZ701, XYZ702, XYZ705 as well as XYZ502 and XYZ505). Ten different people respond to test 2. Their IDs are: ABC201 … ABC210.

If we line up the 2 common items underneath each other, as shown in Table 25, we are able to create a missing data matrix and then carry out concurrent calibration. This means that we can treat the difficulties of the common items (XYZ502 and XYZ505 in this illustration) as constant. Therefore, we can relate the difficulty of the non-common items to each other, and the abilities of the 2 groups of persons to each other.

Concurrent calibration is a very flexible and powerful technique. However, it must be used carefully. If it is just applied en masse to a large dataset of persons and items, it can give rise to some highly counter-intuitive results (items that were written to be at Level 2 coming out as easier than items that were written to be an Entry Level 2, for example). Therefore, while concurrent calibration was used to link items and persons within each equate in this project, it was done carefully. Rather than concurrently calibrating all tests in an equate in one go, neighbouring tests were added to the equate sequentially. The equate was centred on the middle levels of the ability distribution, and gradually built up to the outer edges in the following order:

- Entry Level 3

- Level 1

- Entry Level 2

- Level 2

- Level 1

The credibility of the equate was checked at each stage.

b) Anchoring

Whilst careful, sequential concurrent calibration was a suitable approach for equating 5 tests within one administration (e.g. wave 1, wave 2 or wave 3), it was stretching the procedure to calibrate 2 administrations concurrently. Rather, once a particular administration of tests had been established as a credible equate, the second administration was anchored to the first. In this context, anchoring means taking the item difficulty values of some items in wave 1 and assigning them the difficulty of the same items that was achieved in the wave 2 equate. Note, in this work, wave 1 has been anchored to wave 2, not the other way around (Linacre, undated b).

Although anchoring is an effective procedure for linking item difficulties and person abilities it does have some weaknesses. It is quite common for anchor items to perform idiosyncratically or 'misbehave,' for example to appear very easy in one context, but very difficult in another (Michaelides, 2010). To prevent 'misbehaving' anchor items from giving perverse results, we limited anchors only to those items that had 'behaved'. Typically, we treated items that had an absolute difference of less than one logit as suitable to be anchor item.

Indicators of measurement quality

a) Reliability

Reliability is a necessary, although not sufficient, characteristic of high quality measurement. Whilst without validity, we might not be measuring the right thing, without reliability, we are not measuring at all.

There are many indices that quantify reliability. These are the relevant ones for the purposes of the current work. Cronbach's alpha (Cronbach, 1951) is a very widely used index of internal consistency reliability. Internal consistency reliability concerns the consistency (intra-correlation) of a dataset with itself. High reliability suggests a stable measure. It also suggests that most of the variance in scoring can be explained by some coherent underlying trait, rather than mere random error variance.

A higher value on alpha is typically better, but there is no absolute canonical value for 'good' reliability. However, Kline (1999) has provided the rule of thumb shown in Table 26, which is useful if interpreted cautiously.

Table 26 Rule of thumb for interpreting Cronbach's alpha values

Range of alpha values	Interpretation
$\alpha \geq 0.9$	Excellent
$0.8 \leq \alpha < 0.9$	Good
$0.7 \leq \alpha < 0.8$	Acceptable
$0.6 \leq \alpha < 0.7$	Questionable
$0.5 \leq \alpha < 0.6$	Poor
$\alpha < 0.5$	Unacceptable

Cronbach's alpha index can only be calculated where all persons answer all items. Thus, it is inherently unusable in the case of a missing data matrix, as we have in this project. It is helpful therefore, that Winsteps outputs a person reliability index, which is an analogue to alpha for the case of missing data matrices. This index (notated as REL) is somewhat idiosyncratic, but its adherents are keen to emphasise its virtues (Linacre, 1997). The Rasch person REL index has (by definition) a slightly lower numerical value than Cronbach's alpha for the same quantity of reliability.

b) Standard Error Measurement

Standard Error of Measurement (SEM) is inversely proportionate to reliability. It quantifies measurement imprecision in the same metric as test scores (for example if the total test score is 20, SEM quantifies the amount of measurement error in terms of 20). SEM can be used to derive a confidence interval (CI) (for instance by multiplying by 1.96 to get a 95%CI) around a test score. An advantage of Rasch modelling over classical test theory approaches is that it returns a conditional SEM; each measure derived from Rasch modelling has associated with it its own SEM, thus acknowledging and quantifying the fact that some personal ability or item difficulty estimates will be more accurate than others (Linacre, undated c).

c) Model fit

Whilst reliability and SEM quantify measurement error as described above, it is also important when using Rasch analysis to quantify and report model fit. It is said that the Rasch model makes relatively strict assumptions about the relationship between persons' abilities and items' difficulties. Misfit occurs when a response, or pattern of several responses contradicts expectations. There are 2 'flavours' of misfit, which Linacre (undated d) describes as follows:

Outfit: outlier-sensitive fit statistic. This is based on the conventional chi-square statistic. This is more sensitive to unexpected observations by persons on items that are relatively very easy or very hard for them (and vice-versa).

Infit: inlier-pattern-sensitive fit statistic. This is based on the chi-square statistic with each observation weighted by its statistical information (model variance). This is more sensitive to unexpected patterns of observations by persons on items that are roughly targeted on them (and vice-versa).

Linacre also interprets the acceptability of fit statistic values as follows (Table 27):

Table 27 Interpretation of Rasch model parameter-level mean-square fit statistics

Misfit statistics	Interpretation
>2.0	Distorts or degrades the measurement system.
1.5 – 2.0	Unproductive for construction of measurement, but not degrading.
0.5 – 1.5	Productive for measurement.
<0.5	Less productive for measurement, but not degrading. May produce misleadingly good reliabilities and separations.

Removing low accuracy measures

Test development is a process based on professional judgement. We are very used to the concept of subject matter experts looking at test questions and taking a dislike to a certain question for whatever reason. That question may well be removed from a test on account of the expert's judgement that it was in some way inappropriate (too difficult, not relevant to the syllabus, unfair for test takers of certain demographic characteristics, etcetera).

In developing measurement sales for a research project, we carried out a similar activity in this work. As we have built up the equated tests sequentially, we have removed measures (either person ability or item difficulty estimates) as we proceed. The purpose of this was to ensure that we could derive a set of measures of suitable measurement quality to pass onto to our colleagues checking whether either mode of tuition had resulted in enhanced learning.

Carrying out this task required care, however. For instance, it might be possible to improve reliability and model fit by removing lots of person ability estimates from the data file. Equally, it might be possible to optimise these quantities by removing lots of poorly measuring items. However, these strategies have contrasting drawbacks. If we removed many persons of moderate measurement quality, we might pass on only a very small number of person estimates to our colleagues who needed a bigger file to carry out powerful comparisons of the impact on learning of the 2 tuition modes. Conversely, if we removed item measures that were performing poorly, we might be guilty of only representing a sub-set of the curriculum in the measure presented to our colleagues. Thus, our task is to balance these 3 considerations, as illustrated in Figure 1.

Figure 1: Exercise of professional judgement in balancing measurement accuracy, curriculum coverage and sample sufficiency
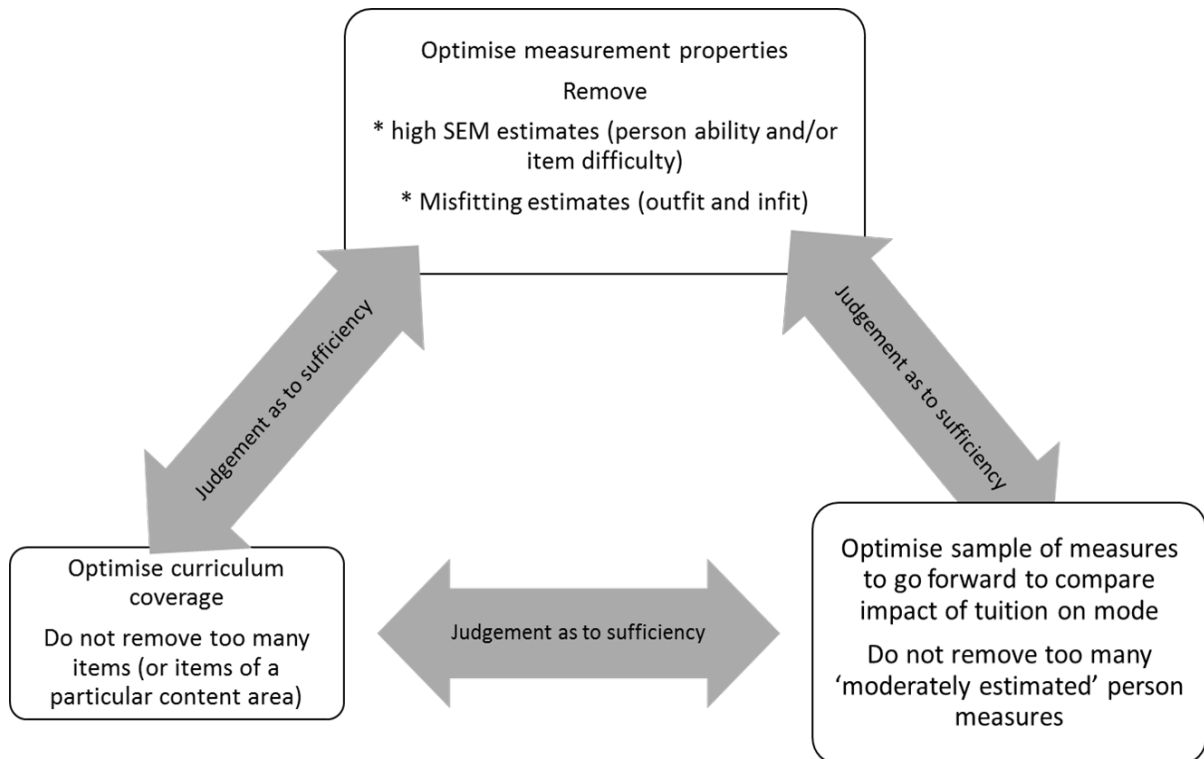
Writing tests (comprising SPAG and Ex W)

The reading and maths tests were made up wholly of objectively-scored items, and were suitable for scaling using the Rasch model of IRT. The writing test (or the writing component of the amalgamated English test used in wave 2), however, contained, a mixture of SPAG items and a score from a human marker who judged a test taker's extended writing on a relatively open-ended task according to the rubric set out in Table 27 above. Therefore, we decided it was not appropriate to scale the Ex W scores using IRT. Rather, we scaled and derived an Ex W score for each test taker, and calculated measurement properties as follows.

Scaling and amalgamating SPAG and Ex W component scores

The SPAG component was based on objective items, and so we used Rasch IRT to scale the SPAG scores (as described above). Firstly, we scaled the tests within one equate (e.g. a survey wave) to each other using concurrent calibration, then we anchored different equated tests. In this case wave 1 was anchored to wave 2, taking the suitable wave 2 item difficulties as a given in the wave 1 equate; and the same process for wave 3 to wave 2).

The Ex W scores were scaled differently. The scoring rubric shown in Table 27 has an inbuilt scaling to it; the raw scores that markers gave could be interpreted in terms of the Entry Level 1 to Level 2 scale. However, the mean and standard deviation (SD) of the respective component scores (overall ability estimate from the SPAG IRT and Ex W marker-assigned score) were quite different. This was problematic for combining the 2 scores and giving them equal weighting, which had been the test developer's intention.

Also, we found that, in the dataset, many learners had either a blank value for their Ex W score (because they had not attempted to write anything) and/or no ability estimate for SPAG, for example because the estimate of their ability had been removed for having too high measurement inaccuracy. Therefore, we only took as a writing score, those learners who had both a SPAG and an Ex W score, even if the latter was 0.

The next step was to standardise both the SPAG IRT and Ex W (marker assigned) scores as z-scores, that is, a distribution with a mean of 0 and SD of 1, and each individual score expressed as a fraction of an SD away from the mean.

Quantifying measurement quality for combined writing scores

In principle, we could just add the 2 z-adjusted component scores to give an overall writing score. However, we wished to quantify and report measurement error for the estimates we derived. Therefore, we undertook the following procedure.

For the SPAG and Ex W component scores we calculated reliability coefficients. The most effective reliability index for this context was the Kuder-Richardson-21 (KR-21) coefficient (Kuder & Richardson, 1937[44]). KR-21 is a little archaic as an index, having mostly been superseded by Cronbach's alpha. However, it remains useful in the case (such as this one) where we only have a total score, rather than multiple item scores. Since it only quantifies unreliability in total-test scores, and not inter-item unreliability, values on KR-21 will generally be a little higher than Cronbach's alpha, or Rasch/Winsteps REL, for the same underlying reliability.

KR-21 only returns meaningful results if the lowest score on a test is greater than 0. Hence, a distribution of z-scores with a mean of 0 and SD of 1 will not work for KR-21. Therefore, we rescaled both the SPAG and Ex W z-scores. We did so using a $y = ax + b$ formula. We set a and b so that the minimum score for either the SPAG or Ex W score (the minimum SPAG score was generally lower) was a little above 0.

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[44] This reliability index was the twenty-first equation in Kuder and Richardson's article, hence the name.

Having scaled the z-scores as described, we then derived KR-21 indices for both the scaled SPAG IRT and Ex W scores. Finally, we went on to derive a composite reliability index (see He, 2009) for the overall score, using the Lazstats program (Miller, 2012, p. 37). These composite reliability indices will generally have a higher value than their component reliability indices, proportionally to the degree of correlation between the 2 sets of scores (SPAG-IRT and Ex W, in this case).

Following our derivation of a composite reliability index, we calculated an estimate of SEM. Since our composite reliability index is an application of classical test theory, our SEM is a single, overall value for the whole dataset, rather than particular to each measure.

Re-scaling all amalgamated writing equated tests to a single, comparable scale

The procedure in the previous section was effective for amalgamating the SPAG and Ex W scores into a single score, and for estimating the reliability of that composite credibly. Its weakness, however, was that each equate had a different mean and SD from each other. This made comparing scores between waves impossible. To rectify this important deficit, we carried out the procedure suggested by Domino & Domino (2006, p. 28) and derived t-scores; a score with a mean of 50, and a standard deviation of 10. We used these t-scores as the basis for our wave 2 – wave 1; and wave 3 – wave 2 subtractions.

Summary of all procedures

We can summarise the analysis as follows:

Reading and maths tests

1. Concurrent calibration of wave one and wave 2 tests separately, each in their own equate

2. Sequential equating, starting from the middle of the distribution and moving to the outer edges of the distribution

3. Remove inaccurate person and item measures, as illustrated in Figure 1 and discussed in associated text

4. Take a view as to whether the equating has balanced the measurement properties, number of test takers and number and representativeness of items in the file

5. When satisfied that the equated tests are credible, match item difficulties for common items derived separately from wave 1 and wave 2 (or wave 2 and wave 3) for common items. If the absolute difference in item difficulty is greater than one logit, allow the difficulties to be different for the anchored

equated tests, effectively treating some common items as though they were different. For all items whose absolute logit difference is less than one, write an anchor file, so that the item difficulty of the item from the wave 2 Or wave 3) equate becomes the item difficulty for the same items in the wave 1 (or wave 2) equate. This anchors the wave 1 to the wave 2 items, and person ability estimates (or wave 3 to wave 2)

6. Check the credibility of the wave 1 and wave 2 (or wave 3 and wave 2) anchored calibrations

Writing tests

SPAG items

1. Carry out concurrent calibration of wave 1 and wave 2 (or wave 3 and wave 2) tests separately, each in their own equate

2. Carry out the equating sequentially, starting from the middle of the distribution and moving to the outer edges of the distribution

3. Remove inaccurate person and item measures, as illustrated in Figure 1, and discussed in associated text

4. Take a view as to whether the equating has balanced the measurement properties, number of test takers and number and representativeness of items in the file

5. When satisfied that both the wave 1 and wave 2 (or wave 3 and wave 2) equated tests are credible, match item difficulties for common items derived separately from wave 1 and wave 2 (or wave 3 and wave 2) for common items. If the absolute difference in item difficulty is greater than one logit, allow the difficulties to be different for the anchored equated tests (effectively treating some common items as though they were different). For all items whose absolute logit difference is less than one, write an anchor file, so that the item difficulty of the item from the wave 2 equate becomes the item difficulty for the same items in the wave 1 equate. Thus, anchor the wave 1 to the wave 2 items, and person ability estimates (or wave 3 to wave 2)

6. Check the credibility of the anchored calibrations.

Combining SPAG and Ex W scores

1. Find all the learners who have both a SPAG and an Ex W score

2. Derive a z-score for these learners for both SPAG and Ex W

Scaling SPAG and Ex W scores. Deriving reliability indices for SPAG, Ex W and overall writing scores

1. Apply a $y = ax + b$ formula so that the minimum value for either SPAG or Ex W scores is greater than 0

2. Derive a value on the KR-21 reliability index for both the SPAG and Ex W scores

3. Derive a composite reliability index, using the SPAG and Ex W KR-21 values as constituent reliabilities

4. Derive an SEM value based on the composite reliability formula, and illustrate 95% confidence intervals around the mean score on the combined test

Re-scaling composite scores to form t-scores

1. Re-scale composite scores that had different bases (means and SDs) so that they have one common mean and SD (50 and 10 respectively). Use these t-scores to subtract wave 1 ability estimate from wave 2 ability estimate (or wave 2 from wave 3)

2. Check the credibility of the calibrations

Limitations of scaling and calibration methods

The techniques of item scaling and calibration described in this section are mature, well understood and mainstream in assessment research. However, as the current section illustrates, this is a complex analysis, with multiple steps. It is possible that other researchers could carry out several of the steps described in a different way and potentially get different results. For example, they might choose to use the 2-parameter model of IRT to model discrimination differently, or they may model multi-mark items in a different way. This is fine; it is always open to following researchers to do things differently. We would respond that we have considered quality issues in sufficient detail and have described what we have done honestly. It will be for others to judge whether our results are good enough.

Insofar as there are threats to the validity of this research, we note the following:

1. The Entry Level 3 to Level 2 span is very wide. It was a requirement of the study that we would create an assessment tool that would be able to cover the 5 levels. The team recognises that having one long scale can be problematic as identifiable progress might be tangibly different at different levels. However given the longitudinal nature of the study, to not have a tool across the 5 levels might have created discontinuities that we could not explain. At an early stage in the project, we decided to calibrate all 5 levels of tests within a single 'universe of interpretation'. We had grounds for thinking this was a reasonable thing to do. Previous researchers such as Neil Jones and Brian North[45] had shown this to be a feasible endeavour. Whilst calibrating pairs of tests separately may have shown learners improving between wave 1 and wave 2, there is no evidence to say that it would have been certain (or highly likely) to have solved the problem. The detailed diagnostic work we did to look at some counterintuitive results (see Appendix 1 of the Quantitative Programme of Research for Adult English and maths Report on Waves 1 and 2 of Longitudinal Survey of Adult Learners) suggests that the problem (with maths at least) pertained to a small group of learners with slightly unusual response patterns. This would not have been fixed if we had calibrated pairs of tests separately.

If we had calibrated pairs of tests separately, there would have been substantial disadvantages. These include:

- Discontinuities between levels. For instance, if Entry Level 1 was calibrated with Entry Level 2, then we could have an understanding of the relative ability of a person who took Entry Level 1 at wave 1 and Entry Level 2 at wave 2. But, what would we do if a person took Entry Level 2 at wave 1 and Entry Level 3 at wave 2? It would mean a great deal of overlapping, separate calibrations

- We need to have a common meaning for ability estimates across all the levels in the project. If we had calibrated levels separately, we could not have made statements such as 'there was more progress at Level 1 and Level 2 than at the entry levels' in a meaningful way

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[45] Jones, N. (1993) *An Item Bank for Testing English Language Proficiency: Using the Rasch Model to Construct an Objective Measure*. (Unpublished PhD Thesis, University of Edinburgh).
North, B. (1993). The Development of Descriptors on Scales of Language Proficiency. National Foreign Language Center (NFLC) Occasional Papers. Johns Hopkins Univ., Washington, DC. National Foreign Language Center. http://files.eric.ed.gov/fulltext/ED365094.pdf.

- Particularly, for the longitudinal study, at the start of the project it was reasonable to suppose that a person might (over a year) from – say – an Entry Level 2 test at wave 1 to an Entry Level 3 tests at wave 2 and an Level 1 test at wave 3. To capture such progress meaningfully, we need to calibrate all tests within the same 'universe of interpretation'

2.   It remains to be seen the extent to which the voluntary nature of the project affects the validity of learners' responses to questions. It is a concern that leaners might not take it seriously. If this is so, it might be difficult to interpret their responses.

- This issue was one of consideration in how to deal with blank responses to the assessment. Ultimately we took the view that in a voluntary test in a survey situation (as opposed to a formal exam leading to a qualification, for example), we could not be completely confident that a blank meant the learner was unable to answer the question as they may simply not felt sufficiently motivated to try. Before taking a decision to exclude blanks we explored its possible implications by re-running the analysis between the waves 1 and 2 assessment and re-coding blanks as 0 - i.e. to assume an incorrect answer rather than a missing value. In fact this did not make much difference to the analysis. In essence, there are strong arguments both for treating blanks as incorrect and for excluding them from the analysis. We chose the latter for the reasons given, however reassuringly, our technical tests showed that the analysis was very similar for both approaches.

Overall indications of measurement quality – wave 2

This section contains 2 tables (Table 28 and Table 29) which quantify the measurement quality overall of each equate when comparing the wave 1 and wave 2 assessments. The methods used to calculate reliability and model fit are described in the methodology section above. In particular, reliability results can be cross-referenced with the rule of thumb guide in Table 27 earlier in this chapter.

The model fit statistics in Table 28 can be checked against the interpretation guide in Table 27. The model fit statistics include a mean infit and outfit measure. They also contain a SD summary fit statistic. It is important to review the SD as well as the mean fit statistic. This is because a high SD would indicate substantial numbers of items remote from the 'target value' of one – both above and below that value. This would indicate both overfitting and underfitting items.

The reliability results on the maths and reading tests are generally in the acceptable to good range. Maths tends to be a little higher than reading. Certainly, the reliability values are acceptable for the conduct of a research study of this nature.

Model fit for the reading and maths tests is good. Infit, in particular, gets very close to one, and the SD of this statistic tends to be quite low. Outfit mean square can be a little further away from 1.00 and (in reading especially) SD can be a little higher. This may indicate that reliability estimates are slightly inflated.

The measurement properties of the writing tests are less felicitous, however. Composite reliabilities are in the acceptable to good range. Overall, especially given that composite reliability estimates are a little high by definition, the reliability values for the writing tests are acceptable but no more. Extended writing component reliabilities are in the questionable to acceptable range, but SPAG components reliabilities can be rather low. This is somewhat surprising, since SPAG is made up of objective items (which would normally be more reliable than a human marked essay). The least reliable test is wave 1.

Table 28 Summary statistics showing quality indicators for tests equated using IRT

Wave	Subject	Anchored	No. of persons	No. of items	PERSON REL	INFIT IMNSQ (MEAN)	IMNSQ (SD)	OUTFIT OMNSQ (MEAN)	OMNSQ (SD)
Wave 1	Reading	N	1449	61	0.72	1.00	0.21	0.94	0.40
		Y	1449	61	0.71	1.01	0.20	0.96	0.39
	Maths	N	1519	84	0.77	1.17	0.36	1.00	0.33
		Y	1523	84	0.84	1.02	0.44	1.17	0.40
Wave 2	Reading	Y*	1676	55	0.79	1.00	0.23	0.97	0.33
	Maths	Y*	1391	83	0.89	1.01	0.29	1.01	0.30

Note: * Wave 1 reading and maths tests are linked/equated to the corresponding wave 2 tests, and so there is no separate wave 2 'unanchored' equate.

Table 29 Summary statistics showing quality indicators for tests equated using classical and combined methods

	Details of tests included in each equate		Numbers included in equates		Quality measures						
					IRT-based indices					Classical/hybrid indices	
						INFIT		OUTFIT			
Wave	Subject (branch of writing)	Anchored	No. of persons	No. of items	PERSON REL	IMNSQ (MEAN)	IMNSQ (SD)	OMNSQ (MEAN)	OMNSQ (SD)	KR-21	Composite reliability
Wave 1	SPAG	N	1464	27	0.39	0.99	0.34	0.96	0.72	N/A	
	SPAG	Y	1464	27	0.41	1.00	0.35	0.97	0.73	0.47[‡]	N/A
	Ex W	Y*	1982			N/A				0.67	
	W overall	Y*	1267							N/A	0.73
Wave 2	SPAG	Y[†]	1467	30	0.67	0.95	0.33	0.95	0.39	0.69[‡]	N/A
	Ex W	Y*	1780			N/A				0.75	
	W overall	Y*	1440							N/A	0.83

Notes:* Extended writing tasks are linked by the rating scale (the scale that markers use). There is no IRT scaling.

[†] Wave 1 reading and maths tests are linked/equated to the corresponding wave 2 tests, and so there is no separate wave 2 'unanchored' equate.

[‡] KR-21 indices for SPAG refer to the scaled total scores for SPAG section used to construct composite scores and to calculate composite reliability.

Discussion of wave 2 results

The testing carried out in this survey achieved a degree of measurement quality. In general, the fit of data to the chosen measurement model has been excellent. The reliability of results has been always acceptable, and most often good, if not excellent. For most of the tests within a wave, there were intuitive rises in ability between levels. For instance, estimates of learners' ability for Level 2 classes tended to be higher than estimates of ability for those in Level 1 classes, and so on.

The exceptions to this were both in wave 1 maths. Learners sitting Entry 1 tests appeared to have higher ability than learners sitting Entry 2 tests. Also, learners sitting Entry 3 tests appeared to have higher ability than those sitting Level 1 tests. We carried out more in-depth analyses into these tests, but did not find an explanation for these counter-intuitive findings within the data.

Once tests within each wave had been linked to each other, the 2 waves were equated to each other, using common items anchoring. There were grounds to believe that this exercise had worked reasonably well. Care was taken to only link on items whose difficulties appeared similar in the 2 waves being compared. Also, the measurement properties of the linked sets of tests was checked; these (reliability and model fit) appeared in line with the relatively good results already reported in the main reports. However, despite these good results in important respects, some counter-intuitive outcomes occurred. In particular, learners appeared to 'go down'/'get worse'/have lower ability (on average) at wave 2 than at wave 1 in some subjects and at some levels, as follows:

1. Reading Entry Level 1 and Entry Level 2

2. Writing Entry Level 3

3. Maths Entry Level 1 and Entry Level 3

It is worth re-iterating some points. Firstly these declines in scoring occurred despite other indications of high quality measurement. Secondly, these declines were not universal across all the subject and/or all the levels. For example, reading Entry Level 3, writing Entry Levels 1 and 2 and maths Entry Level 2 saw gains in estimated ability between waves 1 and 2. Thus, the phenomenon of declining ability did not have a simple explanation.

Discussion of wave 3 results

For the IRT equated tests, we took the Rasch person reliability to denote consistency of measurement, and model fit to evaluate how well data fit the assumptions of the Rasch model. For the writing equate, we show KR-21 coefficients for the individual components of the writing test, a correlation coefficient showing the association between scoring on the 2 components and a composite reliability index in relation to the overall (composite) writing score (Tables 30 and 31).

Table 30 Measurement properties and evaluations of equated tests (reading and maths wave 3)

Subject	Person reliability	Evaluation of person reliability	Infit	Evaluation of infit	Outfit	Evaluation of outfit
Reading	0.84	Good	1.01	Productive for measurement	0.97	Productive for measurement
Maths	0.89	Good	1.02		0.97	

Table 31 Reliability statistics for overall scores: wave 3 writing equate

KR-21 coefficients for standardised and scaled scores	
Ex W	0.609
SPAG	0.598
Composite test reliability statistics	
Correlation: EX W: SPAG	0.589
Composite reliability	0.751
SEM and 95 per cent confidence intervals	
SEM	2.66911
Mean score	14
Lower bound of 95 per cent CI around mean	8.76855
Upper bound of 95 per cent CI around mean	19.23145

The reliability of the data for the reading equate is in the good range. Both the infit and outfit means are good. Similarly, the measurement properties of the wave 3 maths equate seem good. Reliability is borderline to the excellent range. Infit and outfit measures are also good, with both means close to one and similar, low values for their respective SDs.

Reliability for the writing tests is estimated in a different way. The reliabilities of the 2 components of writing test are around the cusp of the acceptable/questionable range. However, the association between the 2 sets of scores is moderate to high, and the composite reliability index for the overall writing test falls within the acceptable range.

Overall summary

The project has carried out due diligence. We are confident, for example, that:

1. The IRT model used is reasonable, and that some other approach (e.g. comparing number-correct scores) was not viable

2. The difference in mode of delivery (pencil-and-paper versus on-screen) between waves is not likely to have caused the drop in ability. The items were very similar between modes, and – in any case – when a difference has been shown between pencil-and-paper and on-screen modes in other research studies, it has tended to be the latter that is associated with higher scoring. In our case it is (some of) the pencil-and-paper tests that we think may have produced anomalously high scores

3. The anomaly was not a result of some arithmetic miscalculation. We checked our outputs carefully, and we believe the results are right

4. There does not appear to be an obvious group of learners (e.g. with certain demographic characteristics, or in given centres) that are declined in ability. Checks on background features of the learners betray nothing obvious

As such, we have sought to understand the phenomenon of counter-intuitive results in a complex IRT-based experiment that seeks to model learners' abilities (and the gains therein) across multiple linked tests. In further investigating this phenomenon, we have come to the view this is not unique to this study and other major projects have experienced similar problems. Wheadon et al's (2009) explanation of the so-called the 'National Assessment of Educational Progress (NAEP) anomaly' is worth quoting at length.

The National Assessment of Educational Progress (NAEP) anomaly: A cautionary tale

"The NAEP is a relatively low-stakes congressionally mandated survey that is designed to measure trends in what students in American schools know and can do. As with all assessments that are designed to measure changes over time, it suffers from the tension to keep its content relevant while following the well-rehearsed maxim that to measure change you should not change the measure. To compensate for changes in the measure deemed necessary to keep content relevant, an IRT test equating design was used. An anchor was constructed that was repeated over time, but following a major overhaul for the 1986 session the anchor items were administered in tests that differed in length, composition, timing and administration conditions. The result was catastrophic: the original analysis showed a dramatic decline in standards of 9 - and 17 - year old students, but an increase in performance of 13-year olds. Such anomalous results defied credibility and a major investigation was launched" (Wheadon et al, 2009, p. 20).

In comparison to NAEP, the anomalies in this study are relatively minor and only affected aspects of the project. As Wheadon and colleagues report, the NAEP anomaly was the subject of a major investigation, with a 15-member panel of leading psychometric experts working for several months to find out what had caused the anomaly (Haertel et al, 1988; Beaton et al, 1988). In the current project, we did not have a 15-member panel of experts, nor several months. Therefore, we have designed Table 32 (below) to propose some reasons why some counter-intuitive representations of learning gain between a pre- and post-test may have occurred.

Table 32 Some possible reasons for counter-intuitive lack of learning gains amongst some groups of learners

Possible explanation	Hypothesis: The apparent drop in ability might be explained if…
The test results do reflect genuine drops in ability between waves 1 and 2.	Acquisition of maths and English abilities amongst adult learners is non-linear, then learners may sometimes suffer temporary drops in ability before improving in the medium to long-term.
Something in the administration of the tests differed between waves 1 and 2.	For example, certain groups of learners colluded at wave 1, but not at wave 2, then their wave 1 result might be inflated to some extent, and thus explain why they 'lost ground' between waves 1 and 2. OR

Possible explanation	Hypothesis: The apparent drop in ability might be explained if…
	Some learners felt uncomfortable/scrutinised/ distracted, etc. when visited at home for a wave 2 test. If they had felt more relaxed/focused in wave 1, they may have performed better and therefore had a higher ability estimate.
Some difference in speed could have caused wave 1 scoring to be higher than wave 2 (for some learners).	Learners had more time to answer questions at wave 1 but had to rush at wave 2, then their abilities could have appeared to be deflated at the latter.[46]
The way that non-response was treated caused bias in ability estimation.	There was some tendency amongst learners to omit more responses at wave 1 (compared to wave 2), then the former ability estimates could have been (erroneously) higher than the latter.[47]
Measurement error that inheres in person ability estimates could mean that the 'wave 2 minus wave 1 subtractions' did not show significant differences.	Every estimate of a person's ability has an associated standard error of measurement (SEM). This SEM can be used to calculate a confidence interval around a person's score. In modelling the difference between wave 1 and wave 2 ability, it is possible that some of the ostensive 'ability loss' (failure to improve) was in fact differences that were not statistically significant. If this was the case, then by convention, we might treat them as no difference at all. There are a number of ways to model SEM (both in an individual's ability estimate and in a group's). Different approaches could suggest that different numbers of learners were significantly different.

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[46] It is possible to retrieve the times that learners took over items in wave 2 during their computerised tests, but not on their pencil-and-paper tests in wave 1.

[47] Some literature suggests that marking omitted responses as wrong produces less biased IRT results than treating them as merely missing (no effect on ability estimates) (Koretz et al, 1990; Pohl et al, 2014). In this project, the decision was taken to treat missing as missing because It was thought that, in a voluntary project, learners might not attempt all answers merely because they weren't trying 100%, rather than because they were did not know the answer. Also, most of the US research in this area pertains to multiple-choice questions (MCQs), which can be guessed; most of our items were not MCQs.

Possible explanation	Hypothesis: The apparent drop in ability might be explained if…
The sampling of learners in the 'wave 2 minus wave 1 subtractions' was biased in some way.	Typically, the estimates of ability in the IRT equated tests are based on relatively large numbers of learners (e.g. IRT maths wave 1, run 5e is based on 1523 learners. IRT maths wave 2 run 5c is based on 1391 learners. However, from those groups only 459 learners are matched. If that sub-set of the overall group was biased (e.g. if amongst the other 900/1000 leaners who were not included in the subtraction most would have progressed), then that could explain the 'anomalous' result.

See Appendix 1 for detailed modelling.

Appendix 1: Calibrated results for particular sets of tests

Wave 1

Reading

The output in this section includes:

1. An inventory of tests in the equate, showing the order of adding tests into the equating dataset, the sequence of removal of inaccurately measured persons and items from tests, and the anchoring of test scores to wave 2 (Table 33).

2. A detailed table showing the sequence of Rasch model 'runs' (Table 34). The sequence shows how many persons and items were removed from each run, and how measurement quality indicators developed over the sequence of runs.

3. A boxplot showing the 'stepping' between persons who entered for particular tests (Figure 2). The SPSS help file says that boxplots have the following properties:

    A boxplot shows the 5 statistics (minimum, first quartile, median, third quartile, and maximum). It is useful for displaying the distribution of a scale variable and pinpointing outliers. … outliers in the boxplot are labelled with the case number. (SPSS, undated)

4. A pivot table and scatterplot comparing the item difficulties that were achieved in the wave 1 reading equate, and those of the same items in wave 2 (Figure 2 and Table 35).

Table 33 List of tests in each sequenced run for wave 1 reading equate

Run number	Test in run	Persons removed	Items removed	Anchored to wave 2	Comment
1	REL2P				
1	REL3P				
1a	REL2P	Y			
1a	REL3P	Y			
1b	REL2P	Y	Y		
1b	REL3P	Y	Y		
2	REL2P	Y	Y		
2	REL3P	Y	Y		
2	RL1P				
2a	REL2P	Y	Y		
2a	REL3P	Y	Y		
2a	RL1P	Y			
2b	REL2P	Y	Y		
2b	REL3P	Y	Y		
2b	RL1P	Y	Y		
3	REL2P	Y	Y		
3	REL3P	Y	Y		
3	RL1P	Y	Y		
3	REL1P				
3a	REL2P	Y	Y		
3a	REL3P	Y	Y		
3a	RL1P	Y	Y		

Run number	Test in run	Persons removed	Items removed	Anchored to wave 2	Comment
3a	REL1P	Y			
3b	REL2P	Y	Y		
3b	REL3P	Y	Y		
3b	RL1P	Y	Y		
3b	REL1P	Y	Y		
3c	REL2P	Y	Y	Y	
3c	REL3P	Y	Y	Y	
3c	RL1P	Y	Y	Y	
3c	REL1P	Y	Y	Y	
4	REL2P				Includes new learners found in Feb 15
4	REL3P				Includes new learners found in Feb 15
4	RL1P				Includes new learners found in Feb 15
4	REL1P				Includes new learners found in Feb 15
4a	REL2P	Y			Poorly measured new persons removed
4a	REL3P	Y			Poorly measured new persons removed
4a	RL1P	Y			Poorly measured new persons removed
4a	REL1P	Y	Y		Poorly measured new persons removed
4b	REL2P	Y	Y		
4b	REL3P	Y	Y		
4b	RL1P	Y	Y		
4b	REL1P	Y	Y	Y	Anchored items do not contain REL2P, therefore somewhat low.

Run number	Test in run	Persons removed	Items removed	Anchored to wave 2	Comment
4c	REL2P	Y	Y	Y	Anchored items do not contain REL2P, therefore somewhat low.
4c	REL3P	Y	Y	Y	Anchored items do not contain REL2P, therefore somewhat low.
4c	RL1P	Y	Y	Y	Anchored items do not contain REL2P, therefore somewhat low.
4c	REL1P	Y	Y	Y	Anchored items do not contain REL2P, therefore somewhat low.

Table 34 Detailed record of sequence of IRT runs in wave 1 reading equate

| | | | Numbers excluded | | | | | | | | | | Quality measures | | | | |
| | | | Persons | | | | | Items | | | | | | INFIT | | OUTFIT | |
Run no.	No. of persons	No. of items	High SEM	High outfit MSQ	High infit MSQ	Status not 1†	Comment	High SEM	High outfit MSQ	High infit MSQ	Status not 1	Comment	PERSON REL	IMNSQ (MEAN)	IMNSQ (SD)	OMNSQ (MEAN)	OMNSQ (SD)
1	1002*	39	178	270	2	52	Outfit removals incl. GT 2 AND LT 0.5. This reflects large value of OMNSQ (SD).						0.47	0.99	0.39	0.96	0.82
1a	646	38						3	3		1	Outfit excluded were LT 0.5.	0.56	1.01	0.18	0.93	0.38
1b	646	35					For boxplot						0.54	1.00	0.17	0.97	0.36
2	1179	56	28	36		11	Outfit removals incl. GT 2 AND LT 0.3. This reflects large value of OMNSQ (SD).						0.72	1.00	0.19	0.96	0.45
2a	1124	56						6					0.69	1.00	0.18	0.94	0.37
2b	1124	51					For boxplot						0.69	1.00	0.18	0.96	0.36
3	1542	63	105	56	3	52							0.65	1.00	0.22	0.96	0.48

| | | | Numbers excluded | | | | | | | | | | | Quality measures | | | | |
| | | | Persons | | | | | Items | | | | | | | INFIT | | OUTFIT | |
Run no.	No. of persons	No. of items	High SEM	High outfit MSQ	High infit MSQ	Status not 1†	Comment	High SEM	High outfit MSQ	High infit MSQ	Status not 1	Comment	PERSON REL	IMNSQ (MEAN)	IMNSQ (SD)	OMNSQ (MEAN)	OMNSQ (SD)
3a	1394	63											0.72	1.00	0.21	0.95	0.40
3b	1394	61					For boxplot and result of wave 1 equate (not anchored to wave 2)						0.72	1.00	0.21	0.95	0.40
3c	1394	61					For boxplot and result of wave 1 equate (anchored to wave 2)						0.69	1.01	0.20	0.96	0.38
4	1500	67	19	34	5	7							0.71	1.00	0.23	0.96	0.45
4a	1449	67						6			4		0.72	1.00	0.21	0.94	0.40
4b	1449	61											0.72	1.00	0.21	0.94	0.40
4c	1449	61											0.71	1.01	0.20	0.96	0.39

* The sum of removed measures (persons or items) of different types does not always equal the total number removed (e.g. in equate 1: 1002 – (178 + 270 + 2 + 52) ≠ 646). This is because many measures will fall into more than one of the exclusion categories (e.g. person estimates will be **both** high SEM **and** high misfit).

† Status is an indication that Winsteps cannot estimate a parameter for an item. It has values such as: 1 = Estimated measure, 0 = Extreme maximum measure for extreme maximum raw score, -1 = Extreme minimum measure for extreme minimum raw score (usually 0), -2 = No responses available for measure, -4 = Inestimable: high, -5 = Inestimable: low.

Values of 'status' other than 1 were typically removed from subsequent equates.

Figure 2 Abilities of learners from different source tests in wave 1 reading equated test
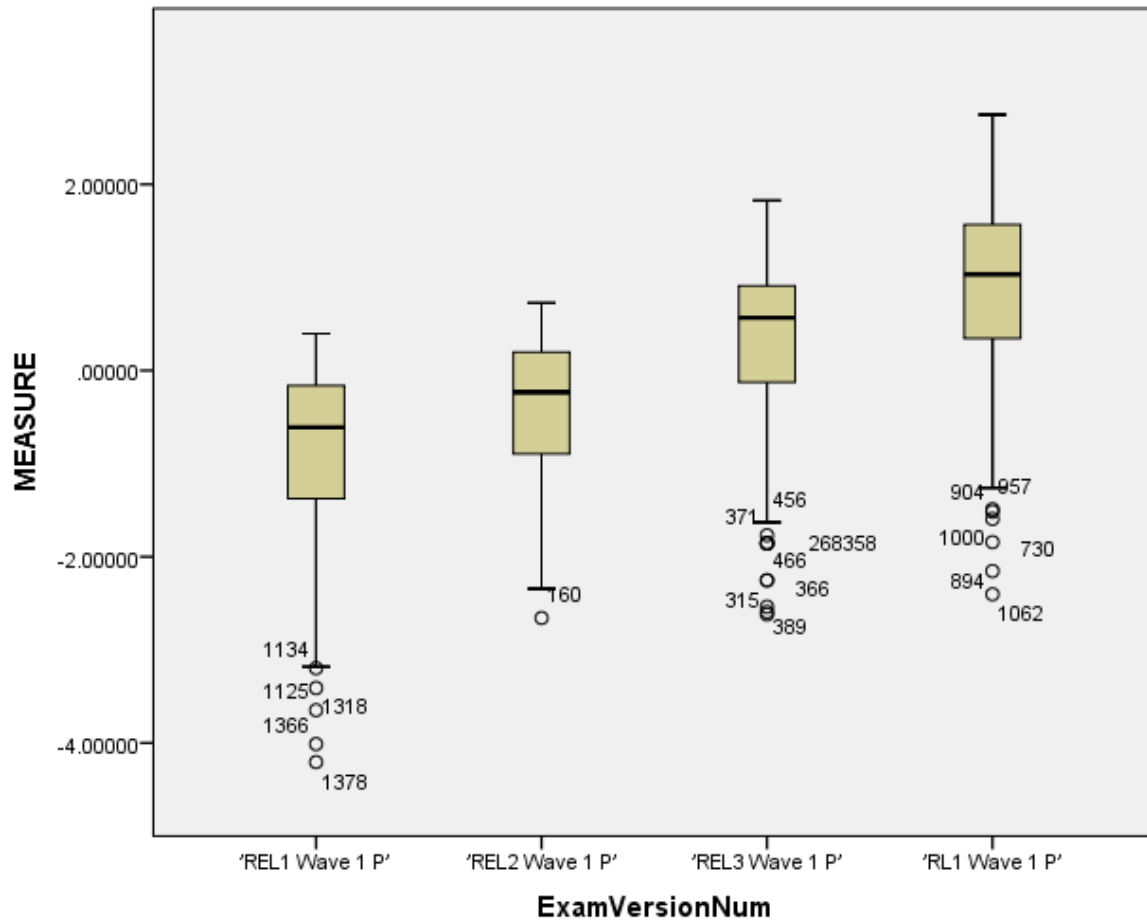
Once the 2 equated tests were complete, they were linked together using the procedures described earlier. This meant that the IDs for items used in the 2 separate equated tests were matched. Then those items' difficulties were compared. This comparison is summarised in Table 35.

Table 35 Difference between item difficulties in wave 1 and wave 2 longitudinal reading equated test

Absolute difference between equates (banded logits)	Count of banded absolute difference	Mean absolute difference	Mean item difficulty wave 2
Between 0 and 1	29	0.3168	-0.60004
Between 1 and 2	8	1.2804	-0.05050
Between 2 and 3	1	2.4219	-0.64799
Between 3 and 4	1	3.5944	-0.05674
Items not matched, wave 2 and wave 1	22		
Grand Total	61	0.65249	-0.47462

The table suggests that 29 out of 39 matched common items had an absolute (unsigned) difference of less than one logit. These 29 items were assigned the wave 2 item difficulties, and the wave 1 equate was re-run, thus allowing wave 1 test scores to be brought 'within the universe of interpretation' of wave 2 on the basis of 29 common items. The other 32 items were allowed to retain their wave 1 difficulties; it was considered that the fact that they had differed by more than one logit was evidence of differential performance between the 2 waves, and to 'force' a wave 1 item to take on a very different wave 2 item difficulty would have degraded the measurement in wave 1.

The relationship between the common (29) items used to anchor wave 1 scores into the wave 2 universe is shown in Figure 3.

Figure 3 Scatterplot showing relationship between unanchored (wave 1) and anchored (wave 2) item difficulties in wave 1 reading equated test
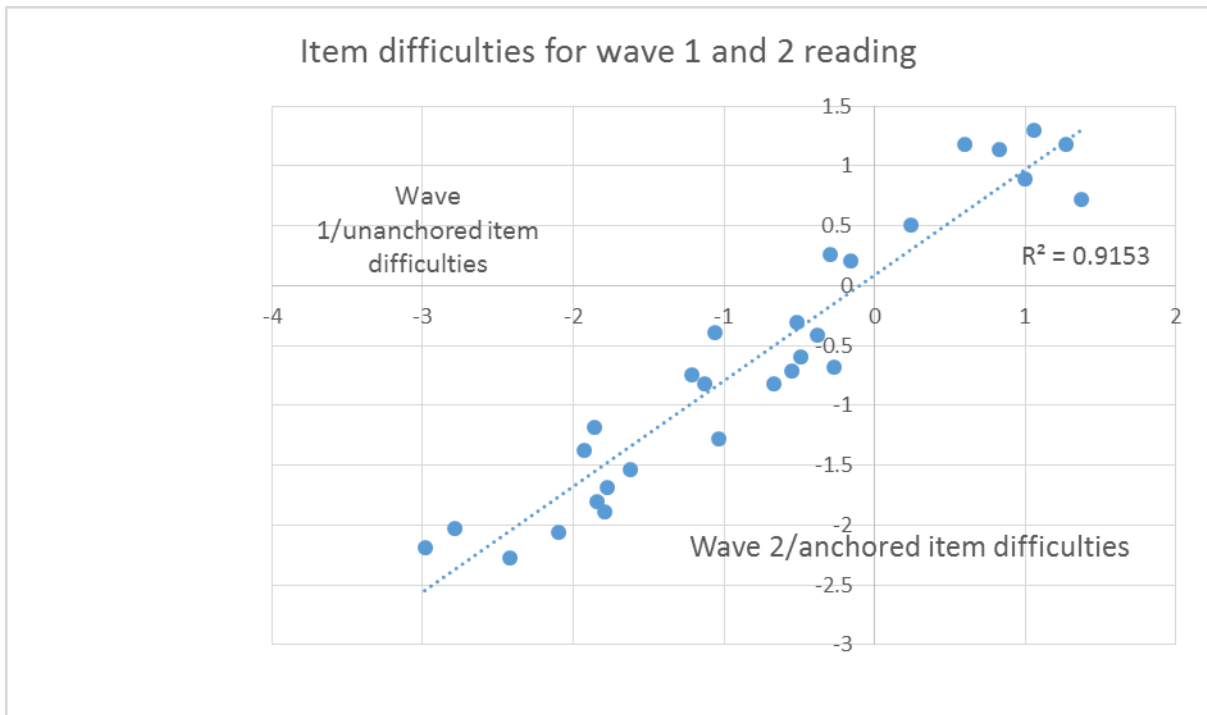
Commentary

This equate achieved reliability levels on the boundary between 'acceptable' and 'good'. It is interesting to see how this was built up sequentially over the series of equated tests. Model fit is good; especially in the case of infit, which is close to one, and has low SD. Outfit is also close to one, although SD is a little higher.

It is interesting to see that it is mostly ability estimates that have been removed due to poor measure properties, rather than items (see large number of high SEM measures removed in equated tests 1 and 3, for instance). This may question the response validity of some tests (i.e. were they taking it seriously?).

The boxplot shows the stepping between learners on particular input tests to be intuitive; that is, Entry Level 1 test takers are a little below Entry Level 2, who are below Entry Level 3 and who, correspondingly, are below Level 1.

When wave 1 item difficulties were compared to the difficulties achieved for the same items, 29 (out of 39 matched items) had a difficulty within one logit of that which they achieved in wave 2. This was considered to show that the 2 equated tests had produced reasonably similar results.

Writing

The outputs for this writing equated tests reflect the hybrid approach that was taken to link and scale tests and assess their measurement quality. The outputs for SPAG are the same as those for other IRT equated tests (such as reading above).

The Ex W and combined writing equated tests have the following outputs:

1. An inventory of tests in the SPAG equated test, showing the order of adding tests into the equating dataset, the sequence of removal of inaccurately measured persons and items from tests, and the anchoring of test scores to wave 2 (Table 36).

2. A detailed table showing the sequence of Rasch model 'runs' (Table 37). The sequence shows how many persons and items were removed from each run, and how measurement quality indicators developed over the sequence of runs.

3. A histogram showing the distribution of (z-adjusted) scores for SPAG (Figure 4)

4. A pivot table and scatterplot comparing the item difficulties that were achieved in the wave 1 SPAG equate, and those of the same items in wave 2 (Figure 5 and Table 38).

5. A summary table showing the minimum, mean and maximum scores achieved on the extended writing task by learners entering particular tests (Table 39).

6. A pivot table counting the numbers of learners who achieved particular scores in the extended writing task – pivoted against the test they entered (Table 40).

7. Histograms showing the distributions of (z-adjusted) scores for SPAG and Ex W components (Figures 6 and 7).

8. A summary table showing the descriptive statistics for the rescaled and combined writing scores (Table 41).

9. A table showing the various reliability outputs for the combined writing score: KR-21 indices for the standardised and scaled component scores, a composite reliability index for the overall writing test and a SEM value with associated 95% confidence intervals around the scale mean (Table 42)

SPAG

Table 36 List of tests in each sequenced run for wave 1 SPAG equated test

Run number	Test in run	Persons removed	Items removed	Anchored to wave 2
1	WEL2P SPAG items only			
1	WEL3P SPAG items only			
1a	WEL2P SPAG items only	Y		
1a	WEL3P SPAG items only	Y		
1b	WEL2P SPAG items only	Y	Y	
1b	WEL3P SPAG items only	Y	Y	
2	WEL2P SPAG items only	Y	Y	
2	WEL3P SPAG items only	Y	Y	
2	WL1P SPAG items only			
2a	WEL2P SPAG items only	Y	Y	
2a	WEL3P SPAG items only	Y	Y	
2a	WL1P SPAG items only	Y		
2b	WEL2P SPAG items only	Y	Y	
2b	WEL3P SPAG items only	Y	Y	
2b	WL1P SPAG items only	Y	Y	
3	WEL2P SPAG items only	Y	Y	
3	WEL3P SPAG items only	Y	Y	
3	WL1P SPAG items only	Y	Y	
3	WEL1P SPAG items only			
3a	WEL2P SPAG items only	Y	Y	
3a	WEL3P SPAG items only	Y	Y	

Run number	Test in run	Persons removed	Items removed	Anchored to wave 2
3a	WL1P SPAG items only	Y	Y	
3a	WEL1P SPAG items only	Y		
3b	WEL2P SPAG items only	Y	Y	y
3b	WEL3P SPAG items only	Y	Y	y
3b	WL1P SPAG items only	Y	Y	y
3b	WEL1P SPAG items only	Y		y

Table 37 Detailed record of sequence of IRT runs in wave 1 SPAG equated test

Run no.	No. of persons	No. of items	Persons High SEM	Persons High outfit MSQ	Persons High infit MSQ	Persons Status not 1	Comment	Items High SEM	Items High outfit MSQ	Items High infit MSQ	Items Status not 1	PERSON REL	INFIT IMNSQ (MEAN)	INFIT IMNSQ (SD)	OUTFIT OMNSQ (MEAN)	OUTFIT OMNSQ (SD)
1	952	18	171	119	19	110						0.45	1.01	0.38	0.88	0.82
1a	714	17						4	2		1	0.19	1.02	0.32	0.84	0.52
1b	714	13					For boxplot					0.13	1.01	0.29	0.98	0.43
2	1214	21	107	67	12	70						0.44	1.00	0.32	0.96	0.68
2a	1060	19									2	0.10	1.00	0.29	0.97	0.45
2b	1060	19					For boxplot					0.10	1.01	0.29	0.97	0.45
3	1470	27	20									0.41	0.99	0.34	0.96	0.72
3a	1464	27					For boxplot and result of wave 1 equate (not anchored to wave 2)					0.39	0.99	0.34	0.96	0.72
3b	1464	27					For boxplot and result of wave 1 equate (anchored to wave 2)					0.41	1.00	0.35	0.97	0.73

Figure 4 Abilities of learners from different source tests in wave 1 SPAG equated test
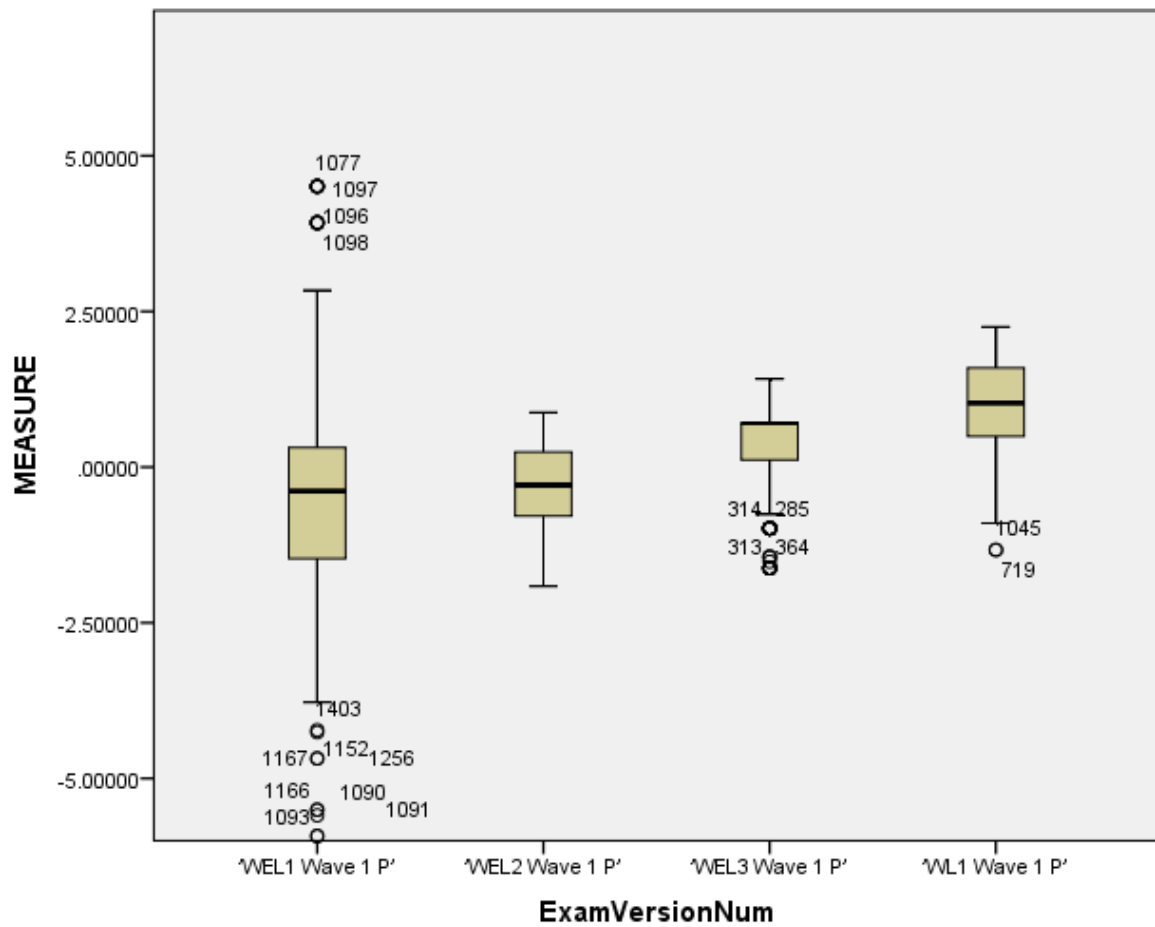
Once the 2 equated tests were complete, they were linked together. This meant that the IDs for items used in the 2 separate equated tests were matched. Then, those items' difficulties were compared. This comparison is summarised in Table 38.

Table 38 Difference between item difficulties in wave 1 and wave 2 longitudinal SPAG equated test

Absolute difference between equates (banded logits)	Count of Banded absolute difference	Mean Absolute difference	Mean Item difficulty Wave 2
Between 0 and 1	18	0.28296	-0.24374
Between 1 and 2	3	1.57400	1.28344
Between 2 and 3	1	2.78861	-0.74016
Between 3 and 4	1	3.03834	-2.14571
Between 4 and 5	2	4.36101	-2.11075
Items not matched, Wave 2 and Wave 1	2		
Grand Total	27	0.97457	-0.30577

The table shows that a large majority of SPAG item (18 out of 27 – or 25 that were matched) were considered to not have changed item difficulty unduly, and so were used as anchor items. Those that had changed between administrations were allowed to have separate item difficulties between the 2 waves.

A scatterplot was derived to show the item difficulties of items as they were in wave 1 and wave 2 (for those that differed by less than one logit). It is shown in Figure 5.

Figure 5 Scatterplot showing relationship between unanchored (wave 1) and anchored (wave 2) item difficulties in longitudinal wave 1 SPAG equate
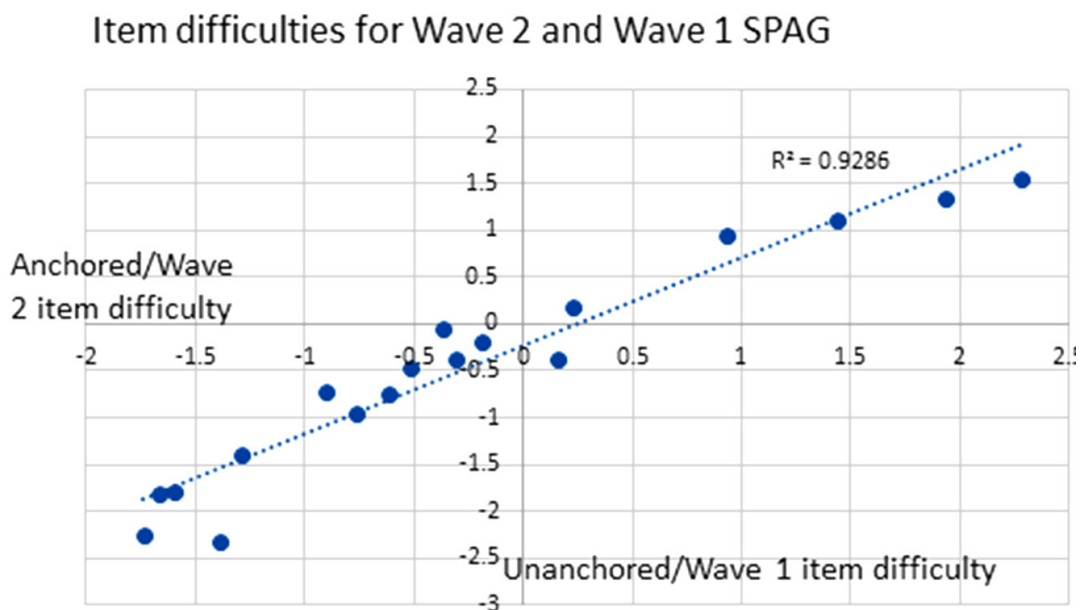
Extended writing

Table 39 Summary information for wave 1 extended writing tests

Source test name		Score information		
	N	Min	Mean	Max
WEL1P	424	0	2.05060	9
WEL2P	392	0	2.84098	6
WEL3P	622	0	5.85385	9
WL1P	543	0	6.68531	9
Grand Total	1981	0	4.67122	9

Table 40 Numbers of learners achieving particular scores in longitudinal wave 1 extended writing test

Source test name	Score											Grand Total
	BLANK	0	1	2	3	4	5	6	7	8	9	
WEL1P	88	55	66	100	53	54	5	1		1	1	424
WEL2P	65	18	46	74	62	93	27	7				392
WEL3P	102	11	3	7	21	12	143	163	78	61	21	622
WL1P	114	22	7	6	10	11	26	50	89	150	58	543
Grand Total	369	106	122	187	146	170	201	221	167	212	80	1981

Writing overall

Figure 6 Histogram of standardised IRT scores from SPAG component of wave 1 writing tests
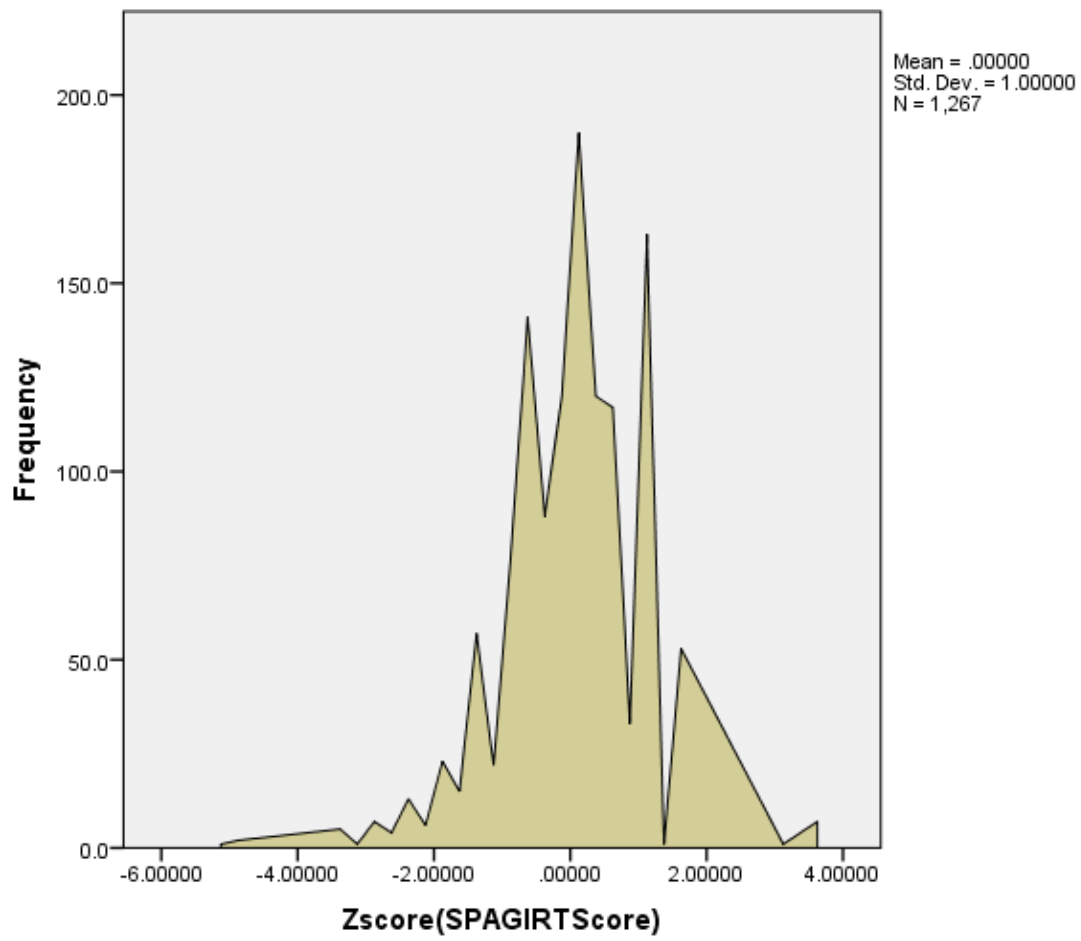
Figure 7 Histogram of standardised scores from Ex W component of longitudinal wave 1 writing tests
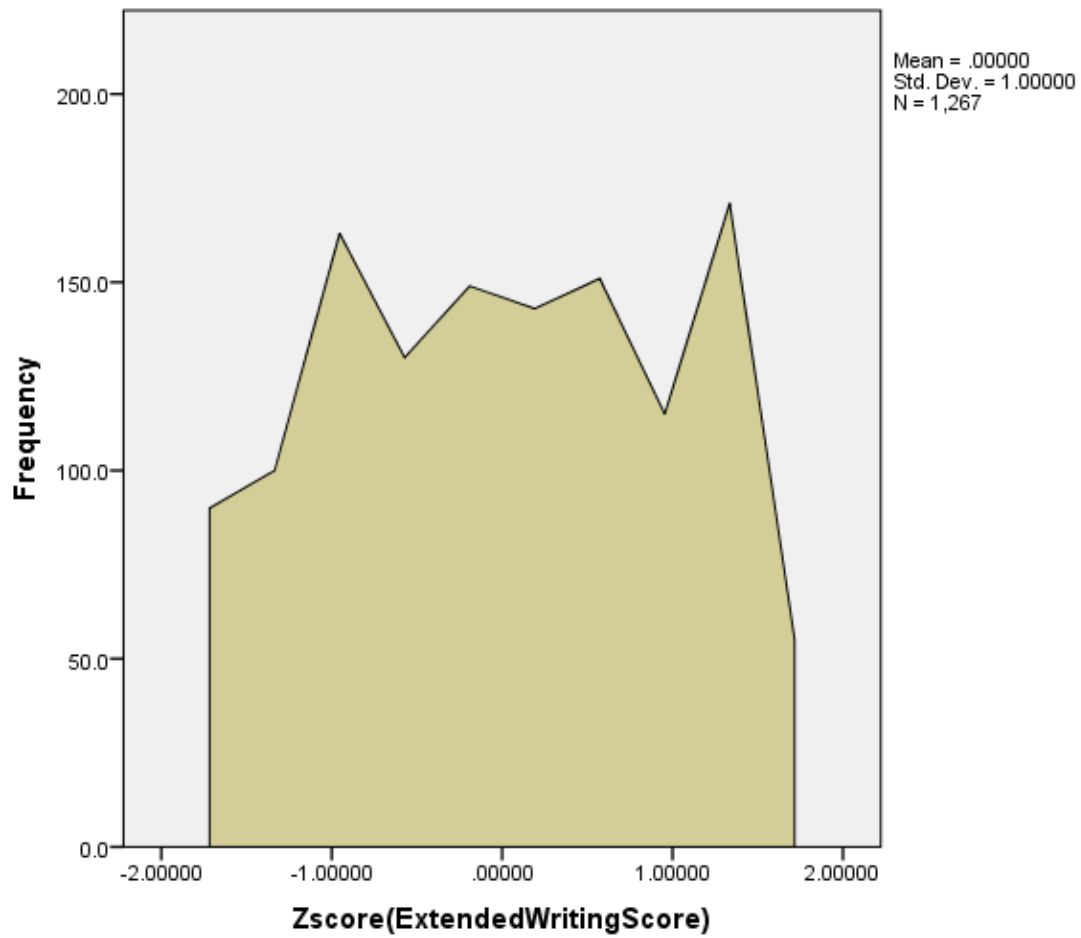
Table 41 Summary statistics for Ex W and SPAG scores in wave 1 extended writing

Scaling coefficients	
a coefficient	4
b coefficient	21
Properties of standardised and scaled scores	
Variance Ex W	16.0000
Variance SPAGIRT	16.0000
Max Ex W	27.8675
Max SPAGIRT	35.6934
Min Ex W	14.1337
Min SPAGIRT	0.0082
Mean Ex W	21.0000
Mean SPAGIRT	21.0000
Variance total score	48.4162
Mean total score	42

Table 42 Reliability statistics for overall scores in wave 1 writing equate

KR-21 coefficients for standardised and scaled scores	
Ex W	0.702
SPAG	0.473
Composite test reliability statistics	
Correlation: EX W: SPAG	0.513
Composite reliability	0.727
SEM and 95% confidence intervals	
SEM	3.63561
Mean score	42
Lower bound of 95% CI around mean	34.87421
Upper bound of 95% CI around mean	49.12579

Following the calculation of a composite reliability coefficient, the overall writing scores for wave 1 were re-scaled again to form t-scores, as discussed in the methodology section above. The revised *a* and *b* co-efficients in this new linear equation were, respectively: -10.361 and 1.437.

Commentary

The measurement properties for the SPAG component of the wave 1 writing assessment were lower than desirable. Reliability was in an 'unacceptable' range; having dipped to extremely low levels midway through the equating process.

Model fit was closer to its target value of one, but SD was high; indicating that substantial numbers of individual measures (person ability estimates) were remote from the target value (on either side, and thus 'cancelled each other out' in the summary mean statistic).

It is difficult to diagnose a reason for this poor performance at this point; shortness of the test would tend to be associated with lower reliability. But the wave 2 test is shorter, and its reliability is higher. Similarly, it may be that SPAG ability is quite extreme; 'you either know it or you don't'. This might result in many test takers getting extreme scores (very high or very low). The interaction of such a feature with reliability indices and fit statistics is a moot point, however.

Scoring on the Ex W component appears (on the face of it) a little more credible. Table 39 shows that the mean score ascends with each levelled test. Table 40 shows that scoring is associated with the top-left to bottom-right diagonal; that is, the heaviest preponderance of scoring seems in an association with ascending level. The caveat to this is that there are large numbers of test takers who apparently gave no response to the extended writing task.

The distributions of the 2 scaled component scores (SPAG in Figure 6 and Ex W in Figure 7) bear comparison. The 2 distributions differ in peakedness (kurtosis), with the SPAG distribution appearing more peaked. However, they appear to have similar skew, with both being broadly symmetrical.

The correlation between Ex W and SPAG scores is quite high (see Table 42, suggesting that people who do well on Ex W also tend to do well on SPAG[48]. As such, the composite reliability value is in the 'acceptable' range. However, it should be recalled that composite reliability values tend (by definition) to be higher than other internal consistency reliability indices.

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[48] This correlation statistic is calculated without correcting for the unreliability within the SPAG scores. It would be substantial if this attenuation were removed.

Maths

The output in this section includes:

1. An inventory of tests in the equate, showing the order of adding tests into the equating dataset, the sequence of removal of inaccurately measured persons and items from tests, and the anchoring of test scores to wave 2 (Table 43).

2. A detailed table showing the sequence of Rasch model 'runs'. The sequence shows how many persons and items were removed from each run, and how measurement quality indicators developed over the sequence of runs (Table 44).

3. A boxplot showing the 'stepping' between persons who entered for particular tests (Figure 8). The SPSS help file says that boxplots have the following properties:

   A boxplot shows the 5 statistics (minimum, first quartile, median, third quartile, and maximum). It is useful for displaying the distribution of a scale variable and pinpointing outliers. … outliers in the boxplot are labelled with the case number. (SPSS, undated)

4. A pivot table and scatterplot comparing the item difficulties that were achieved in the wave 1 maths equated test, and those of the same items in wave 2 (Table 45 and Figure 9).

Table 43 List of tests in each sequenced run for wave 1 maths equated test

Run number	Test in run	Persons removed	Items removed	Anchored to wave 2	Comment
1	MEL3 P				
1	ML1 P				
1a	MEL3 P	Y			
1a	ML1 P	Y			
1b	MEL3 P	Y	Y		
1b	ML1 P	Y	Y		
2	MEL3 P	Y	Y		
2	ML1 P	Y	Y		
2	MEL2 P				
2a	MEL3 P	Y	Y		
2a	ML1 P	Y	Y		
2a	MEL2 P	Y			
2b	MEL3 P	Y	Y		
2b	ML1 P	Y	Y		
2b	MEL2 P	Y	Y		
3	MEL3 P	Y	Y		
3	ML1 P	Y	Y		
3	MEL2 P	Y	Y		
3	ML2 P				
3a	MEL3 P	Y	Y		
3a	ML1 P	Y	Y		
3a	MEL2 P	Y	Y		

Run number	Test in run	Persons removed	Items removed	Anchored to wave 2	Comment
3a	ML2 P	Y			
3b	MEL3 P	Y	Y		
3b	ML1 P	Y	Y		
3b	MEL2 P	Y	Y		
3b	ML2 P	Y	Y		
4	MEL3 P	Y	Y		
4	ML1 P	Y	Y		
4	MEL2 P	Y	Y		
4	ML2 P	Y	Y		
4	MEL1 P				
4a	MEL3 P	Y	Y		
4a	ML1 P	Y	Y		
4a	MEL2 P	Y	Y		
4a	ML2 P	Y	Y		
4a	MEL1 P	Y			
4b	MEL3 P	Y	Y		
4b	ML1 P	Y	Y		
4b	MEL2 P	Y	Y		
4b	ML2 P	Y	Y		
4b	MEL1 P	Y	Y		
4c	MEL3 P	Y	Y	Y	
4c	ML1 P	Y	Y	Y	

Run number	Test in run	Persons removed	Items removed	Anchored to wave 2	Comment
4c	MEL2 P	Y	Y	Y	
4c	ML2 P	Y	Y	Y	
4c	MEL1 P	Y	Y	Y	
5	MEL3 P				Previously missed persons added
5	ML1 P				Previously missed persons added
5	MEL2 P				Previously missed persons added
5	ML2 P				Previously missed persons added
5	MEL1 P				Previously missed persons added
5a	MEL3 P	Y			Previously missed persons added
5a	ML1 P	Y			Previously missed persons added
5a	MEL2 P	Y			Previously missed persons added
5a	ML2 P	Y			Previously missed persons added
5a	MEL1 P	Y			Previously missed persons added
5b	MEL3 P	Y	Y		Previously missed persons added
5b	ML1 P	Y	Y		Previously missed persons added
5b	MEL2 P	Y	Y		Previously missed persons added
5b	ML2 P	Y	Y		Previously missed persons added
5b	MEL1 P	Y	Y		Previously missed persons added
5d	MEL3 P	Y	Y		Previously missed persons added

Run number	Test in run	Persons removed	Items removed	Anchored to wave 2	Comment
					Three easy items removed to investigate mis-scaling.
5d	ML1 P	Y	Y		Previously missed persons added
5d	MEL2 P	Y	Y		Previously missed persons added
5d	ML2 P	Y	Y		Previously missed persons added
5d	MEL1 P	Y	Y		Previously missed persons added Three easy items removed to investigate mis-scaling.
5e	MEL3 P	Y	Y	Y	5b data anchored
5e	ML1 P	Y	Y	Y	5b data anchored
5e	MEL2 P	Y	Y	Y	5b data anchored
5e	ML2 P	Y	Y	Y	5b data anchored
5e	MEL1 P	Y	Y	Y	5b data anchored

Table 44 Detailed record of sequence of IRT runs in wave 1 maths equated test

Run no.	No. of persons	No. of items	High SEM	High outfit MSQ	High infit MSQ	High SEM	High outfit MSQ	High infit MSQ	Other	REL	Outfit.MS	Infit.MS	Boxplot	
			Persons			**Items**					**Outcome measures**			
1	1036	72	31	40	38					0.81	1.02	1.06		
1a	940	72				5				0.80	0.99	1.05		
1b	940	67								0.80	1.02	1.05	Boxplot	
2	1115	87	78	37	31					0.80	1.03	1.04		Removed a lot of high Entry Level 3 estimates - may correct mis-scaling observed in boxplot 1b
2a	981	87				9				0.79	1.01	1.05		
2b	981	79								0.79	1.01	1.05	Boxplot	
3	1479	99	10	33	50					0.76	1.00	1.10		
3a	1396	99				7	1			0.77	1.00	1.09		
3b	1396	91								0.79	1.00	1.04	Boxplot	
4	1464	106	26	17	40					0.81	0.99	1.04		
4a	1389	106				6	1			0.82	0.99	1.03		

| Run no. | No. of persons | No. of items | Persons | | | Items | | | | REL | Outfit.MS | Infit.MS | Boxplot |
			High SEM	High outfit MSQ	High infit MSQ	High SEM	High outfit MSQ	High infit MSQ	Other				
4b	1389	100								0.82	1.00	1.03	Boxplot
4c	1389	100								0.84	1.14	1.08	
5	1540	91	2	14	4	Infit GT than 2.5 due to many high infit persons between 2 and 2.5				0.81	0.98	1.02	
5a	1523	91					7			0.81	0.98	1.02	
5b	1523	84								0.81	0.98	1.02	Boxplot
5d	1519	84								0.77	1.17	1.02	Boxplot
5e	1523	84								0.84	1.07	1.13	

Figure 8 Abilities of learners from different source tests in longitudinal wave 1 maths equated test
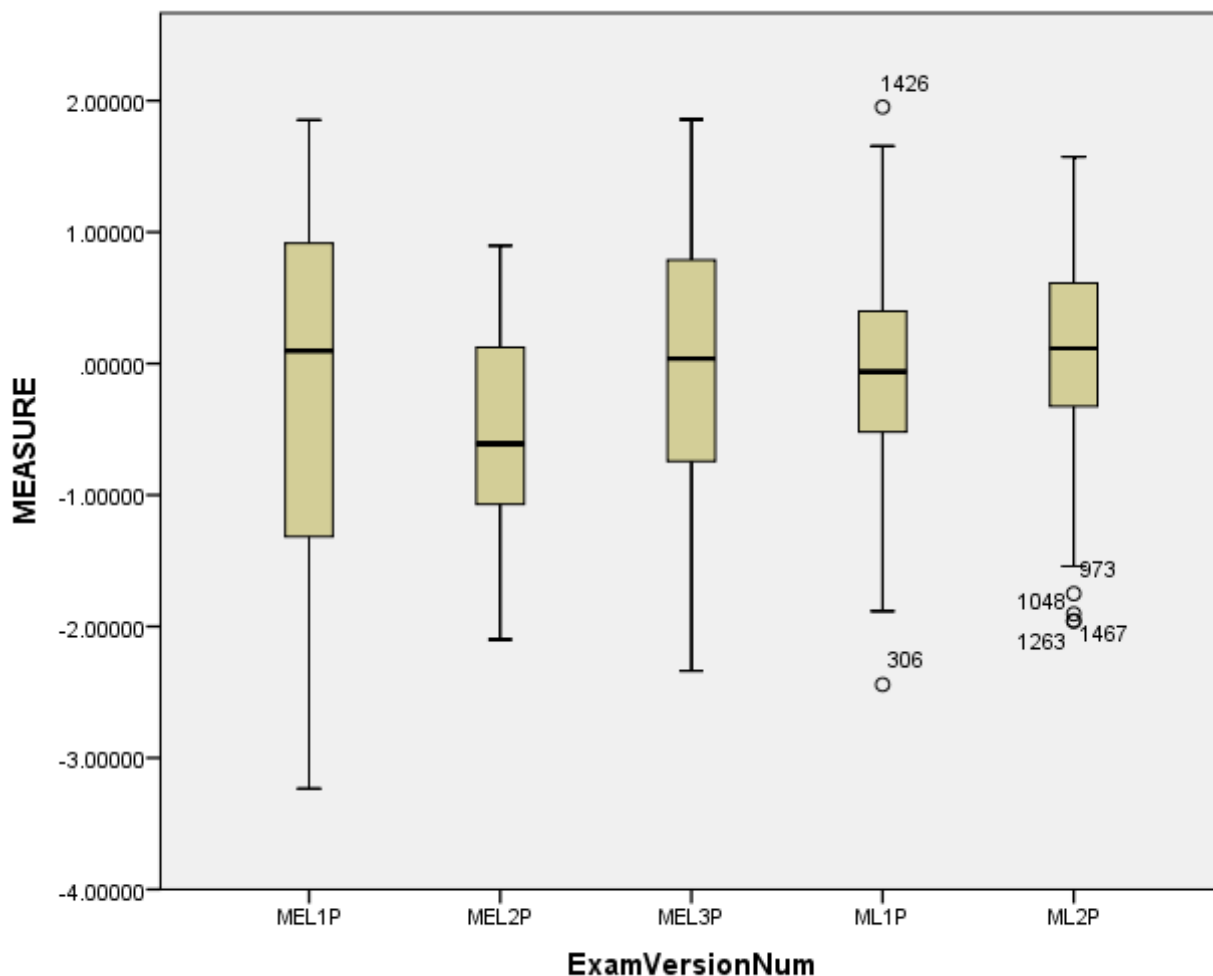
As with the previous subjects, the items from wave 1 and wave 2 maths were linked once the 2 separate equated tests were complete. Their item difficulties were then compared. In particular, the aim was to check to see how many items had come out with reasonably similar item difficulties in the 2 waves, and how many were completely different. The results of this investigation are shown in Table 45.

Table 45 Difference between item difficulties in wave 1 and wave 2 longitudinal maths equated test

Absolute difference between equates (banded logits)	Count of Banded absolute difference	Mean absolute difference	Mean item difficulty wave 2
Between 0 and 1	38	0.46137	-0.95111
Between 1 and 2	17	1.44764	-0.34948
Between 2 and 3	10	2.41389	-0.39126
Between 3 and 4	2	3.22216	-1.13343
Items not matched, wave 2 and wave 1	17		
Grand Total	84	1.08545	-0.72034

Thirty-eight from the 67 matched items had reasonably similar (less than one logit different) item difficulty across the 2 equated tests. This was interpreted to show that there was a reasonable basis for equating wave 1 person ability estimates 'into the universe of interpretation' of wave 2.

The difficulties of the items so used (between their 'original' wave 1 equate value and the wave 2 value that they were subsequently assigned) is shown in Figure 9.

Figure 9 Scatterplot showing relationship between unanchored (wave 1) and anchored (wave 2) item difficulties in wave 1 maths equated test
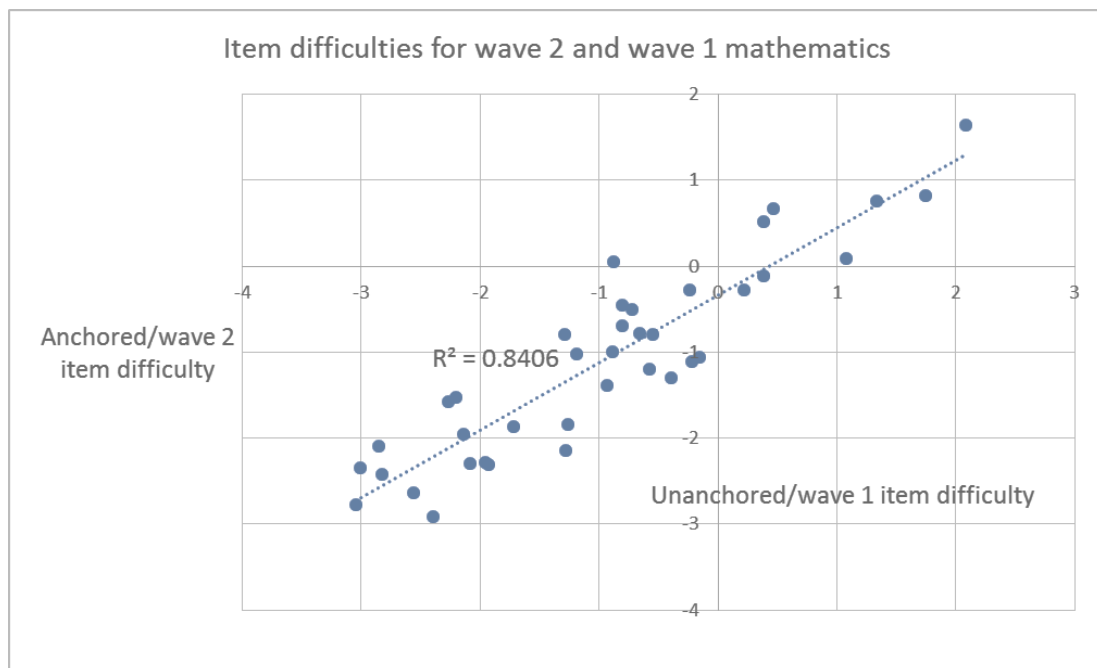
Commentary

The measurement properties of the wave 1 maths equated test seem good. Reliability is in the good range. Model fit was good for the unanchored result, but moved out somewhat when the anchor was applied. This suggests that the anchoring process might contravene the assumptions of the Rasch model to some extent.

The stepping of ability estimates by input test level ascend, with the exception that levels Entry Level 1 and Entry Level 3 seem out of line. This may be a concern in that it may cause problems when linking wave 2 outcomes to either Entry Level 1 or Entry Level 3 scores from wave 1.

To investigate this phenomenon, substantial additional work was undertaken. Firstly, figures were derived to show the extent to which the items in the bank of tests were (or were not) well targeted on the persons. These are shown in Figure 10.

Figure 10 Item and persons map showing targeting of items on persons for all maths wave 1 tests
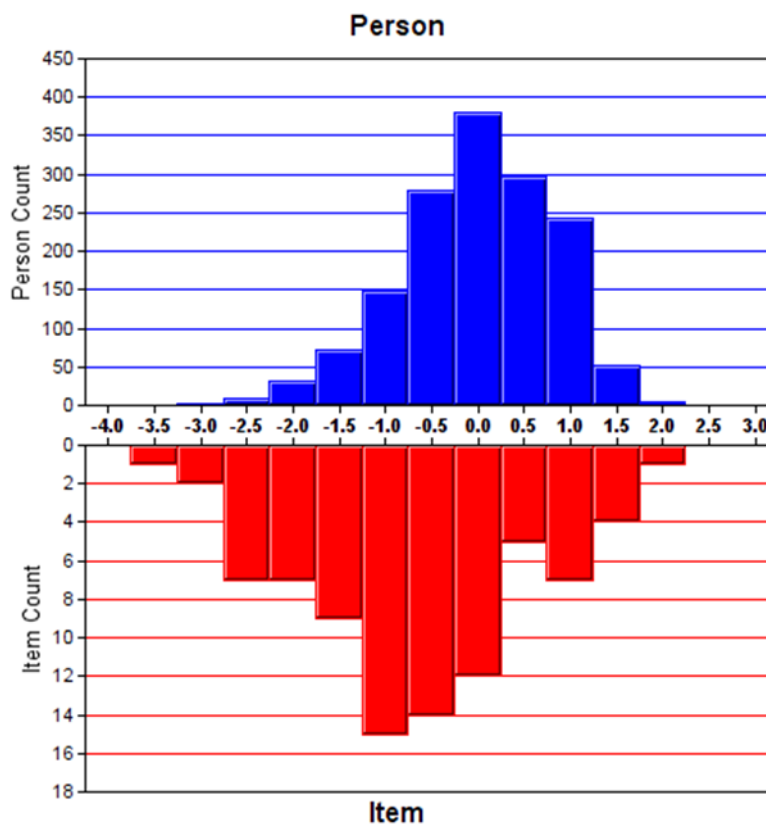
Figure 11 Item and persons map showing targeting of items on persons for maths wave 1 MEL1
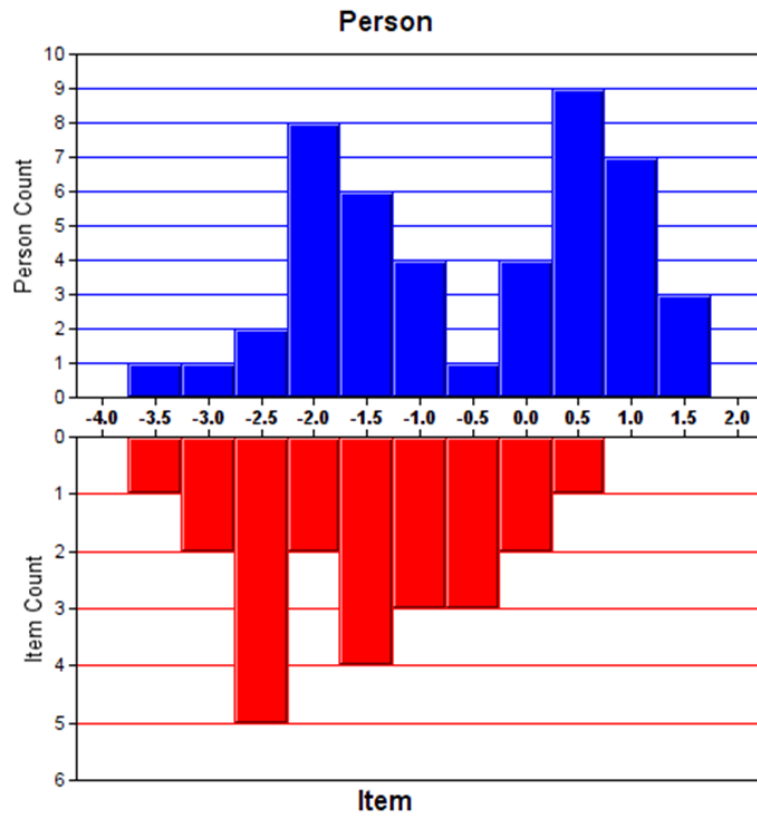
Figure 12 Item and persons map showing targeting of items on persons for maths wave 1 MEL3
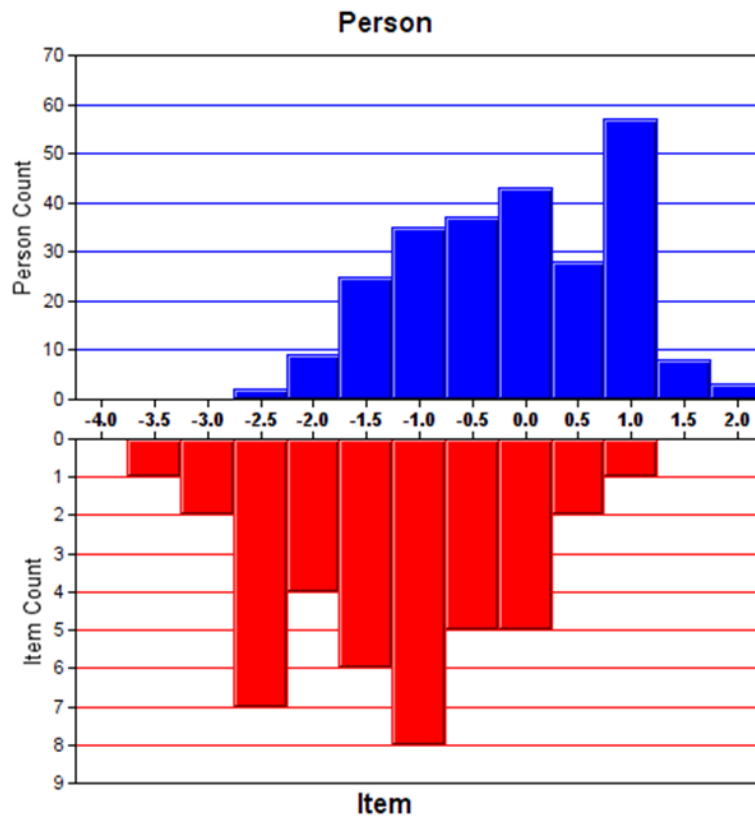
In all 3 figures, the ability of persons and the difficulty of items is shown in respect of a common, logit, scale (persons on the top half of the figure in blue, items on the bottom in red). Figure 10 shows the targeting of items on persons for all persons and items in wave 1 maths, Figure 11 shows the same phenomenon for Entry 1 persons and items and Figure 12 shows the targeting of Entry 3 items on Entry 3 persons.

Figure 10 suggests that the bank of items overall is well matched to the test takers sitting the tests; if anything the items are slightly easy for these persons (the top, red histogram is slightly more to the right than the blue histogram). Figure 11 is very striking; the items seem reasonably well spread across the bottom half of the difficulty continuum (an Entry Level 1 test should contain easy items). However, the distribution of persons is quite complex. This distribution is bi-modal (has 2 peaks). One peak is at -2 logits (which might be reasonable for an Entry Level 1 cohort), but the second mode is at 0.5. This suggests a group of learners who were scoring much more highly than we could have expected. We have investigated this group using demographic data – there was nothing to distinguish them. For example, they did not appear to come from a small number of centres or to take the test on similar dates etc. The distribution in Figure 12 is somewhat simpler. For Entry Level 3 learners, it appears that the learners were slightly 'better' than the items. That is, that the items were slightly easy for these learners.

Wave 2

Reading

The output in this section includes:

1. An inventory of tests in the equate, showing the order of adding tests into the equating dataset and sequence of removal of inaccurately measured persons and items from tests (Table 46).

2. A detailed table showing the sequence of Rasch model 'runs' (Table 47). The sequence shows how many persons and items were removed from each run, and how measurement quality indicators developed over the sequence of runs.

3. A boxplot showing the 'stepping' between persons who entered for particular tests (Figure 13). The SPSS help file says that boxplots have the following properties:

A boxplot shows the 5 statistics (minimum, first quartile, median, third quartile, and maximum). It is useful for displaying the distribution of a scale variable and pinpointing outliers. Outliers in the boxplot are labelled with the case number (SPSS, undated).

Table 46 List of tests in each sequenced run for wave 2 reading equate

Run number	Test in run	Persons removed	Items removed
1	E-E3-RW Reading items only		
1	E-L1-RW Reading items only		
1a	E-E3-RW Reading items only	Y	
1a	E-L1-RW Reading items only	Y	
1b	E-E3-RW Reading items only	Y	Y
1b	E-L1-RW Reading items only	Y	Y
2	E-E3-RW Reading items only	Y	Y
2	E-L1-RW Reading items only	Y	Y
2	E-E2-RW Reading items only		
2a	E-E3-RW Reading items only	Y	Y
2a	E-L1-RW Reading items only	Y	Y
2a	E-E2-RW Reading items only	Y	
2b	E-E3-RW Reading items only	Y	Y
2b	E-L1-RW Reading items only	Y	Y
2b	E-E2-RW Reading items only	Y	Y
3	E-E3-RW Reading items only	Y	Y
3	E-L1-RW Reading items only	Y	Y
3	E-E2-RW Reading items only	Y	Y
3	E-L2-RW Reading items only		
3a	E-E3-RW Reading items only	Y	Y
3a	E-L1-RW Reading items only	Y	Y
3a	E-E2-RW Reading items only	Y	Y
3a	E-L2-RW Reading items only	Y	
3b	E-E3-RW Reading items only	Y	Y
3b	E-L1-RW Reading items only	Y	Y
3b	E-E2-RW Reading items only	Y	Y
3b	E-L2-RW Reading items only	Y	Y
4	E-E3-RW Reading items only	Y	Y
4	E-L1-RW Reading items only	Y	Y
4	E-E2-RW Reading items only	Y	Y
4	E-L2-RW Reading items only	Y	Y
4	E-E1-RW Reading items only		
4a	E-E3-RW Reading items only	Y	Y
4a	E-L1-RW Reading items only	Y	Y

4a	E-E2-RW Reading items only	Y	Y
4a	E-L2-RW Reading items only	Y	Y
4a	E-E1-RW Reading items only	Y	
4b	E-E3-RW Reading items only	Y	Y
4b	E-L1-RW Reading items only	Y	Y
4b	E-E2-RW Reading items only	Y	Y
4b	E-L2-RW Reading items only	Y	Y
4b	E-E1-RW Reading items only	Y	Y

Table 47 Detailed record of sequence of IRT runs in wave 2 reading equated test

Run no.	No. of persons	No. of items	Persons					Items					PERSON REL	INFIT IMNSQ (MEAN)	INFIT IMNSQ (SD)	OUTFIT OMNSQ (MEAN)	OUTFIT OMNSQ (SD)
			High SEM	High outfit MSQ	High infit MSQ	Status not 1	Comment	High SEM	High outfit MSQ	High infit MSQ	Status not 1	Comment					
1	886	33	52	31		21							0.77	1.00	0.23	1.01	0.54
1a	812	33						6					0.74	1.00	0.23	0.96	0.37
1b	812	27					For boxplot						0.71	1.00	0.21	0.98	0.34
2	1076	41	24	9		10							0.75	1.00	0.21	0.98	0.34
2a	1043	41						5					0.75	1.00	0.21	0.98	0.32
2b	1043	36					For boxplot						0.74	1.00	0.21	0.98	0.33
3	1503	54	39	20		9							0.81	1.00	0.22	0.98	0.40
3a	1446	54						3					0.79	1.00	0.22	0.97	0.34
3b	1446	51					For boxplot						0.79	1.00	0.21	0.98	0.33
4	1734	59	20	27	12	14							0.79	1.00	0.25	0.99	0.46
4a	1687	59						4					0.79	1.00	0.24	0.97	0.35
4b	1687	55					For boxplot and final result						0.79	1.00	0.24	0.98	0.36

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| | | | Numbers excluded | | | | | | | | | | | Quality measures | | | | |
| | | | Persons | | | | | Items | | | | | | INFIT | | OUTFIT | |
Run no.	No. of persons	No. of items	High SEM	High outfit MSQ	High infit MSQ	Status not 1	Comment	High SEM	High outfit MSQ	High infit MSQ	Status not 1	Comment	PERSON REL	IMNSQ (MEAN)	IMNSQ (SD)	OMNSQ (MEAN)	OMNSQ (SD)
5	1706	59	11	16	7	4							0.79	1.00	0.24	0.98	0.36
5a	1676	58						3			1		0.79	1.00	0.23	0.97	0.33
5b	1676	55					For boxplot and anchoring						0.79	1.00	0.23	0.97	0.33

Figure 13 Abilities of learners from different source tests in wave 2 reading equated test
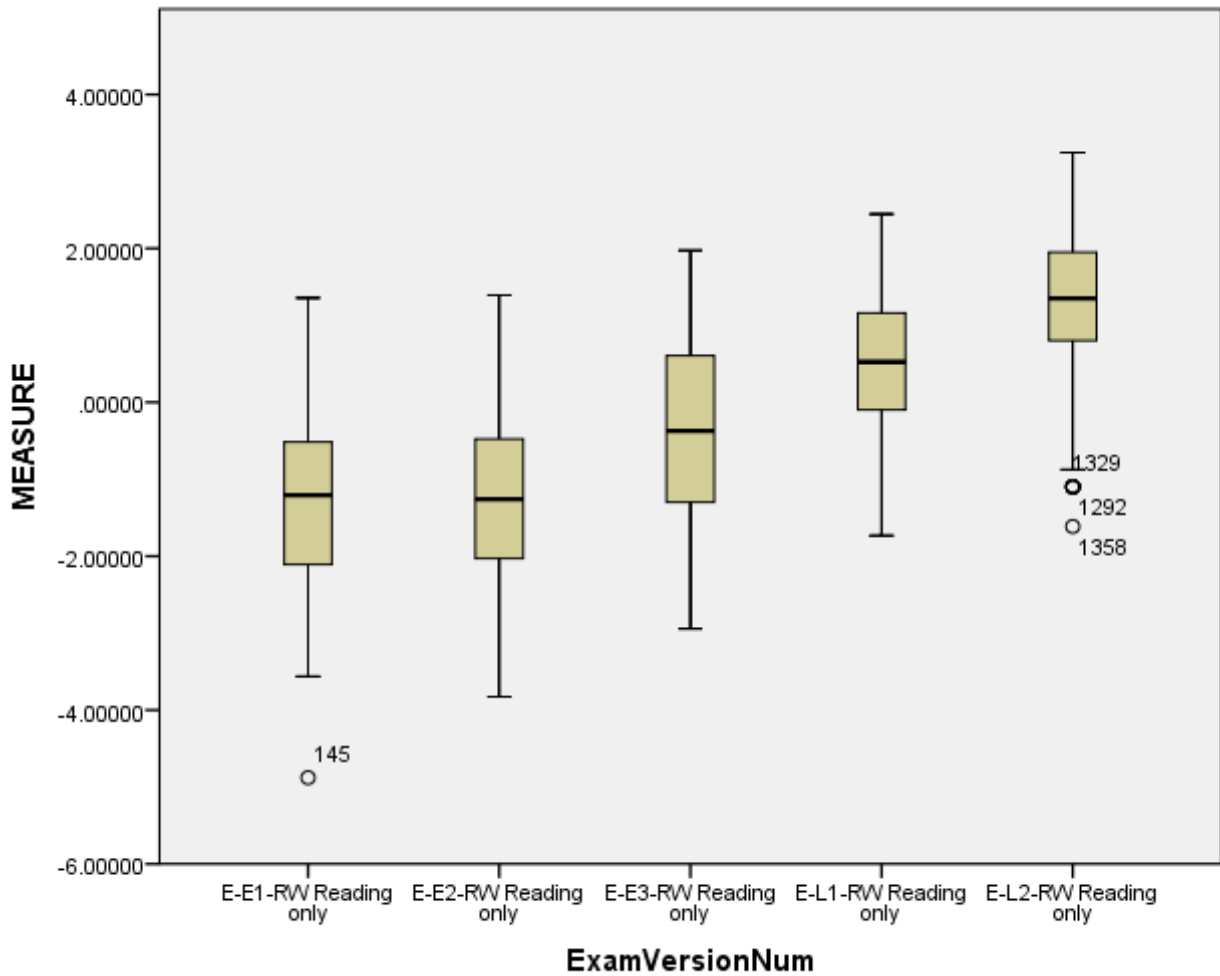
Commentary

The reliability of the dataset for the reading wave 2 is on the cusp between acceptable and good. Mean infit for the equate is very good, with low SD; whilst mean outfit is nearly as good, but with slightly higher SD.

The stepping of ability estimates for candidates entered levelled tests (in the boxplot) is broadly intuitive; with ability estimates ascending by levelled test. Entry level 1 appears slightly 'out of step' with Entry Level 1 learners somewhat more able than Entry Level 2.

Writing

The outputs for this writing equate reflect the hybrid approach that was taken to link and scale tests, and assess their measurement quality (as described in the method section). The outputs for SPAG are the same as those for other IRT equated tests.

The Ex W and combined writing equated tests have the following outputs:

1. An inventory of tests in the SPAG equate, showing the order of adding tests into the equating dataset, the sequence of removal of inaccurately measured persons and items from tests, and the anchoring of test scores to wave 2 (Table 48).

2. A detailed table showing the sequence of Rasch model 'runs' (Table 49). The sequence shows how many persons and items were removed from each run, and how measurement quality indicators developed over the sequence of runs.

3. A histogram showing the distribution of (z-adjusted) scores for SPAG (Figure 14).

4. A summary table showing the minimum, mean and maximum scores achieved on the extended writing task by learners entering particular tests (Table 50).

5. A pivot table counting the numbers of learners who achieved particular scores – pivoted against the test they entered (Table 51).

6. Histograms showing the distributions of (z-adjusted) scores for SPAG and Ex W components (Figures 15 and 16).

7. A summary table showing the descriptive statistics for the rescaled and combined writing scores (Table 52).

8. A table showing the various reliability outputs for the combined writing score: KR-21 indices for the standardised and scaled component scores, a composite reliability index for the overall writing test and a SEM value with associated 95% confidence intervals around the scale mean (Table 53).

SPAG

Table 48 List of tests in each sequenced run for wave 2 SPAG equated test

Run number	Test in run	Persons removed	Items removed
1	E-E3-RW SPAG items only		
1	E-L1-RW SPAG items only		
1a	E-E3-RW SPAG items only	Y	
1a	E-L1-RW SPAG items only	Y	
1b	E-E3-RW SPAG items only	Y	
1b	E-L1-RW SPAG items only	Y	
2	E-E3-RW SPAG items only	Y	Y
2	E-L1-RW SPAG items only	Y	Y
2	E-E2-RW SPAG items only		
2a	E-E3-RW SPAG items only	Y	Y
2a	E-L1-RW SPAG items only	Y	Y
2a	E-E2-RW SPAG items only	Y	
3	E-E3-RW SPAG items only	Y	Y
3	E-L1-RW SPAG items only	Y	Y
3	E-E2-RW SPAG items only	Y	Y
3	E-L2-RW SPAG items only		
3a	E-E3-RW SPAG items only	Y	Y
3a	E-L1-RW SPAG items only	Y	Y
3a	E-E2-RW SPAG items only	Y	Y
3a	E-L2-RW SPAG items only	Y	
4	E-E3-RW SPAG items only	Y	Y
4	E-L1-RW SPAG items only	Y	Y
4	E-E2-RW SPAG items only	Y	Y
4	E-L2-RW SPAG items only	Y	Y
4	E-E1-RW SPAG items only		
4a	E-E3-RW SPAG items only	Y	Y
4a	E-L1-RW SPAG items only	Y	Y
4a	E-E2-RW SPAG items only	Y	Y
4a	E-L2-RW SPAG items only	Y	Y
4a	E-E1-RW SPAG items only	Y	

Table 49 Detailed record of sequence of IRT runs in wave 2 SPAG equated test

			Numbers excluded										Quality measures				
			Persons					Items						INFIT		OUTFIT	
Run no.	No. of persons	No. of items	High SEM	High outfit MSQ	High infit MSQ	Status not 1	Comment	High SEM	High outfit MSQ	High infit MSQ	Status not 1	Comment	PERSON REL	IMNSQ (MEAN)	IMNSQ (SD)	OMNSQ (MEAN)	OMNSQ (SD)
1	886	15	70	43	34	54							0.64	0.97	0.53	1.01	0.65
1a	768	15										No items with SEM GT 1 or misfit GT 2. Need to model unreliability as being a consequence of short scale. Therefore decided not to delete any items in these runs.	0.61	0.93	0.39	0.95	0.46
2	1017	21	60	40	11	28							0.63	0.95	0.37	0.97	0.55
2a	912	21					For boxplot						0.57	0.95	0.35	0.96	0.42
3	1355	24	75	27	11	49							0.65	0.94	0.37	0.96	0.43
3a	1248	24					For boxplot						0.64	0.93	0.35	0.95	0.40
4	1526	30											0.69	0.94	0.33	0.97	0.52
4a	1467	30					For boxplot and final result						0.67	0.95	0.33	0.95	0.39

Figure 14 Abilities of learners from different source tests in wave2 SPAG equated test
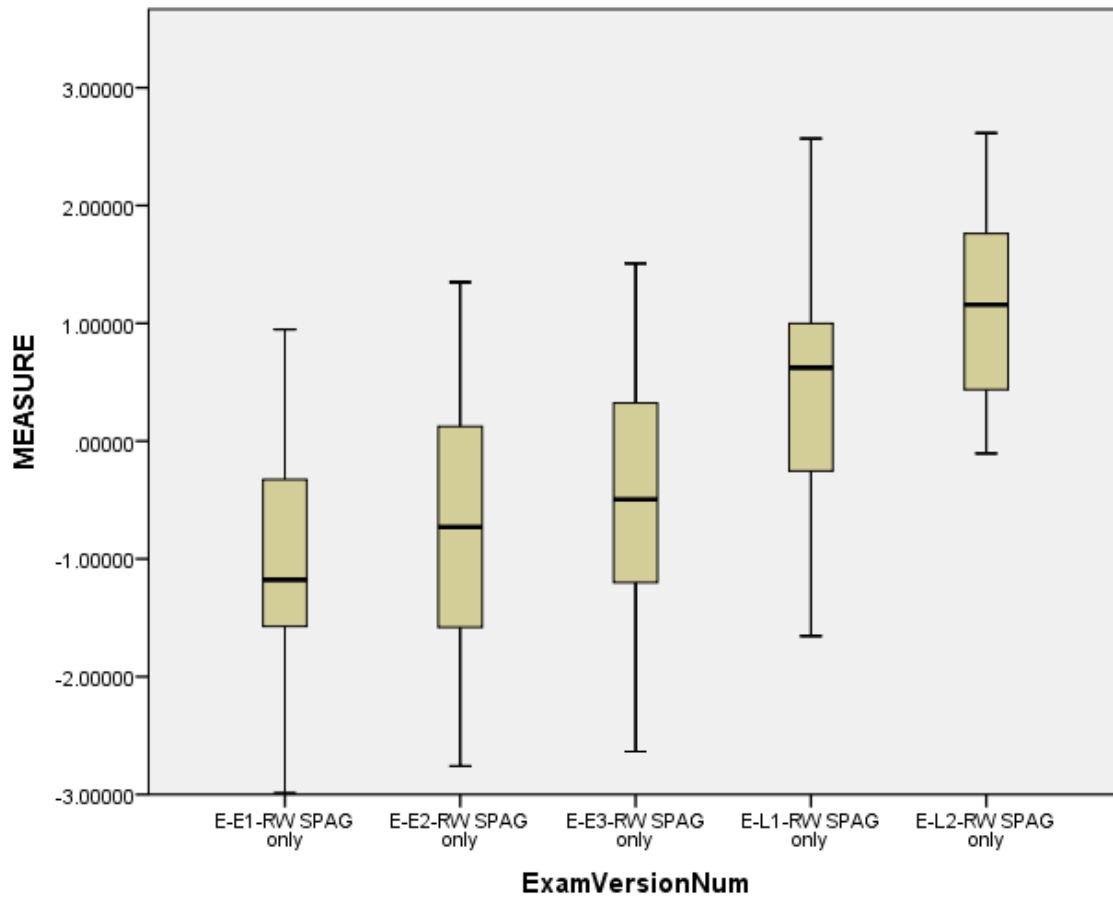
Extended writing

Table 50 Summary information for wave 2 extended writing tests

Source test name		Score information		
	N	Min	Mean	Max
E-E1-RW	288	0	0.91450	6
E-E2-RW	264	0	1.60581	5
E-E3-RW	460	0	2.72665	9
E-L1-RW	426	0	4.39401	10
E-L2-RW	460	0	5.00698	11
Grand Total	**1898**	**0**	**3.22753**	**11**

Table 51 Numbers of learners achieving particular scores in wave 2 extended writing tests

Source test name	Score													Total
	BLANK	0	1	2	3	4	5	6	7	8	9	10	11	
E-E1-RW	19	122	83	43	11	7	2	1						288
E-E2-RW	23	78	51	42	32	34	4							264
E-E3-RW	21	110	58	51	35	69	54	51	9	1	1			460
E-L1-RW	25	79	3	16	16	55	67	78	48	33	4	2		426
E-L2-RW	30	129	2	2	1	8	33	76	51	52	43	32	1	460
Total	**118**	**518**	**197**	**154**	**95**	**173**	**160**	**206**	**108**	**86**	**48**	**34**	**1**	**1898**

Writing overall

Figure 15 Histogram of standardised IRT scores from SPAG component of wave 2 writing tests

Mean = .00000
Std. Dev. = 1.00000
N = 1,440
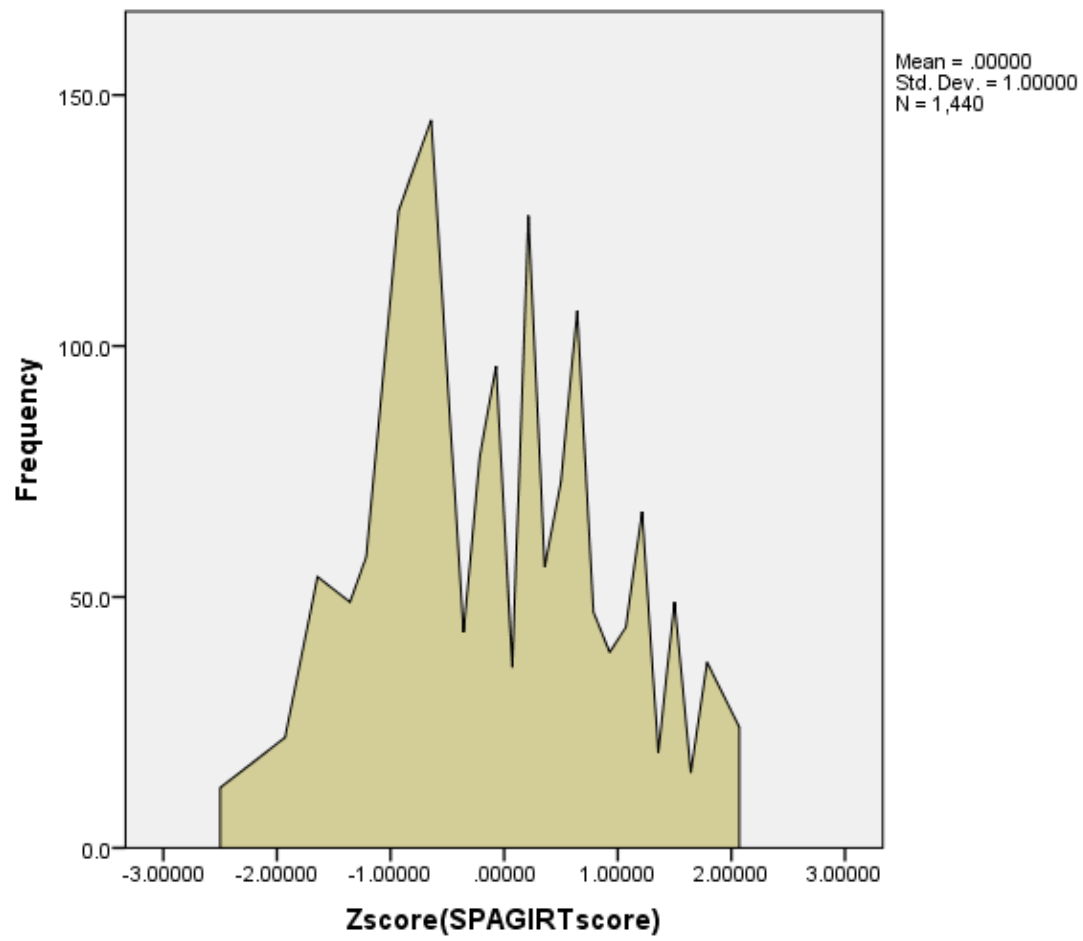
Figure 16 Histogram of standardised scores from Ex W component of wave 2 writing tests

Mean = .00000
Std. Dev. = 1.00000
N = 1,440

Frequency (y-axis): 0.0, 100.0, 200.0, 300.0, 400.0

Zscore(ExtendedWritingScore) (x-axis): -2.00000, -1.00000, .00000, 1.00000, 2.00000, 3.00000
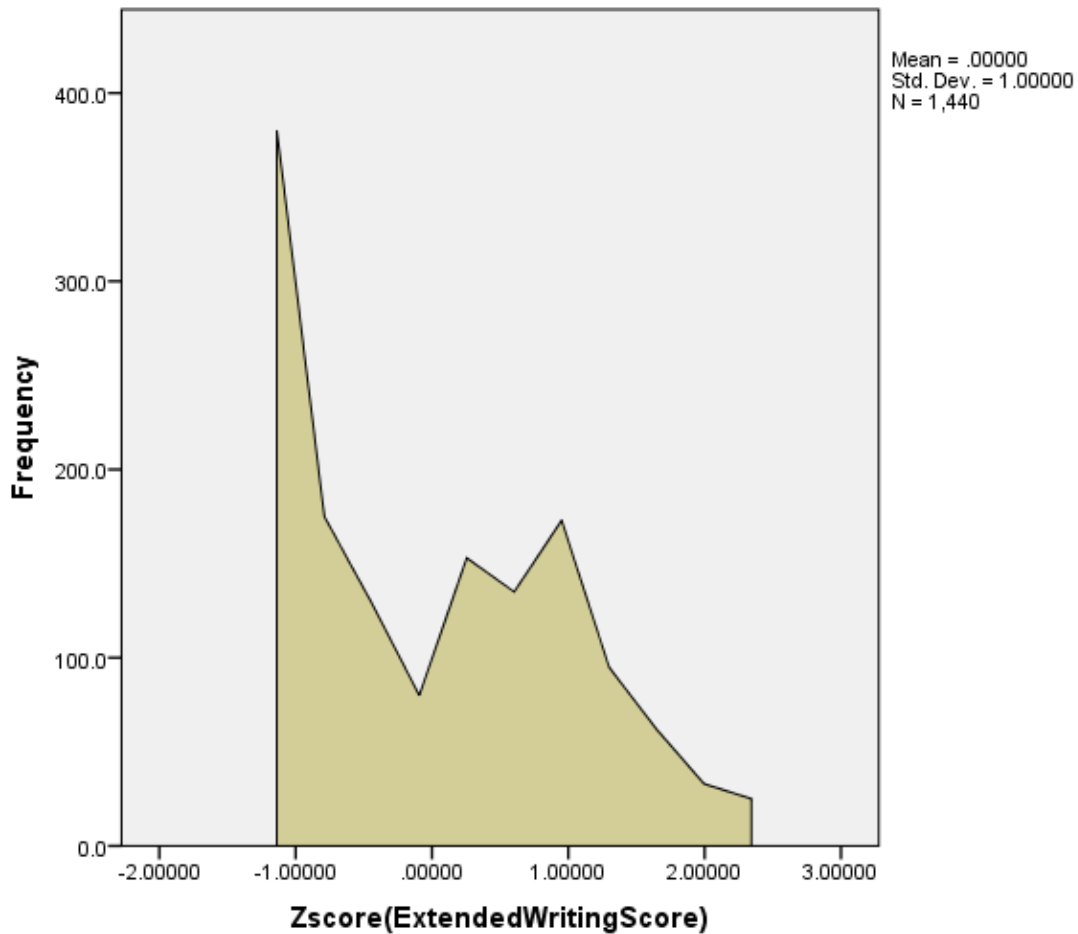
Table 52 Summary statistics for Ex W and SPAG scores in wave 2 extended writing

Scaling coefficients	
a coefficient	4
b coefficient	10
Properties of standardised and scaled scores	
Variance Ex W	16.0000
Variance SPAGIRT	16.0000
Max Ex W	19.3724
Max SPAGIRT	18.4920
Min Ex W	5.4501
Min SPAGIRT	0.2638
Mean Ex W	10.0000
Mean SPAGIRT	10.0000
Variance total score	48.951
Mean total score	20

Table 53 Reliability statistics for overall scores in wave 2 writing equated test

KR-21 coefficients for standardised and scaled scores	
Ex W	0.736
SPAG	0.754
Composite test reliability statistics	
Correlation: EX W: SPAG	0.530
Composite reliability	0.833
SEM and 95% confidence intervals	
SEM	2.85916
Mean score	20
Lower bound of 95% CI around mean	14.39605
Upper bound of 95% CI around mean	25.60395

Following the calculation of a composite reliability coefficient, the overall writing scores for longitudinal wave 2 were re-scaled again to form t-scores, as discussed in the methodology section above. The revised *a* and *b* co-efficients in this new linear equation were, respectively: 21.414 and 1.429.

Commentary

The measurement properties of the SPAG equated test are acceptable. The reliability coefficient is towards the top of the 'acceptable' range. Mean model fit statistics are somewhat lower than one, but not catastrophically so. Also, the SD of model fit is not excessive for either infit or outfit, suggesting that individual measures do not have egregious levels of misfit.

Quite why wave 2 should have 'better' measurement properties than wave 1 is unclear. This is especially so, since the wave 2 SPAG component was a shortened version of wave 1.

The stepping on the wave 2 SPAG tests seems intuitive; with estimated ability ascending in line with test level entered.

The extended writing scores tend to ascend with test level entered as well. Mean score is higher for each level test entered. Similarly, there is an association between scoring and the diagonal. However, the caveat to this is (as with wave 1) the large numbers of learners either entering no extended writing response at all, or scoring zero.

This large number of low-scoring test takers is reflected in the histogram in Figure 16. The distribution for Ex W is strongly positively (left) skewed. In contrast, the SPAG scoring is more symmetrical.

Nonetheless, the correlation between SPAG and Ex W scores is quite high, and the composite reliability is correspondingly good (especially for writing, which is generally less reliable in this pilot). This high reliability reflects both the high component reliabilities, and the correlation between the components.

Maths

The output in this section includes:

1. An inventory of tests in the equate, showing the order of adding tests into the equating dataset, the sequence of removal of inaccurately measured persons and items from tests, and the anchoring of test scores to wave 2 (Table 54).

2. A detailed table showing the sequence of Rasch model 'runs' (Table 55). The sequence shows how many persons and items were removed from each run, and how measurement quality indicators developed over the sequence of runs.

3. A boxplot showing the 'stepping' between persons who entered for particular tests (Figure 17). The SPSS help file says that boxplots have the following properties:

   A boxplot shows the 5 statistics (minimum, first quartile, median, third quartile, and maximum). It is useful for displaying the distribution of a scale variable and pinpointing outliers. Outliers in the boxplot are labelled with the case number (SPSS, undated).

Table 54 List of tests in each sequenced run for wave 2 maths equated test

Run number	Test in run	Persons removed	Items removed
1	ME3W2		
2	ME3W2		
2	ML1W2		
2a	ME3W2	Y	
2a	ML1W2	Y	
2b	ME3W2	Y	Y
2b	ML1W2	Y	Y
3	ME3W2		
3	ML1W2		
3	ME2W2		
3a	ME3W2	Y	
3a	ML1W2	Y	
3a	ME2W2	Y	
3b	ME3W2	Y	Y
3b	ML1W2	Y	Y
3b	ME2W2	Y	Y
4	ME3W2		
4	ML1W2		
4	ME2W2		
4	ML2W2		
4a	ME3W2	Y	
4a	ML1W2	Y	
4a	ME2W2	Y	
4a	ML2W2	Y	

Run number	Test in run	Persons removed	Items removed
4b	ME3W2	Y	Y
4b	ML1W2	Y	Y
4b	ME2W2	Y	Y
4b	ML2W2	Y	Y
5	ME3W2		
5	ML1W2		
5	ME2W2		
5	ML2W2		
5	ME1W2		
5a	ME3W2	Y	
5a	ML1W2	Y	
5a	ME2W2	Y	
5a	ML2W2	Y	
5a	ME1W2	Y	
5b	ME3W2	Y	Y
5b	ML1W2	Y	Y
5b	ME2W2	Y	Y
5b	ML2W2	Y	Y
5b	ME1W2	Y	Y

Table 55 Detailed record of sequence of IRT runs in wave 2 maths equated test

Run no.	No. of persons	No. of items	High SEM	High outfit MSQ	High infit MSQ	Other	Comment	High SEM	High outfit MSQ	High infit MSQ	Other	Comment	PERSON REL	IMNSQ (MEAN)	IMNSQ (SD)	OMNSQ (MEAN)	OMNSQ (SD)
			Persons					Items					Quality measures	INFIT		OUTFIT	
1	452	33											0.79	1.06	0.43	0.98	0.69
2	904	59	214	38	25	16	16 persons scored zero.						0.81	1.03	0.39	1.00	0.53
2a	652	55						14			5	Five items had scores of zero.	0.80	1.01	0.31	0.96	0.36
2b	652	41					For boxplot						0.80	1.01	0.31	0.97	0.31
3	950	53	28	19	11	2							0.86	1.02	0.33	0.99	0.44
3a	896	53						1					0.87	1.02	0.32	0.97	0.31
3b	896	52					For boxplot						0.87	1.02	0.32	0.97	0.31
4	1366	74	61	17	13	9							0.86	1.01	0.31	0.98	0.39
4a	1281	73						5			1		0.88	1.00	0.30	0.96	0.29
4b	1281	68					For boxplot						0.88	1.00	0.29	0.96	0.29
5	1466	87	46	12	6	3							0.88	1.01	0.30	0.96	0.33
5a	1409	87						3	1				0.89	1.01	0.29	0.96	0.29
5b	**1409**	**83**					**For boxplot and final result**						**0.89**	**1.01**	**0.29**	**0.96**	**0.30**
5c	**1391**	**83**					**For boxplot and final result with test cases removed**						**0.89**	**1.01**	**0.29**	**1.01**	**0.30**

Figure 17 Abilities of learners from different source tests in wave 2 maths equated test
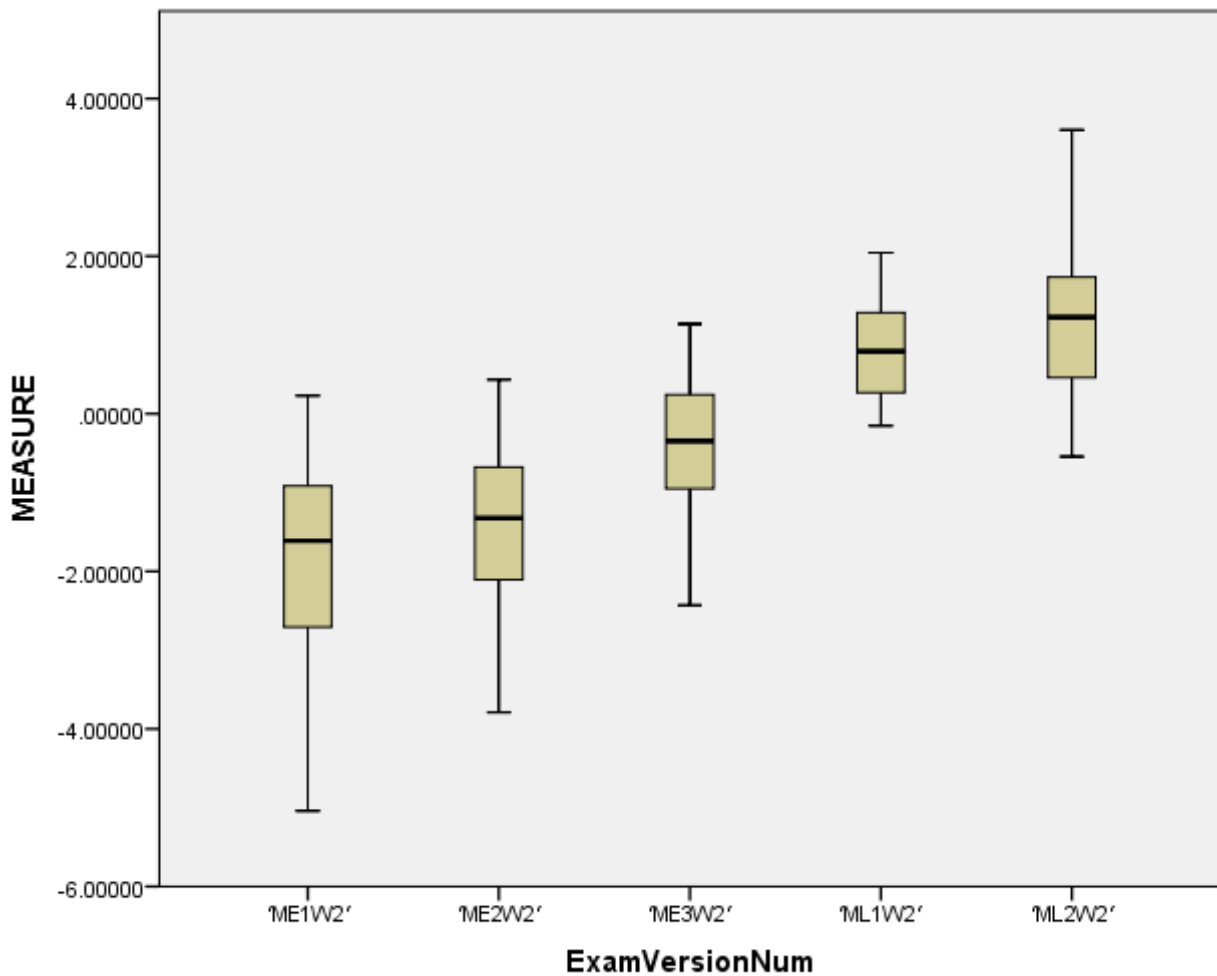
Commentary

The measurement properties of this equate seem good to excellent. The reliability index is almost in the excellent band. Model infit and outfit are both close to one, with low SD.

The stepping of tests by level ascends intuitively.

Comparison of wave 1 and wave 2 scoring

Matching up scoring on waves 1 and 2 of the longitudinal survey and checking to see the extent to which learners have either improved or regressed is an essential sense check in this research. This basic check is carried out in the following tables: Tables 56 and 57 summarise this analysis for reading tests, whilst Tables 60 and 61 perform the same function for maths tests.

Table 56 and Table 60 contain the same information, for reading and maths, respectively. They match learners' wave 1 and wave 2 test scores via the respective IDs for those

learners. Then, they group learners according to the wave 1 and wave 2 tests that they sat. For each learner a subtraction is performed, in the manner of:

Wave 2 ability estimate – Wave 1 ability estimate

Finally, for each group of learners, the minimum, mean average and maximum value of that subtraction is displayed in the table.

Tables 57 and 61 are designed to the same specification, and include information on the reading and maths tests, respectively. Whereas the previous sets of tables look at the minimum, average and maximum values for sets of subtractions, these tables look in absolute terms at whether wave 2 minus wave 1 is a positive or negative number. That is, how many learners have a higher ability estimates at wave 2 than they did at wave 1.

A commentary is given on these tables for each subject at the end of the relevant sub-section.

Reading

Table 56 Minimum, mean average and maximum values of wave 2 minus wave 1 reading subtractions

Wave 1 test ID first, then wave 2	*N*	Min of wv2 Reading minus wv1 Reading	Mean of wv2 Reading minus wv1 Reading	Max of wv2 Reading minus wv1 Reading
REL1P				
E-E1-RW	37	-2.48880	-0.17728	1.64953
E-E2-RW	60	-2.10868	-0.47675	2.82145
	176			
REL2P				
E-E3-RW	100	-2.69411	-0.09906	3.24254
	150			
REL3P				
E-L1-RW	159	-1.86456	0.04478	2.22567
	218			
RL1P				
E-L2-RW	223	-1.93163	0.24698	2.81872
	280			
E-E1-RW	196			

Wave 1 test ID first, then wave 2	N	Min of wv2 Reading minus wv1 Reading	Mean of wv2 Reading minus wv1 Reading	Max of wv2 Reading minus wv1 Reading
E-E2-RW	182			
E-E3-RW	337			
E-L1-RW	235			
E-L2-RW	215			

Table 57 Count of numbers of wave 2 minus wave 1 pluses and minuses for reading

Wave 1 test ID first, then wave 2	Count of pluses and minuses			Grand Total
	Minus	Plus	#N/A	
REL1P				
E-E1-RW	16	21		37
E-E2-RW	42	18		60
#N/A			176	176
REL2P				
E-E3-RW	56	44		100
#N/A			150	150
REL3P				
E-L1-RW	80	79		159
#N/A			218	218
RL1P				
E-L2-RW	91	132		223
#N/A			280	280
Grand Total	**285**	**294**	**824**	**1403**

In the reading tests, learners who did a level 1 or Entry Level 3 test at wave 1 appear, on average, to have approved in ability. This is particularly so for those who did reading level 1 test at wave 1 and Level 2 at wave 2. Those who started at Entry Level 3 and ended (at

wave 2) at Level 1, on average had slightly higher estimated reading ability by the end. Those learners who were entered for either Entry Level 1 or 2 at wave 1, however, appeared to have lower ability estimates at wave 2 than at wave 1 (wave 2 ability minus wave 1 ability is a negative number).

On scrutinising the respective wave 1 and wave 2 equated tests (and their stepping especially – see Figure 12 and Figure 13, respectively), there seems no particular 'smoking gun' that would explain why learners had 'gone down' between wave 1 and wave 2 (this is in contrast to maths, see below).

Writing

Table 58 Minimum, mean average and maximum values of wave 2 minus wave 1 writing subtractions

Wave 1 test ID first, then wave 2	N	Min of wv2 Writing minus wv1 writing	Mean of wv2 Writing minus wv1 writing	Max of wv2 Writing minus wv1 writing
Entry level 1				
Entry level 1 wave 2	44	-22	0.682	25
Entry level 2 wave 2	72	-11	3.347	36
Entry level 2				
Entry 3 wave 2	78	-18	3.321	23
Entry level 3				
Level 1 wave 2	115	-27	-4.191	24
Level 1				
Level 2 wave 2	130	-18	4.708	27
Total	**439**	**-27**	**1.503**	**36**

Table 59 Count of numbers of wave 2 minus wave 1 pluses and minuses for writing

Wave1 test ID first, then wave 2	Count of pluses and minuses		Grand Total
	Minus	**Plus**	
Entry Level 1			
Entry Level 1 wave 2	21	23	44
Entry Level 2 wave 2	23	49	72
Entry Level 2			
Entry Level 3 wave 2	26	52	78

Wave1 test ID first, then wave 2	Count of pluses and minuses		Grand Total
	Minus	Plus	
Entry Level 3			
Level 1 wave 2	77	38	115
Level 1			
Level 2 Wave 2	40	90	130
Total	**187**	**252**	**439**

Maths

Table 60 Minimum, mean average and maximum values of wave 2 minus wave 1 maths subtractions

Wave 1 test ID first, then wave 2	N	Min of wave 2 maths minus wave 1 maths	Average of wave 2 maths minus wave 1 maths	Max of wave 2 maths minus wave 1 maths
MEL1P				
ME1W2	13	-3.63421	-0.92985	2.78594
	33			
MEL2P				
ME2W2	24	-3.36786	0.26482	2.73369
	45			
MEL3P				
ME3W2	75	-2.37879	-0.54539	3.15606
	171			
ML1P				
ML1W2	166	-1.60011	0.45663	2.93481
	445			
ML2P				
ML2W2	181	-1.51695	0.43823	2.80050
	354			
ME1W2	117			

Wave 1 test ID first, then wave 2	N	Min of wave 2 maths minus wave 1 maths	Average of wave 2 maths minus wave 1 maths	Max of wave 2 maths minus wave 1 maths
ME2W2	200			
ME3W2	268			
ML1W2	91			
ML2W2	197			

Table 61 Count of numbers of wave 2 minus wave 1 pluses and minuses for maths

Wave 1 test ID first, then wave 2	Count of pluses and minuses			Total
	Minus	**Plus**	**#N/A**	**Total**
MEL1P	**10**	**3**	**33**	**46**
ME1W2	10	3		13
#N/A			33	33
MEL2P	**10**	**14**	**45**	**69**
ME2W2	10	14		24
#N/A			45	45
MEL3P	**62**	**13**	**171**	**246**
ME3W2	62	13		75
#N/A			171	171
ML1P	**42**	**124**	**445**	**611**
ML1W2	42	124		166
#N/A			445	445
ML2P	**48**	**133**	**354**	**535**
ML2W2	48	133		181
#N/A			354	354
Total	**172**	**287**	**2096**	**3014**

Learners who took a maths test at Level 1 or 2 in wave 1 make approximately 0.4 of a logit's progress by wave 2. Those who sat an Entry Level 2 test at wave 1 make about 0.25 of a logit's progress between wave 1 and wave 2. However, those who sat either an Entry Level 1 or Entry Level 3 test at wave 1 appear to have regressed by wave 2. This is particularly so in the case of Entry Level 1 learners; their wave 2 ability estimates are (on average) nearly one logit lower than their wave 1 estimates.

These findings should be interpreted carefully. In the maths wave 1 we were concerned that the Entry Level 1 and Entry Level 3 ability estimates appeared too high. However, despite detailed diagnostic work, we were not able to find an explanation for this. It is also worth adding that the numbers being compared (13 for MEL1 especially, but also 75 for MEL3) are fairly small, and 'counter-intuitive results' may be an artefact of small sample size as well as other factors.

Wave 3 discussion

It seems intuitive that we ought to be able to estimate the ability of learners on successively higher tests as being higher. However, as we have discussed earlier in this chapter, there are reasons why this might not be so. To explore this for the wholly IRT approach, we produced boxplots. For the tests that we analysed using composite analysis (the writing), we produced separate graphics and tables showing the stepping of the discrete components.

Figure 18 Abilities of learners from different source tests: wave 3 reading equate
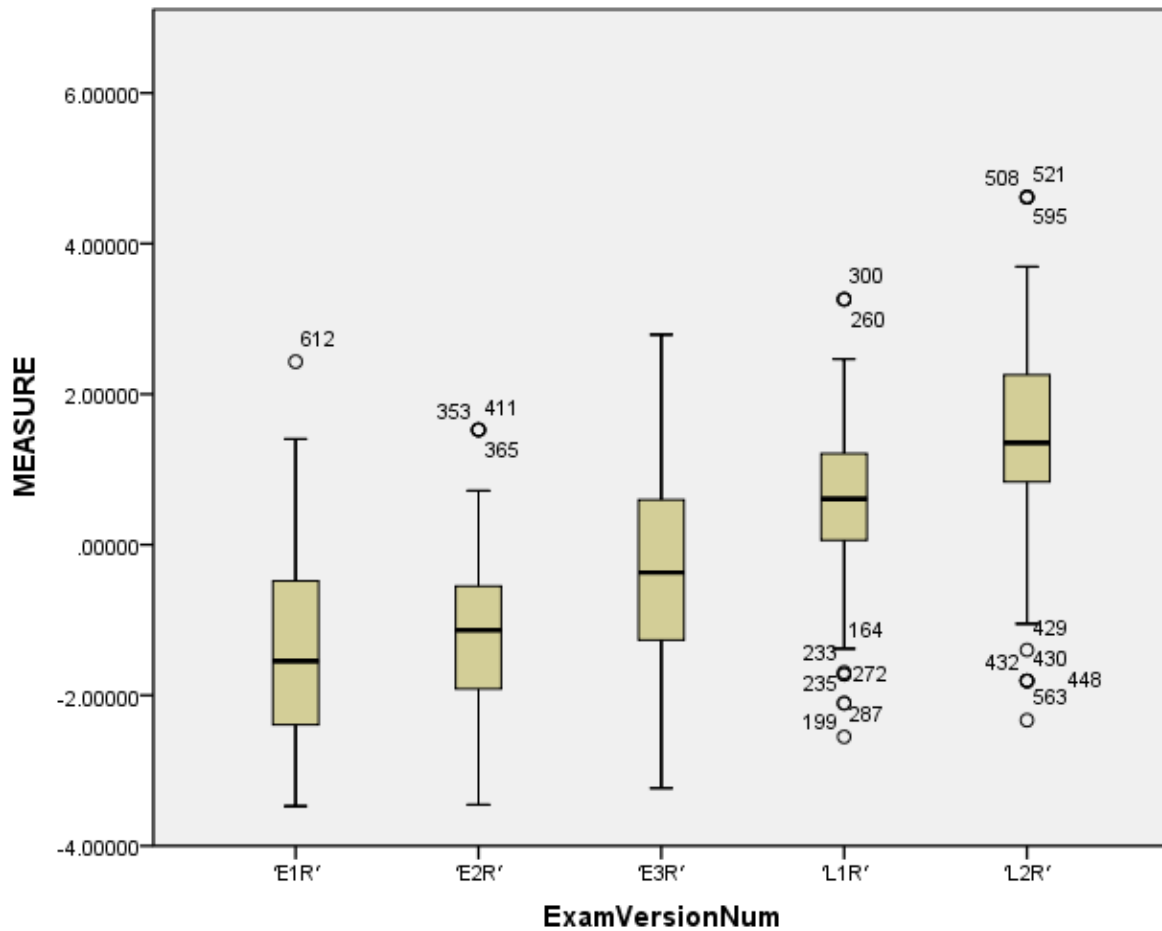
Figure 19 Abilities of learners from different source tests: wave 3 – maths equated test
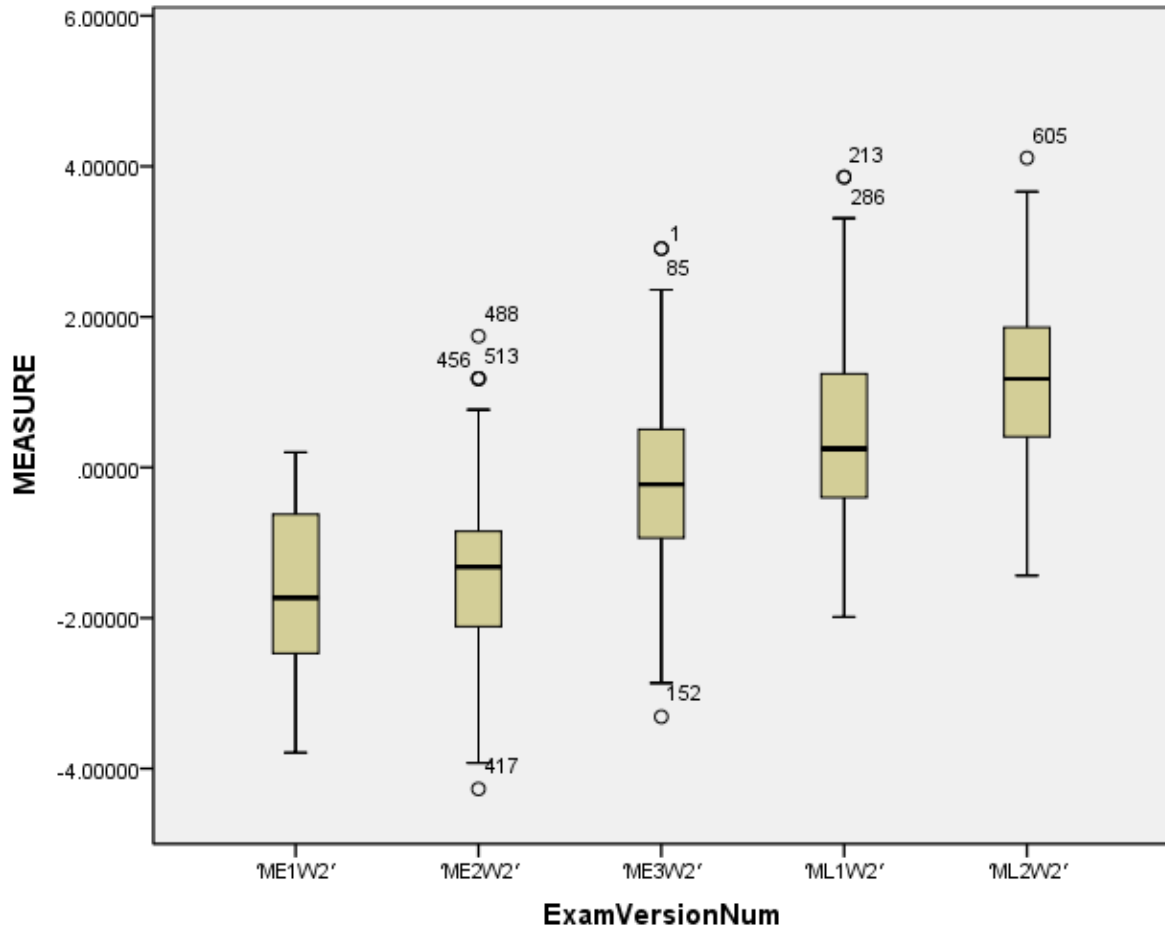
Figure 20 Abilities of learners from different source tests: wave 3 SPAG equated test
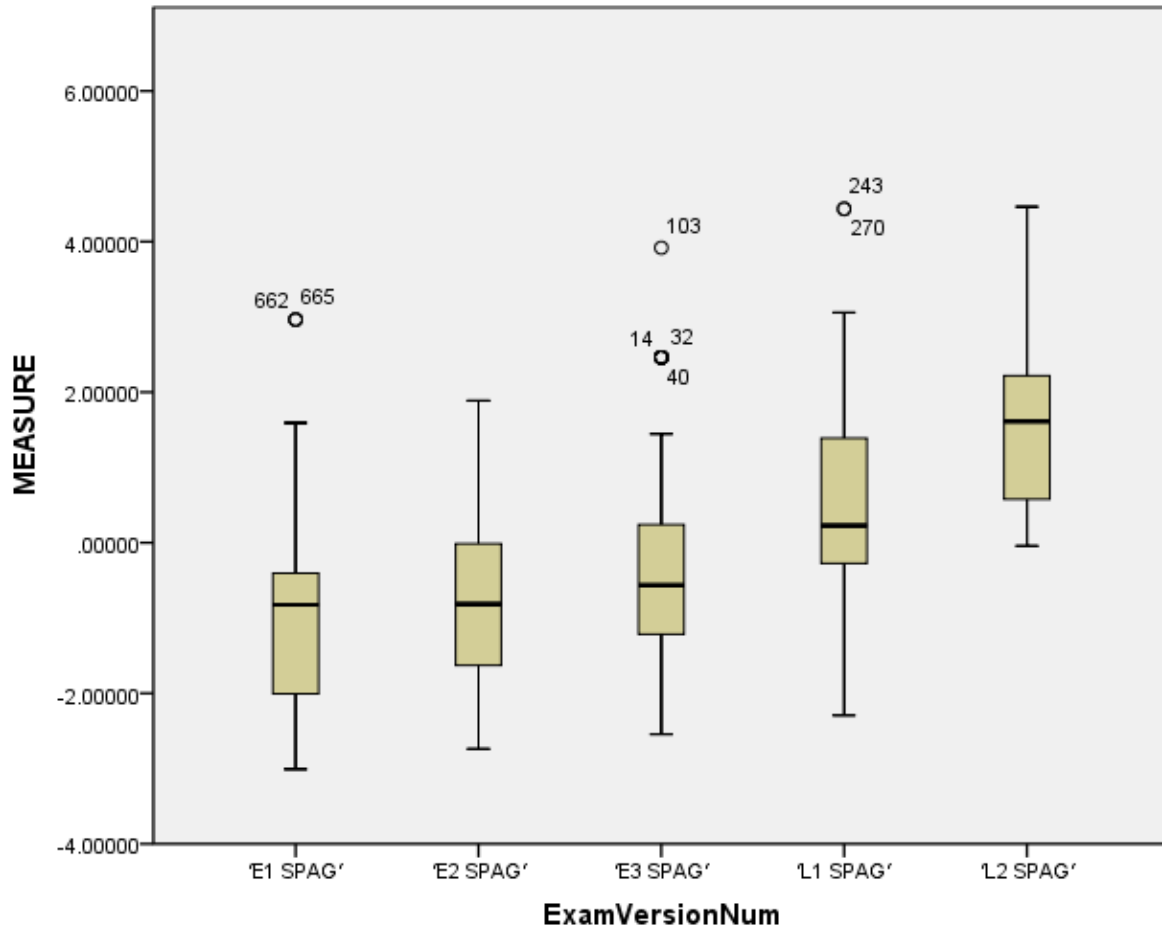
Table 62 Summary information: wave 3 extended writing tests

Source test name	N	Score information		
		Min	Mean	Max
E-E1-RW	104	0	0.83654	6
E-E2-RW	120	0	1.35000	5
E-E3-RW	168	0	2.85714	9
E-L1-RW	147	0	4.23129	9
E-L2-RW	135	0	5.97037	12
Total	674	0	3.20030	12

Commentary

The stepping of ability estimates for candidates entered levelled reading tests (in the boxplot) is broadly intuitive; with ability estimates ascending by levelled test. Entry level 1 appears slightly out of step with Entry level 1 learners somewhat equal to/or higher than Entry level 2 learners.

For maths, the stepping of ability estimates by input test level ascends, with the exception of Entry Level 1. Ability estimates for Entry Level 1 learners appear, on average, to be on level par or higher than those taking Entry Level 2 tests.

For writing, it makes more sense to consider the stepping of the 2 components separately. For SPAG, the stepping between levelled tests is relatively shallow between the entry-level tests. Mean extended writing scores ascend by level, but there were many learners whose writing received very low scores as they wrote little or nothing at all.

Comparison of wave 2 and wave 3 scoring

Matching up scoring from wave 2 and wave 3 and checking to see the extent to which learners have either improved or regressed is an important sense check in this research.

We produced 2 sets of tables to do this:

- One set provides some range and central tendency statistics for the differences between wave 2 and the wave 3 tests
- The other set of tables counts the numbers of learners whose ability estimates are lower or higher after wave 3

These tables are based on raw counts of test takers, and/or the absolute nature of their ability estimates. These tables do not model measurement error, and evaluations of progress made should be treated carefully.

Tables of results are given for each subject, and commentary follows the tables for each particular subject.

Reading

Table 63 Minimum, mean average and maximum values of wave 3 minus wave 2 reading subtractions

Wave 2 test ID first, then wave 3	N	Min of w3 reading minus w2 reading	Average of w3 reading minus w2 reading	Max of w3 reading minus w2 reading
E-E1-RW				
E-E1-RW	77	-2.36302	0.18179	2.61729
	153			
E-E2-RW				
E-E2-RW	84	-2.15244	0.02239	2.39654
	148			
E-E3-RW				
E-E2-RW	13	-1.74927	-0.14678	2.22331
E-E3-RW	134	-3.53078	0.04885	3.48657
	274			
E-L1-RW				
E-E3-RW	1	2.40970	2.40970	2.40970
E-L1-RW	116	-2.87984	0.03512	2.40494
	246			
E-L2-RW				
E-L2-RW	111	-2.43656	0.07198	2.08634
	292			

Table 64 Count of numbers of wave 3 minus wave 2 pluses and minuses for reading

Wave 2 test ID first, then wave 3	Count of number of pluses and minuses			Total
	minus	plus	#N/A	
E-E1-RW				
E-E1-RW	32	45		77
#N/A			153	153
E-E2-RW				
E-E2-RW	37	47		84
#N/A			148	148
E-E3-RW				
E-E2-RW	7	6		13
E-E3-RW	54	80		134
#N/A			274	274
E-L1-RW				
E-E3-RW		1		1
E-L1-RW	49	67		116
#N/A			246	246
E-L2-RW				
E-L2-RW	50	61		111
#N/A			292	292
Grand Total	**229**	**307**	**1113**	**1649**

The majority of learners who took tests at wave 2 and wave 3, on average, improved in ability. The exception to this, rather surprisingly, were learners who took an Entry Level 2 test at wave 2 followed by an Entry Level 3 test at wave 3. Of those who improved in ability, this was most pronounced for learners taking entry level 1 tests at both waves i.e. they had the largest average increase from wave 2 to wave 3.

Further, studying the second table, although the number of positives are generally greater (higher score at wave 3), they do not outweigh the minuses greatly. Rather, the numbers are fairly balanced between the two.

Writing

Table 65 Minimum, mean average and maximum values of wave 3 minus wave 2 writing subtractions

Wave 2 test ID first, then wave 3	N	Min of w3 writing minus w2 writing	Average of w3 writing minus w2 writing	Max of w3 Writing minus w2 writing
E-E1-RW				
E-E1-RW	85	-14	1.800	30
E-E2-RW				
E-E2-RW	76	-13	0.697	16
E-E3-RW	9	-14	-1.444	7
E-E3-RW				
E-E3-RW	115	-17	0.461	17
E-L1-RW	1	9	9.000	9
E-L1-RW				
E-L1-RW	91	-18	-0.077	23
E-L2-RW				
E-L2-RW	69	-20	0.942	19

Table 66 Count of numbers of wave 3 minus wave 2 plusses and minuses for writing

Wave 2 test ID first, then wave 3	Count of number of plusses and minuses		Total (N)
	Minus	Plus	
E-E1-RW			
E-E1-RW	25	60	85
E-E2-RW			
E-E2-RW	30	46	76
E-E3-RW	5	4	9
E-E3-RW			
E-E3-RW	48	67	115
E-L1-RW		1	1
E-L1-RW			
E-L1-RW	41	50	91
E-L2-RW			
E-L2-RW	31	38	69
Total	**180**	**266**	**446**

Although, on average, most candidates improved at wave 3, there are some counterintuitive results here. Those taking an Entry Level 2 test at wave 2 followed by an Entry Level 3 test at wave 3 appear to score lower at wave 3. The remaining results show overall positive differences of the subtractions (that is, there was a majority of learners whose wave 3 scores were higher than their wave 2 scores).

Maths

Table 67 Minimum, mean average and maximum values of wave 3 minus wave 2 mathematics subtractions

Wave 2 test ID first, then wave 3	*N*	Min of w3 maths minus w2 maths	Average of w3 maths minus w2 maths	Max of w3 maths minus w2 maths
ME1W2				
ME1W2	44	-2.35048	-0.16380	1.81268
	88			
ME2W2				
ME2W2	98	-2.98264	0.05999	2.50396
	133			
ME3W2				
ME3W2	124	-2.12815	0.09517	1.95021
	230			
ML1W2				
ML1W2	82	-2.94171	-0.17995	2.73765
	177			
ML2W2				
ML2W2	123	-1.63891	-0.03484	1.99610
	265			

Table 68 Count of numbers of wave 3 minus wave 2 pluses and minuses for mathematics

Wave 2 test ID first, then wave 3	Count of number of pluses and minuses			
	minus	plus	#N/A	Total
ME1W2	26	18	88	132
ME1W2	26	18		44
#N/A			88	88
ME2W2	45	53	133	231
ME2W2	45	53		98
#N/A			133	133
ME3W2	53	71	230	354
ME3W2	53	71		124
#N/A			230	230
ML1W2	50	32	177	259
ML1W2	50	32		82
#N/A			177	177
ML2W2	67	56	265	388
ML2W2	67	56		123
#N/A			265	265
Total	**241**	**230**	**893**	**1364**

The maths subtractions produce some rather counterintuitive results. Many of the learners' measures appear to decline between the 2 waves. This was so for learners taking Entry Level 1 and Level 1 and Level 2 tests, with the same levelled test taken at both waves. Learners taking Entry Level 1 and Level 2 tests appear on average to decline the greatest. However, as with previous results, some sample sizes are rather small (especially at the lower levels) and so may be a cause of the counter-intuitive results that have been found.

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Appendix 2: Questionnaires

This appendix contains the following questionnaires:

1. Wave 1 – Provider recruitment questionnaire (CATI)

2. Wave 1 – Tutor questionnaire (PAPI)

3. Wave 1 - English background questionnaire (PAPI)

4. Wave 1 - Maths background questionnaire (PAPI)

5. Wave 2 – Background questionnaire, English and maths (CAPI)

6. Wave 3 - Background questionnaire, English and maths (CAPI)

1. Wave 1 – Provider recruitment questionnaire (CATI)

Ask to speak to named contact if provided or alternatively [principal/head of Adult English and maths education and training/person with overall responsibility for Adult English and maths education and training]

Good morning/afternoon, my name is _____ and I'm calling from TNS-BMRB. We have been commissioned by the Department for Business Innovation and Skills to carry out a study to evaluate adult English and maths education and training.

We wrote to you recently about the research to let you know we would be calling.

The evaluation is led by TNS BMRB, an independent research organisation working on behalf of the Department for Business Innovation and Skills. The evaluation is also being partly managed by NIACE (The National Institute of Adult Continuing Education).

The reason I'm calling is to tell you a bit more about the research and to collect some information about the types of classes you plan to run in the 2013/14 autumn period and how many learners you expect to work with.

This initial call will last around 5 minutes.

IF NECESSARY: Participation is voluntary but the success of the survey is reliant on the cooperation of organisations like yours. We really hope you are able to help.

Your organisation has been randomly selected from a list of training providers in England to take part.

_____

Additional information screen

If you agree to help, the next step will be for an interviewer to visit your organisation in the September or October to work with you to randomly select a group of students to take part in the study. At this point we'll also distribute assessment questionnaires for students.

Students who are selected for the study will be asked to complete a skills assessment and a short background questionnaire at three points during the study:

- A **'Baseline'** assessment – during autumn 2013, i.e. shortly before they start a course;
- A **'Post course'** assessment – sometime in 2014, i.e. after they complete their course; and,
- A **'Follow-up'** assessment – sometime in 2015, around a year after they completed their course.

Any students who agree to take part in the study will be offered a thank you payment for each assessment they complete.

[**IF NECESSARY**: They would receive £5 for the first stage of the research and £10 for each of the following stages they take part in].

There are a number of benefits for your organisation and your students associated with taking part including:

- You will be part of the largest evaluation of its kind to assess the effect of training on skills gain, which will help the sector to better understand how skill levels continue to develop over time following different types of adult maths and English courses.

IF NECESSARY: All answers given will remain confidential. Only members of the research team will have access to responses and any data passed on to the Department for Business, Innovation and Skills will be in the form of aggregated, anonymised data. If you have any queries about the research, or if there is someone at your organisation who is better placed to respond to this survey, please contact [details redacted]

INTRO/ Outcome codes

CODE OUTCOME FROM LIST BELOW
 1 Continue
 2 Not available - make appointment
 3 New telephone number
 4 Hard Refusal
 5 Deferral - May complete at later date
 6 Duplicate number
 7 Gatekeeper Deferral
 8 No such job title & No one Responsible
 9 Business closed down
10 Business moved
11 Contact unknown at company
12 Contact left company (No Referral)
13 Send email

Reply may not be NULL or DK or REF
 Reply may be one of the above

ASK ALL

As a first step, we need to collect some information about the types of courses you plan to run in the 2013/14 year **which start in September or October this year** and the number of learners you expect to work with.

We are interested specifically in all training provision you are planning to run with adult learners aged 19 and over. By this we mean learners who are above school age i.e. adults who will be 19 or older at the start of the course or who will turn 19 during the course itself.

We are specifically interested in English and maths courses for this age group across a range of levels, from Entry level to Level 2.

IF NECESSARY:

English

- English courses - Entry Level 1 or 2
- English courses - Entry Level 3
- English courses - Level 1
- English courses - Level 2

Maths

- Maths courses Entry Level 1 or 2
- Maths courses Entry Level 3
- Maths courses - Level 1
- Maths courses - Level 2

IF NECESSARY: This is so we can make sure we include a representative sample of learners in the survey.

IF NECESSARY: I can give you additional information on the courses you ran this / last year that are in scope as I go through the questionnaire with you.

ASK ALL

QCHECKLAST

I'm going to go through a list of types of courses and ask you about the total numbers of adult learners you expect to attend each type in 2013/14. **Again we're just interested in those who will start in September or October this year.**

ASK ALL

QDSHEET

ASK OF RECORD

When we initially contacted your establishment, we included a datasheet, along with the letter, which detailed the specific information on the number of learners that we'll need to collect. Can I check whether you've had a chance to complete that datasheet?

- Yes – completed
- No – but happy to proceed without
- No – want copy

IF HAS NOT COMPLETED THE DATA SHEET

QREMIND1...8 (repeated for every course)
In September and October 2012/13 we understand that you had [textfill: number of 19+ students] adult learners starting on [textfill: course type].

IF NECESSARY: INTERVIEWER - PROMPT WITH 2 OR 3 EXAMPLES: This includes things like:
 [textfill courses which meet criteria for course type]

IF HAS NOT COMPLETED THE DATA SHEET

QChkA [1...8] (repeated for every course)
Do you expect the total number of learners starting these courses in September and October 2013/14 to be significantly higher or lower than [textfill: number of 19+ students]?

INTERVIEWER: Even if respondent thinks the number we're quoting is incorrect, ensure they are answering relative to number shown on screen.

IF NECESSARY: We're focusing on [textfill: course type] in this question.

READ OUT

- About the same
- Significantly lower
- Significantly higher
- [SPONTANEOUS: Will not be running this year]
    - Don't know
    - Refused

IF HAS COMPLETED DATASHEET, OR QChkA = Significantly lower OR QChkA = Significantly lower

QChkB [1...8] (repeated for every course)

How many learners aged 19 or older do you expect to have starting [textfill: course type] in September and October 2013/14? Please make sure you include any people who you expect to register or enrol for this course throughout September or October AS WELL as those who have already registered: we are interested in your estimate of the **total number of learners** who will take the course.

IF NECESSARY: Your best estimate is fine. We understand that you won't know exactly until you see how many people enrol.

IF NECESSARY: Can you estimate to the nearest 10 learners?

IF NECESSARY: Last year you had [textfill: number of 19+ students] learners on this type of course.

- NUMBER
- Don't know
- Refused

ASK ALL

QChkC [1...8] (repeated for every course)

And how many classes do you expect to run for [textfill: course type] starting in September or October 2013/14?

IF NECESSARY: Your best estimate is fine. We understand that you won't know exactly until you see how many people enrol.

IF NECESSARY: Can you estimate to the nearest 5 classes?

IF NECESSARY: When the [textfill: number of 19+ students] learners who you are expecting to start these courses are allocated to classes, how many classes do you expect will be formed?

- NUMBER
- Don't know
- Refused

QSITE1

Can I also check – are all the courses we have spoken about delivered at one site or do you run these at more than one site?

- Yes – all from one site
- No – multiple site

IF QSITE1 = 'No – multiple sites'

QSITE2

How many sites is that?

- NUMBER
- Don't know
- Refused

ASK ALL

QTIME1

Finally we're interested in when most of your Adult Learners for English and maths courses will start in 2013/14. Could you let me know *very roughly* what proportion of all adult learners you expect to start these types of courses in September and October, rather than later in the academic year?

IF NECESSARY: To the nearest 10% is OK.

IF NECESSARY: I'm talking specifically about the following...

IF NECESSARY (IF VARIES BY COURSE TYPE): That's OK, we're interested in a rough estimate across all of these types of course. Your best estimate is fine.

English

- English courses - Entry Level 1 or 2
- English courses - Entry Level 3
- English courses - Level 1
- English courses - Level 2

Maths

- Maths courses Entry Level 1 or 2
- Maths courses Entry Level 3
- Maths courses – Level 1
- Maths courses – Level 2

- ENTER PERCENTAGE FIGURE
- Don't know / varies too much by course type to say
- Refused

ASK ALL

Based on the information that you've provided, the research team will need to do some analysis to determine the number of your learners that we would like to interview to achieve a representative national sample.

Before the interviewer who will be administering the survey visits your establishment in September or October, they will call in advance to arrange a convenient time to meet and discuss the process of distributing the survey questionnaires.

ASK ALL

To finish with, can I just check the contact details for the person who the interviewer should make initial contact with?

IF NECESSARY: This should be the person who has overall responsibility for Adult English and maths provision at your organisation.

COLLECT DETAILS

- Job Title
- Title (Mr / Mrs)
- First name
- Surname
- Email address
- Postal address
- Telephone number
- Alternative number (if have one)

---

2. Wave 1 – Tutor questionnaire (PAPI)

Questionnaire for Tutors

As well as administering the completion of the assessment booklets by your learners, for each class we just need to collect a small amount of additional information directly from you, to help with the research.

Please be reassured that we are only collecting your name details to help with the process of sorting learners into class groups and making sure we can properly keep track of the booklets. Your name will **never** be used in the analysis of the data.

How to fill in this questionnaire

Please mark your answers in the spaces provided or by putting a **cross** in the appropriate box to indicate your answer [⊠]. If you have made a mistake in your answer or you change your mind please completely fill the box to show the mistake [■] and then cross the correct answer.
You will need to use **black or blue ink**

Q1. What is your name? (Please write in CAPITAL letters)

Title: ☐ Mrs ☐ Miss ☐ Ms ☐ Mr ☐ Other (please specify): _____

Tutor's surname / family name

Q2. What is the name of your college / centre? (Please write in CAPITAL letters)

College / Centre name

Q3. And what is the name of the course that you are teaching in this class?

(Please write in CAPITAL letters)

Course name

Q4. What was the date on which the learners in this class completed the

D D M M Y Y
2 0

Q5. On what date did the course for this class start?

					2	0		

Q6. And when is this course due to finish?

					2	0		

Q7. How many learners in this class completed (at least partially) a booklet?

Q8. How many learners in this class, if any, refused (totally) to complete a booklet?

Q9. And did all the learners who completed a booklet, do so in a classroom context (rather than at

home / without supervision)?

☐ Yes ☐ No

Q10. Please write in the serial number from any one of the completed booklets from this class (take from top right corner of booklet cover)

THANK YOU – THAT IS ALL THE QUESTIONS THAT WE HAVE. PLEASE PUT THIS SHEET IN THE

POLYTHENE ENVELOPE, ALONG WITH THE BOOKLETS FROM THE CORRESPONDING CLASS

3. Wave 1 – English 'background' questionnaire (PAPI)

Your learning provider is taking part in a national research project managed by TNS BMRB on behalf of the Department for Business, Innovation and Skills (BIS). The research is about how different ways of teaching English and maths help learners.

First, we would like to ask you some questions so we can understand more about the type of learners attending courses in English. Then there will be some questions that are directly about English.

Taking part is voluntary but it will help us with the research if as many people as possible complete this survey. All responses will be treated in the strictest confidence. As a thank you for taking part, we will post a **High Street Voucher worth £5** to you. This can be spent in a wide range of the main high street stores.

If you don't know how to answer any of the questions in the first section, which asks questions about you and your course, then please ask your tutor/teacher for help.

How to fill in this questionnaire

Please mark your answers in the spaces provided or by putting a **cross** in the appropriate box to indicate your answer [⊠]. If you have made a mistake in your answer or you change your mind please completely fill the box to show the mistake [■] and then cross the correct answer.
You will need to use **black or blue ink**

Q1. What is the name of your tutor / teacher? (Please write in CAPITAL letters)

Title: ☐ Mrs ☐ Miss ☐ Ms ☐ Mr ☐ Other (please specify): _____

Tutor's surname / family name

Q2. What is the name of your college / centre? (Please write in CAPITAL letters)

College / Centre name

Q3. And what is the name of the course that you are on? (Please write in CAPITAL letters)

Course name

	D	D		M	M			Y	Y

Q4. What is the date today?

					2	0		

Q5. And when is your course due to finish?

					2	0		

Q6. What is your full name? (Please write in CAPITAL letters)

Title: ☐ Mrs ☐ Miss ☐ Ms ☐ Mr ☐ Other (please specify): _____

First name

Surname / family name

Q7. What is your home address? (Please write in CAPITAL letters)

Line 1

Line 2

Line 3

Line 4

Postcode

				■			

Q8. Are you male or female?   ☐ Male ☐ Female

Q9. What was your age at your last birthday? | | | years old

Q10e. What is the MAIN reason you are starting this English course? Is it…
(Please cross one box only ☐)

- ☐ To help you find work/get a job
- ☐ To help you get a better job
- ☐ Because your employer wants you to do it
- ☐ Because your employer requires you to do this/it is a requirement of your job
- ☐ To help pass a citizenship test
- ☐ To help your child with school
- ☐ Because you were encouraged to by a family member / friend
- ☐ To improve your everyday reading and writing
- ☐ A stepping stone to other training or qualifications
- ☐ Some other reason (please specify):

_____

Q11e. 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?

- ☐ Very good
- ☐ Fairly good
- ☐ Below average
- ☐ Poor
- ☐ Cannot read English

Q12e. 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?

- ☐ Very good
- ☐ Fairly good
- ☐ Below average
- ☐ Poor
- ☐ Cannot write English

Q13e. Please show whether you agree or disagree with each of the following…

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I enjoy reading newspapers and magazines	☐	☐	☐	☐	☐
I never read a book (fiction or nonfiction) for pleasure	☐	☐	☐	☐	☐
I find it easy to read the directions on items such as food labels, medicines or flatpacks	☐	☐	☐	☐	☐
I worry about not spelling words correctly	☐	☐	☐	☐	☐
I worry about my ability to use punctuation correctly	☐	☐	☐	☐	☐
When I am writing I worry about making mistakes with grammar	☐	☐	☐	☐	☐
I find it easy to write (for example by texting, emailing or sending a postcard) to someone I know	☐	☐	☐	☐	☐

Q14e. And please show whether you agree or disagree with each of the following…

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I don't like speaking in a group or in a meeting	☐	☐	☐	☐	☐
I find it easy to talk to people I don't know well	☐	☐	☐	☐	☐
I don't like having to prepare a presentation	☐	☐	☐	☐	☐
I sometimes have difficulty filling in forms	☐	☐	☐	☐	☐
I feel nervous when I have to take an English test	☐	☐	☐	☐	☐
I would enjoy improving my reading and writing skills	☐	☐	☐	☐	☐
I feel that my poor reading, writing and speaking skills have held me back from getting on in life	☐	☐	☐	☐	☐

Q15. On a scale of 0-10, where 0 is not at all happy and 10 is completely happy, overall, how happy did you feel yesterday? *(Please cross one box only ☐)*

0	1	2	3	4	5	6	7	8	9	10	Prefer not to say
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Q16. Can you easily access the internet from a computer or tablet, for example at home, at work, in a library or college, or at a friend or relative's house?

☐ Yes ☐ No

Q17. How good are you at using computers? For example: word processing, using the internet and sending emails.

☐ Very good ☐ Below average
☐ Fairly good ☐ Poor

Q18. The following question is about the use of computers (including tablets and smartphones) and the internet. This could be at work, home or in other places that offer internet services like libraries, colleges or internet cafes. How often do you usually…

	Never	Less than once a month	At least monthly but not every week	At least weekly but not every day	Every day	Don't know	Prefer not to say
Use email	☐	☐	☐	☐	☐	☐	☐
Use the internet to find information	☐	☐	☐	☐	☐	☐	☐
Use the internet for buying or selling products or services, or banking	☐	☐	☐	☐	☐	☐	☐
Use spreadsheet software, for example Excel	☐	☐	☐	☐	☐	☐	☐
Use a word processor, for example Word	☐	☐	☐	☐	☐	☐	☐
Participate in realtime discussions on the internet, for example online conferences or chat groups	☐	☐	☐	☐	☐	☐	☐

Q19. Is English your first language?

☐ Yes ☐ No

Q20. 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?

☐ Very good ☐ Below average

☐ Fairly good ☐ Poor

Q21. Please choose one answer below to indicate your cultural background

☐ White: British ☐ Black or black British: Caribbean

☐ White: Irish ☐ Black or black British: African

☐ White: Other white background ☐ Black or black British: Other black background

☐ Asian or Asian British: Indian ☐ Mixed: White and Black Caribbean

☐ Asian or Asian British: Pakistani ☐ Mixed: White and Black African

☐ Asian or Asian British: Bangladeshi ☐ Mixed: White and Asian

☐ Asian or Asian British: Other Asian background ☐ Mixed: Any other mixed background

☐ Chinese ☐ Other (please specify): _____

☐ Prefer not to say

Q22. What is the highest academic qualification that you have obtained? *Please just pick the highest qualification that you have.*

☐ Functional skills - Entry level 1 or 2

☐ A degree or higher, e.g. BSc, BA, MSc, MA, MBA, PGCE, PhD

☐ Functional skills - Entry level 3

☐ Other qualifications

☐ Functional skills - Level 1/GCSE grade DG/CSE grade 25/SCE O Grades (DE)/SCE standard Grades (47)/SCOTVEC National Certificate Modules

☐ None of these

☐ Functional skills - Level 2/GCSE grade AC/GCE 'O'level passes/CSE grade 1/SCE O Grades (AC)/ SCE Standard Grades (13)/School Certificate/Matriculation

☐ Prefer not to say

☐ GCE 'A'level/SCE Higher Grades (AC)

Q23. Do you have any of the following qualifications? *Please choose everything that applies to you from this list.*

☐ Level 1 NVQ/SVQ / Foundation GNVQ/GSVQ

☐ BEC (General) / BTEC (General) / City & Guilds Craft or Ordinary level / RSA Diploma

☐ Level 2 NVQ/SVQ / Intermediate GNVQ/GSVQ

☐ ONC / OND / BEC (Higher) / TEC (Higher) / BTEC (Higher) / RSA Advanced Diploma

☐ Level 3 NVQ/SVQ / Advanced GNVQ/GSVQ

☐ Other vocational or prevocational qualification

☐ Level 4 NVQ/SVQ

☐ No, none of these

☐ Level 5 NVQ/SVQ

☐ Prefer not to say

☐ NVQ/SVQ not sure what level

Q24. What is your highest qualification in English and in maths? *Please just pick the highest qualification that you have in each of these subjects*

	English	Maths
Functional skills - Entry level 1 or 2	☐	☐
Functional skills - Entry level 3	☐	☐
Functional skills - Level 1 / GCSE grade DG / CSE grade 25 / SCE O Grades (DE) / SCE Standard Grades (47) / SCOTVEC National Certificate Modules	☐	☐
Functional skills - Level 2 / GCSE grade AC / GCE 'O'level passes / CSE grade 1 / SCE O Grades (AC) / SCE Standard Grades (13) / School Certificate / Matriculation	☐	☐
GCE 'A'level / SCE Higher Grades (AC)	☐	☐
A degree or higher, e.g. BSc, BA, MSc, MA, MBA, PGCE, PhD	☐	☐
None of the above	☐	☐
Prefer not to say	☐	☐
Other (please specify): _____	☐	☐

Q25. At what age did you leave full time education? ☐☐ Years old ☐ Prefer not to say

Q26. Would you describe yourself as…

☐ Single
☐ Married or in a registered civil partnership
☐ Divorced
☐ Separated

☐ Widowed
☐ Living together with a partner (but not married)
☐ Prefer not to say

Q27. Do you have any children currently living with you in your household? Please only include children for whom YOU are the parent or guardian.

☐ Yes **Please go to Q28**   ☐ No **Please go to Q30**

Q28. How many children under the age of 16 currently live with you? Please only include children for whom YOU are the parent or guardian. ☐☐

Q29. How old is your youngest child who is currently living with you? Please only include children for whom YOU are the parent or guardian. ☐☐

Q30. Which of these is your main activity at present? Are you…

☐	Employed (working fulltime – 30 hours + per week)	☐	Caring for children or other people
☐	Employed (working parttime – less than 30 hours per week)	☐	Coping with a long term condition or disability
☐	Selfemployed (working fulltime – 30 hours + per week)	☐	Getting better from a temporary illness
☐	Selfemployed (working parttime – less than 30 hours per week)	☐	Unemployed and not looking for work
☐	Focussed primarily on looking for work	☐	None of these
☐	In training or education (including at school/college)	☐	Prefer not to say

Q31. Would you be willing to take part in a followup survey after your course has completed? You would be contacted twice to find out about your learning experiences and we would give you a £10 high street voucher each time as a thank you for responding.

☐	Yes, I am willing to take part in the followup survey	**Please go to Q32**	☐	No, I am not willing to take part in the followup survey	**Please go to Q34**

Q32. Is there a telephone number that you would be happy for us to contact you on for this later research?

☐ Yes   ☐ No

If the answer is yes, please write the telephone number or numbers here:

1st Contact Number | | | | | | | | | | | |

2nd Contact Number | | | | | | | | | | | |

Q33. And is there an email address which you would be happy to share with us?

☐ Yes   ☐ No

If the answer is yes, please write the email address here. (Please write in CAPITAL letters)

Email | |

Q34. We would like to match the responses you give as part of this research with other information about recent learning you may have done.

This is so that we can get a better understanding of how people's skills needs relate to the learning they do. The answers that you give will be confidential and your decision whether or not to agree to this will not affect any learning you are doing or access to future training or any other services you receive.

Are you willing for your answers to be matched to other information on adult learning?

☐ Yes   ☐ No

Thank you for taking the time to complete this questionnaire.

Now we are going to move on to ask some English questions.
It is important that you answer this next section on your own, so your tutor / teacher will not be able to help with these questions.

This is not a 'test', so do not worry if you find some questions difficult.

4. Wave 1 – Maths background questionnaire (PAPI)

Your learning provider is taking part in a national research project managed by Kantar Public on behalf of the Department for Business, Innovation and Skills (BIS). The research is about how different ways of teaching English and maths help learners.

First, we would like to ask you some questions so we can understand more about the type of learners attending courses in maths. Then there will be some questions that are directly about maths.

Taking part is voluntary but it will help us with the research if as many people as possible complete this survey. All responses will be treated in the strictest confidence. As a thank you for taking part, we will post a **High Street Voucher worth £5** to you. This can be spent in a wide range of the main high street stores.

If you don't know how to answer any of the questions in the first section, which asks questions about you and your course, then please ask your tutor / teacher for help.

How to fill in this questionnaire

Please mark your answers in the spaces provided or by putting a **cross** in the appropriate box to indicate your answer [☒]. If you have made a mistake in your answer or you change your mind please completely fill the box to show the mistake [■] and then cross the correct answer.
You will need to use **black or blue ink**

Q1. What is the name of your tutor / teacher? (Please write in CAPITAL letters)

Title: ☐ Mrs   ☐ Miss   ☐ Ms   ☐ Mr   ☐ Other (please specify): _____

Tutor's surname / family name

Q2. What is the name of your college / centre? (Please write in CAPITAL letters)

College / Centre name

Q3. And what is the name of the course that you are on? (Please write in CAPITAL letters)

Course name

			D	D		M	M			Y	Y

Q4. What is the date today?

					2	0		

Q5. And when is your course due to finish?

					2	0		

Q6. What is your full name? (Please write in CAPITAL letters)

Title: ☐ Mrs ☐ Miss ☐ Ms ☐ Mr ☐ Other (please specify): _____

First name

Surname / family name

Q7. What is your home address? (Please write in CAPITAL letters)

Line 1

Line 2

Line 3

Line 4

Postcode

				■			

Q8. Are you male or female?

☐ Male ☐ Female

Q9. What was your age at your last birthday?

| | | years old
|--|--|

Q10m. What is the MAIN reason you are starting this maths course? Is it…

(Please cross one box only ☐)

☐ To help you find work / get a job

☐ To help you get a better job

☐ Because your employer wants you to do it

☐ Because your employer requires you to do this / it is a requirement of your job

☐ To improve your ability to work with numbers

☐ To help your child with school

☐ Because you were encouraged to by a family member / friend

☐ A stepping stone to other training or qualifications

☐ Some other reason (please specify):

_____

Q11m. 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?

☐ Very good

☐ Fairly good

☐ Below average

☐ Poor

☐ Cannot read English

Q12m. 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?

☐ Very good

☐ Fairly good

☐ Below average

☐ Poor

Q13m. Please show whether you agree or disagree with each of the following…

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I find maths interesting	☐	☐	☐	☐	☐
I get anxious during maths tests	☐	☐	☐	☐	☐
I think that I will use maths in the future	☐	☐	☐	☐	☐
My mind goes blank and I am unable to think clearly when doing a maths test	☐	☐	☐	☐	☐
Maths relates to my life	☐	☐	☐	☐	☐
I worry about my ability to solve maths problems	☐	☐	☐	☐	☐
I get a sinking feeling when I try to do maths problems	☐	☐	☐	☐	☐

Q14m. And please show whether you agree or disagree with each of the following…

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I find maths challenging	☐	☐	☐	☐	☐
Maths makes me feel nervous	☐	☐	☐	☐	☐
I would like to take more maths classes	☐	☐	☐	☐	☐
Maths makes me feel uneasy	☐	☐	☐	☐	☐
Maths is one of my favourite subjects	☐	☐	☐	☐	☐
I enjoy learning with maths	☐	☐	☐	☐	☐
Maths makes me feel confused	☐	☐	☐	☐	☐

Q15. On a scale of 0-10, where 0 is not at all happy and 10 is completely happy, overall, how happy did you feel yesterday? *(Please cross one box only ☐)*

0	1	2	3	4	5	6	7	8	9	10	Prefer not to say
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Q16. Can you easily access the internet from a computer or tablet, for example at home, at work, in a library or college, or at a friend or relative's house?

☐ Yes   ☐ No

Q17. How good are you at using computers? For example: word processing, using the internet and sending emails.

☐ Very good   ☐ Below average
☐ Fairly good   ☐ Poor

Q18. The following question is about the use of computers (including tablets and smartphones) and the internet. This could be at work, home or in other places that offer internet services like libraries, colleges or internet cafes. How often do you usually…

	Never	Less than once a month	At least monthly but not every week	At least weekly but not every day	Every day	Don't know	Prefer not to say
Use email	☐	☐	☐	☐	☐	☐	☐
Use the internet to find information	☐	☐	☐	☐	☐	☐	☐
Use the internet for buying or selling products or services, or banking	☐	☐	☐	☐	☐	☐	☐
Use spreadsheet software, for example Excel	☐	☐	☐	☐	☐	☐	☐
Use a word processor, for example Word	☐	☐	☐	☐	☐	☐	☐
Participate in realtime discussions on the internet, for example online conferences or chat groups	☐	☐	☐	☐	☐	☐	☐

Q19. Is English your first language?

☐ Yes ☐ No

Q20. 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?

☐ Very good ☐ Below average

☐ Fairly good ☐ Poor

Q21. Please choose one answer below to indicate your cultural background

☐ White: British ☐ Black or black British: Caribbean

☐ White: Irish ☐ Black or black British: African

☐ White: Other white background ☐ Black or black British: Other black background

☐ Asian or Asian British: Indian ☐ Mixed: White and Black Caribbean

☐ Asian or Asian British: Pakistani ☐ Mixed: White and Black African

☐ Asian or Asian British: Bangladeshi ☐ Mixed: White and Asian

☐ Asian or Asian British: Other Asian background ☐ Mixed: Any other mixed background

☐ Chinese ☐ Other (please specify): _____

☐ Prefer not to say

Q22. What is the highest academic qualification that you have obtained? *Please just pick the highest qualification that you have.*

☐	Functional skills - Entry level 1 or 2	☐	A degree or higher, e.g. BSc, BA, MSc, MA, MBA, PGCE, PhD
☐	Functional skills - Entry level 3	☐	Other qualifications
☐	Functional skills - Level 1 / GCSE grade DG / CSE grade 25 / SCE O Grades (DE) / SCE standard Grades (47) / SCOTVEC National Certificate Modules	☐	None of these
☐	Functional skills - Level 2 / GCSE grade AC / GCE 'O'level passes / CSE grade 1 / SCE O Grades (AC) / SCE Standard Grades (13) / School Certificate / Matriculation	☐	Prefer not to say
☐	GCE 'A'level / SCE Higher Grades (AC)		

Q23. Do you have any of the following qualifications? *Please choose everything that applies to you from this list.*

☐	Level 1 NVQ/SVQ / Foundation GNVQ/GSVQ	☐	BEC (General) / BTEC (General) / City & Guilds Craft or Ordinary level / RSA Diploma
☐	Level 2 NVQ/SVQ / Intermediate GNVQ/GSVQ	☐	ONC / OND / BEC (Higher) / TEC (Higher) / BTEC (Higher) / RSA Advanced Diploma
☐	Level 3 NVQ/SVQ / Advanced GNVQ/GSVQ	☐	Other vocational or prevocational qualification
☐	Level 4 NVQ/SVQ	☐	No, none of these
☐	Level 5 NVQ/SVQ	☐	Prefer not to say
☐	NVQ/SVQ not sure what level		

Q24. What is your highest qualification in English and in maths? *Please just pick the highest qualification that you have in each of these subjects*

	English	Maths
Functional skills - Entry level 1 or 2	☐	☐
Functional skills - Entry level 3	☐	☐
Functional skills - Level 1 / GCSE grade DG / CSE grade 25 / SCE O Grades (DE) / SCE Standard Grades (47) / SCOTVEC National Certificate Modules	☐	☐
Functional skills - Level 2 / GCSE grade AC / GCE 'O'level passes / CSE grade 1 / SCE O Grades (AC) / SCE Standard Grades (13) / School Certificate / Matriculation	☐	☐
GCE 'A'level / SCE Higher Grades (AC)	☐	☐
A degree or higher, e.g. BSc, BA, MSc, MA, MBA, PGCE, PhD	☐	☐
None of the above	☐	☐
Prefer not to say	☐	☐
Other (please specify):	☐	☐

Q25. At what age did you leave full time education? ☐☐ Years old ☐ Prefer not to say

Q26. Would you describe yourself as…
- ☐ Single
- ☐ Married or in a registered civil partnership
- ☐ Divorced
- ☐ Separated
- ☐ Widowed
- ☐ Living together with a partner (but not married)
- ☐ Prefer not to say

Q27. Do you have any children currently living with you in your household? Please only include children for whom YOU are the parent or guardian.
- ☐ Yes **Please go to Q28**
- ☐ No **Please go to Q30**

Q28. How many children under the age of 16 currently live with you? Please only include children for whom YOU are the parent or guardian. ☐☐

Q29. How old is your youngest child who is currently living with you? Please only include children for whom YOU are the parent or guardian. ☐☐

Q30. Which of these is your main activity at present? Are you…

☐	Employed (working fulltime – 30 hours + per week)	☐	Caring for children or other people
☐	Employed (working parttime – less than 30 hours per week)	☐	Coping with a long term condition or disability
☐	Selfemployed (working fulltime – 30 hours + per week)	☐	Getting better from a temporary illness
☐	Selfemployed (working parttime – less than 30 hours per week)	☐	Unemployed and not looking for work
☐	Focussed primarily on looking for work	☐	None of these
☐	In training or education (including at school/college)	☐	Prefer not to say

Q31. Would you be willing to take part in a followup survey after your course has completed? You would be contacted twice to find out about your learning experiences and we would give you a £10 high street voucher each time as a thank you for responding.

☐	Yes, I am willing to take part in the followup survey	**Please go to Q32**	☐	No, I am not willing to take part in the followup survey	**Please go to Q34**

Q32. Is there a telephone number that you would be happy for us to contact you on for this later research?

☐ Yes ☐ No

If the answer is yes, please write the telephone number or numbers here:

1st Contact Number ☐☐☐☐☐☐☐☐☐☐☐

2nd Contact Number ☐☐☐☐☐☐☐☐☐☐☐

Q33. And is there an email address which you would be happy to share with us?

☐ Yes ☐ No

If the answer is yes, please write the email address here. (Please write in CAPITAL letters)

Email _____

Q34. We would like to match the responses you give as part of this research with other information about recent learning you may have done.

This is so that we can get a better understanding of how people's skills needs relate to the learning they do. The answers that you give will be confidential and your decision whether or not to agree to this will not affect any learning you are doing or access to future training or any other services you receive.

Are you willing for your answers to be matched to other information on adult learning?

  ☐   Yes   ☐   No

Thank you for taking the time to complete this questionnaire.

Now we are going to move on to ask some maths questions.
It is important that you answer this next section on your own, so your tutor / teacher will not be able to help with these questions.

This is not a 'test', so do not worry if you find some questions difficult

5. Wave 2 - Background questionnaire, English and maths (CAPI)

INFORMATION TO BE DRAWN FROM THE FOLLOWING SAMPLE VARIABLE FOR TEXT FILLS AND/OR ROUTING

i) COURSETYPE (= WHETHER RESPONDENT HAD BEEN ON A MATHS OR AN ENGLISH COURSE)

ii) COLLEGENAME (= NAME OF COLLEGE AT WHICH RESPONDENT ATTENDED COURSE)

iii) RCTPARTICIPANT (= WHETHER RESPONDENT WAS INVOLVED IN RCT OR NOT)

iv) ASSESSCODE (= SERIAL NUMBER WHICH DETERMINES WHICH TYPE OF ASSESSMENT WILL APPEAR FOR EACH GIVEN RESPONDENT)

ASK ALL

Qgender   INTERVIEWER PLEASE CODE RESPONDENT'S GENDER

Male   1

Female   2

ASK ALL

Qage To start with, can I just ask what was your age last birthday?

ENTER AGE IN YEARS __ __   (GO TO Q3)

Refused   Z   (GO TO Q4)

ASK IF QAGE = REFUSED

Qageband   Can you tell me which of these age bands you would put yourself into?

SHOW CARD A

16-18	1
19-24	2
25-34	3
35-44	4
45-54	5
55-64	6
65+	7
[Refused	Z]

ASK ALL

Qengread   Now I'd like to ask you a few questions about English and maths. Firstly, 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?

SHOW CARD B. READ OUT CODES.

Very good	1
Fairly good	2
Below average	3
Poor	4
(SPONTANEOUS ONLY – DO NOT READ OUT) Cannot read English	5
[Don't know	Y]
[Refused	Z]

ASK ALL

Qengwrite   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?

SHOW CARD B

READ OUT CODES.

Very good	1
Fairly good	2
Below average	3
Poor	4
(SPONTANEOUS ONLY – DO NOT READ OUT) Cannot write English	5
[Don't know	Y]
[Refused	Z]

ASK ALL

Qnumdaily   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?

SHOW CARD B

READ OUT CODES.

Very good	1
Fairly good	2
Below average	3
Poor	4
[Don't know	Y]
[Refused	Z]

ASK ALL

Qfirstlang   And, can I just check, is English your first language?

Yes   1

No   2

Refused   Z

ASK ALL

Qengspeak And 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?

SHOW CARD B.

READ OUT CODES

Very good   1

Fairly good   2

Below average   3

Poor   4

[Don't know   Y]

[Refused   Z]

ASK IF COURSETYPE = ENGLISH

Qengopinion. Please can you tell me how strongly you agree or disagree with each of the following?

SHOW CARD C (SEE BELOW FOR ANSWER CODES)

SCRIPTER – DISPLAY A SINGLE STATEMENT PER SCREEN ALONG WITH THE ANSWER CODES. DO NOT RANDOMISE ORDER.

INTERVIEWER: IF ASKED QUESTIONS ON READING AND WRITING RELATE TO ENGLISH LANGUAGE ONLY.

I find it easy to read the directions on items such as food labels, medicines or flat-packs	1
I worry about not spelling words correctly	2
When I am writing I worry about making mistakes with grammar	3
I find it easy to write, for example by texting, e-mailing or sending a postcard, to someone I know	4
I sometimes have difficulty filling in forms	5
I feel nervous when I have to take an English test	6
I would enjoy improving my reading and writing skills	7

ANSWER CODES:

Strongly agree	1
Agree	2
Neutral	3
Disagree	4
Strongly disagree	5
[Don't know	Y]
[Refused	Z]

ASK IF COURSETYPE = MATHS

Qmathopinion. Please can you tell me how strongly you agree or disagree with each of the following?

SHOW CARD C (SEE BELOW FOR ANSWER CODES)

SCRIPTER – DISPLAY A SINGLE STATEMENT PER SCREEN ALONG WITH THE ANSWER CODES. DO NOT RANDOMISE ORDER.

I find maths interesting	1
I get anxious during maths tests	2
My mind goes blank and I am unable to think clearly when doing a maths test	3
I worry about my ability to solve maths problems	4
I find maths challenging	5
Maths makes me feel nervous	6
I would like to take more maths classes	7
I enjoy learning with maths	8
I find maths easy in my day to day life, for example when I'm working out bills or discounts in shops	9

ANSWER CODES:

Strongly agree	1
Agree	2
Neutral	3
Disagree	4
Strongly disagree	5
[Don't know	Y]
[Refused	Z]

ASK ALL

Qlearnprob. Many people had problems that got in the way of their learning when they were young. Did you have any of these problems that got in the way of your learning?

SHOW CARD D

A - An illness that has lasted a long time	1
B - A difficult family life	2
C - Many moves and changes in school	3
D - A learning disability	4
E - A speech problem	5
F - A physical disability	6
G – Mental or emotional difficulties	7
[None	X]
[Don't know	Y]
[Refused	Z]

ASK ALL

Qitaccess. Can you easily access the internet from a computer or tablet, for example at home, at work, in a library or college, or at a friend or relative's house?

Yes	1
No	2
Don't know	Y
Refused	Z

ASK ALL

Qitconf. How good are you at using computers? For example, word processing, using the Internet and sending emails.

SHOW CARD E

Very good	1
Fairly good	2
Below average	3
Poor	4

[SPONTANEOUS ONLY – DO NOT READ OUT - Respondent never uses computers 5]

[Don't know	Y]
[Refused	Z]

ASK IF QITCONF = 1-4 OR 'DON'T KNOW' OR 'REFUSED'

Qitfreq. The next few questions are about the use of computers, including tablets and smartphones, and the internet. This could be at work, at home or in other places that offer internet services like libraries, colleges or internet cafes.

How often do you usually ...

SCRIPTER – DISPLAY A SINGLE STATEMENT PER SCREEN ALONG WITH THE ANSWER CODES

SHOW CARD F

(SEE BELOW FOR ANSWER CODES)

Use e-mail?

Use the internet to find information?

Use the internet for buying or selling products or services, or banking?

Use spreadsheet software, for example Excel?

Use a word processor, for example Word?

ANSWER CODES:

Never	1
Less than once a month	2
At least monthly but not every week	3
At least weekly but not every day	4
Every day	5
[Don't know	Y]
[Refused	Z]

ASK ALL

Qintrolife. Next I would like to ask you a question about your feelings about your life generally.

ASK ALL

Qlifehappy. Overall, how happy did you feel yesterday?

Where nought is 'not at all happy' and 10 is 'completely happy'.

Numeric Range: 0-10

Don't know

Refused

ASK ALL

Qqualhigh. What is the HIGHEST academic qualification, if any, that you have obtained?

SHOW CARD G.

RESPONDENT SHOULD GIVE A SINGLE ANSWER. IF THEY GIVE MULTIPLE RESPONSES, YOU SHOULD CODE THE QUALIFICATION NEAREST THE BOTTOM OF THE LIST BUT BEFORE THE OTHER QUALIFICATIONS (SPECIFY) OPTION . THERE IS A QUESTION ABOUT WORK RELATED QUALIFICATIONS AFTER THIS ONE – WE ARE JUST TALKING ABOUT ACADEMIC QUALIFICATIONS HERE.

Functional skills - Entry level 1 or 2   1

Functional skills - Entry level 3   2

Functional skills - Level 1 / GCSE grade D-G / GCE 'O' Level grade D-E / CSE grade 2-5 / SCE O Grades (D-E) / SCE Standard Grades (4-7)/ SCOTVEC National Certificate Modules   3

Functional skills - Level 2 / GCSE grade A*-C / GCE 'O' Level grade A-C / CSE grade 1 /
SCE O Grades (A-C) / SCE Standard Grades (1-3) / School Certificate / Matriculation

                                                                                                             4

GCE 'A'Level grade A*-E / SCE Higher Grades (A-C)   5

A degree or higher, e.g. BSc, BA, MSc, MA, MBA, PGCE, PhD   6

Other qualifications (including overseas qualifications) (please specify)   7

None of these   X

[Don't know   Y]

[Refused   Z]

ASK ALL

Qqualother. And do you have any of the following work-related qualifications? Please choose everything that applies to you from this list.

SHOW CARD H

 MULTI CODE.

Level 1 NVQ/SVQ / Foundation GNVQ/GSVQ	1
Level 2 NVQ/SVQ / Intermediate GNVQ/GSVQ	2
Level 3 NVQ/SVQ / Advanced GNVQ/GSVQ	3
Level 4 NVQ/SVQ	4
Level 5 NVQ/SVQ	5
NVQ/SVQ not sure what level	6

BEC (General) / BTEC (General) / City & Guilds Craft or Ordinary level / RSA Diploma
7

ONC/OND / BEC (Higher) / TEC (Higher) / BTEC (Higher) / RSA Advanced Diploma
8

Other vocational or prevocational qualification, including apprenticeships (please specify) 9

None of these   X

[Don't know   Y]

[Refused   Z]

ASK ALL WITH QUALIFICATIONS AT QQUALHIGH OR QQUALOTHER

Qagehigh. And how old were you when you completed your [TEXT FILL – NAME OF HIGHEST QUALIFICATION FROM Qqualhigh OR Qqualother]

IF QUALIFICATION NOT YET COMPLETED, SKIP BACK AND AMEND ANSWER. IT IS ONLY COMPLETED QUALIFICATIONS WE ARE INTERESTED IN.

ENTER AGE IN YEARS __ __

Respondent has never left full time education	1
Don't know	Y
Refused	Z

ASK ALL

Qengqual. What, if any, is your highest qualification in English?

SHOW CARD I

RESPONDENT SHOULD GIVE A SINGLE ANSWER. IF THEY GIVE MULTIPLE RESPONSES, YOU SHOULD CODE THE QUALIFICATION NEAREST THE BOTTOM OF THE LIST BUT BEFORE THE OTHER QUALIFICATIONS (SPECIFY) OPTION

Functional skills - Entry level 1 or 2	1
Functional skills - Entry level 3	2
Functional skills - Level 1 / GCSE grade D-G / GCE 'O' Level grade D-E / CSE grade 2-5 / SCE O Grades (D-E) / SCE Standard Grades (4-7) / SCOTVEC National Certificate Modules	3
Functional skills - Level 2 / GCSE grade A*-C / GCE 'O' Level grade A-C / CSE grade 1 / SCE O Grades (A-C) / SCE Standard Grades (1-3) / School Certificate / Matriculation	4
GCE 'A' Level grade A*-E / SCE Higher Grades (A-C)	5
A degree or higher, e.g. BSc, BA, MSc, MA, MBA, PGCE, PhD	6

Other qualifications (please specify) _____   7

None of these   X

[Don't know   Y]

[Refused   Z]

ASK ALL

QMathsqual And what, if any, is your highest qualification in maths?

SHOW CARD I

RESPONDENT SHOULD GIVE A SINGLE ANSWER. IF THEY GIVE MULTIPLE
RESPONSES, YOU SHOULD CODE THE QUALIFICATION NEAREST THE BOTTOM
OF THE LIST BUT BEFORE THE OTHER QUALFIICATIONS (SPECIFY) OPTION

Functional skills - Entry level 1 or 2   1

Functional skills - Entry level 3   2

Functional skills - Level 1 / GCSE grade D-G / GCE 'O' Level grade D-E / CSE grade 2-
5 /
SCE O Grades (D-E) / SCE Standard Grades (4-7) / SCOTVEC National Certificate
Modules   3

Functional skills - Level 2 / GCSE grade A*-C / GCE 'O' Level grade A-C / CSE grade 1
/
SCE O Grades (A-C) / SCE Standard Grades (1-3) / School Certificate / Matriculation
                                                                       4

GCE 'A' Level grade A*-E / SCE Higher Grades (A-C)   5

A degree or higher, e.g. BSc, BA, MSc, MA, MBA, PGCE, PhD   6

Other qualifications (please specify) _____   7

None of these   X

[Don't know   Y]

[Refused   Z]

ASK ALL

Qageleft. At what age did you first leave full time education?

[SCRIPTER – HARD CHECK IF Qageleft IS GREATER THAN THE RESPONDENT'S CURRENT AGE. SOFT CHECK. IF Qageleft IS LESS THAN 14: "Can I just check, you say you first left full-time education at age [TEXTFILL: QAGELEFT VALUE]. Is that right?" Please include go back and amend answer/continue buttons].

INTERVIEWER: IF RESPONDENT WENT STRAIGHT FROM SCHOOL TO UNIVERSITY, IT IS THE AGE AT WHICH THEY LEFT UNIVERSITY THAT WOULD APPLY

TYPE IN AGE IN YEARS __ __

Don't know

Refused

Qimpactintro. I'm now going to ask you some questions about the course you recently completed in adult [TEXTFILL BASED ON COURSETYPE: English/maths] at [TEXTFILL BASED ON COLLEGE NAME]. This is a course that you would have started sometime between September and November 2013.

This was the course where your tutor gave you a paper assessment to complete and for which we sent you a £5 voucher as a thank you for taking part.

INTERVIEWER: IT IS POSSIBLE THAT THIS COURSE WOULD HAVE COVERED OTHER SUBJECTS AS WELL AS [TEXTFILL BASED ON COURSETYPE VARIABLE: English/maths].

ASK ALL

Qimpact. To what extent did this [TEXT FILL: English / maths] course help to improve your skills? Would you say…

READ OUT CODES.

Not at all	1
A little bit	2
A lot	3
[Don't know	Y]
[Refused	Z]

ASK ALL

Qcomplete   And did you complete this [TEXT FILL: maths / English] course?

INTERVIEWER: PROBE TO CODES AS NECESSARY. IF ATTENDED TO END OF COURSE BUT DIDN'T PASS FINAL EXAM, THIS SHOULD STILL BE CODED AS 'YES – COMPLETED COURSE'.

Yes – completed course	1
No – left course part way through	2
No – course is still in progress	3
Don't know	Y
Refused	Z

ASK IF QCOMPLETE = 'NO – LEFT COURSE PART WAY THROUGH'

Qincomplete   What was the MAIN reason why you didn't complete the course?

DO NOT READ OUT. SINGLE CODE.

Financial reasons	1
Didn't like the course	2
Couldn't cope academically with the course	3
Couldn't juggle studying with my other commitments	4
Lack of support from family	5
Lack of support from employer	6

Personal/domestic problems/ill health	7
Course no longer relevant to my job	8
Changed employer/ Got a new job	9
Did not like tutor / teacher	10
Too much technology used in the lessons	11
Other (specify) _____	12
Don't know	Y
Refused	Z

ASK IF QINCOMPLETE = ANY OF CODES 1-12

Qincomplete2   Were there any other important reasons why you didn't complete the course?

DO NOT READ OUT. MULTI CODE.

Financial reasons	1
Didn't like the course	2
Couldn't cope academically with the course	3
Couldn't juggle studying with my other commitments	4
Lack of support from family	5
Lack of support from employer	6
Personal/domestic problems/ill health	7
Course no longer relevant to my job	8
Changed employer/ Got a new job	9
Did not like tutor / teacher	10
Too much technology used in the lessons	11

Other (specify) _____	12
No other important reason	13
Don't know	Y
Refused	Z

ASK ALL

Qdifficult   To what extent, if any, did the following make your studies difficult while you were on this [TEXT FILL: English / maths] course…?
SHOW CARD J

(SEE BELOW FOR ANSWER CODES)

SCRIPTER: RANDOMISE ORDER OF STATEMENTS. SHOW A SINGLE STATEMENT PER SCREEN, BELOW QUESTION TEXT.

Being too busy at work	1
Being too busy at home	2
The costs of studying or financing my studies	3
Maintaining my motivation and interest in the course	4

ANSWER CODES:

A lot	1
A fair amount	2
A little	3
Not at all	4
[Don't know	Y]

ASK ALL

Qhomess. In a normal week, how many hours, if any, did you spend on homework or self-study while you were on this [TEXT FILL: English / maths] course?

[SCRIPTER – PLEASE ADD A SOFT CHECK IF Qhomess > 40 HOURS: "Can I just check, in a normal week, you spent [TEXTFILL: QHOMESS VALUE] hours on homework or self study while you were on this [TEXTFILL English/maths course?"]

IF RESPONDENT USUALLY DID NO HOMEWORK, PLEASE ENTER 0

TYPE IN NUMBER OF HOURS __ __

Don't know   Y

Refused   Z

ASK ALL

Qcourseaff Has attending this [English / maths] course helped with any of the following?

SHOW CARD K

(SEE BELOW FOR ANSWER CODES)

SCRIPTER: ROTATE ORDER OF STATEMENTS. SHOW A SINGLE STATEMENT PER SCREEN, BELOW QUESTION TEXT.

How interested your children or family are in learning   1

You own self-confidence in day to day life   2

Your relationship with your partner   / children / family   3

Your confidence at work   4

Your ability to do your job   5

ANSWER CODES:

The course helped a lot with this	1
The course helped a little with this	2
The course made no difference	3
The course made this a little worse	4
The course made this a lot worse	5
Does not apply to me	6
[Don't know	Y]
[Refused	Z]

ASK ALL

Qothcourse. Apart from the [TEXT FILL BASED ON COURSETYPE VARIABLE: English course, / maths course,] we've just been talking about, have you ever been on any other [TEXT FILL BASED ON COURSETYPE VARIABLE: English / maths] courses? I'm just talking about courses that you might have been on since you left school.

Yes	1
No	2
Don't know	Y

IF QOTHCOURSE = 'YES'

Qcoursesince. And had all those other [TEXT FILL BASED ON COURSETYPE VARIABLE: English / maths] courses finished before you started the course which we have been discussing so far?

NB IF OTHER COURSES OVERLAPPED WITH THE COURSE WE HAVE BEEN TALKING ABOUT PREVIOUSLY, CODE AS 'NO'.

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Yes   1

No   2

Don't know   Y

ASK ALL

Qmainactiv. Which of these is currently your main activity?

SHOW CARD L

A - employed (working fulltime – 30 hours + per week)

B - employed (working parttime – less than 30 hours per week)

C - selfemployed (working fulltime – 30 hours + per week)

D - selfemployed (working parttime – less than 30 hours per week)

E - focused primarily on looking for work

F - in training or education (including at school/college)

G - caring for children or other people

H - coping with a long term condition or disability

I - getting better from a temporary illness

J - unemployed and not looking for work

[None   X]

[Don't know   Y]

[Refused   Z]

(ASK IF NOT EMPLOYED OR SELF-EMPLOYED (codes A – D) AT Qmainactiv)

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

Yes	1
No	2
Don't know	Y
Refused	Z

ASK IF QMAINACTIV = 1 thru 4 (IF EMPLOYED OR SELF-EMPLOYED)

Qjobtitle/Qjobdesc/Qquals. Can you give me your [TEXT FILL: last] job title and describe what you [TEXT FILL: do/did] in your job?

INTERVIEWER: ENTER JOB DETAILS BELOW. IF (TEXTFILL: HAS/HAD) MORE THAN ONE JOB, THE MAIN JOB IS THE ONE THEY (TEXTFILL: WORK/WORKED) THE MOST HOURS IN. IF (TEXTFILL: WORK/WORKED) IN BOTH JOBS FOR THE SAME NUMBER OF HOURS THE MAIN JOB IS THE MOST HIGHLY PAID. PROBE FOR QUALIFICATIONS.

SCRIPTER: DISPLAY ALL 3 OPEN ENDS ON THE SAME SCREEN

Qjobtitle   ENTER FULL JOB TITLE: _____

Qjobdesc   ENTER DESCRIPTION OF WHAT THEY DO IN THEIR JOB: _____

Qquals   ENTER QUALIFICATIONS/TRAINING NEEDED TO DO JOB: _____

Don't know	Y
Refused	Z

[THE ABOVE QUESTIONS ARE USED FOR SIC AND SOC CODING. THE FOLLOWING QUESTIONS ALLOW NS-SEC CODING]

ASK ALL

Qintroincome   The next few questions are about your income and any state benefits or tax credits that you may be receiving or claiming.

ASK ALL

Qbenefits   In the 7 days ending last Sunday, were you claiming any State Benefits or Tax Credits, including State Pension, Allowances, Child Benefit or National Insurance Credits?

Yes   1

No   2

Don't Know   Y

Refused   Z

ASK IF QBENEFITS = 'YES' (CLAIMED BENEFITS IN LAST 7 DAYS)

Qbenefittype   Which of the following types of benefit or Tax Credit were you claiming?

SHOW CARD M. MULTI CODE

A - Unemployment-related benefits, or National Insurance Credits   1

B - Income Support (not as an unemployed person)   2

C - Sickness or Disability Benefits (including Personal Independence Payment (PIP) or Employment and Support Allowance; not including Tax Credits)   3

D - State Pension (including Widowed Parent's and Bereavement Allowance)   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 Credit (including Child Tax Credit and Working Tax Credit)	8
I – Any other benefits (please specify) _____	9
Don't Know	Y
Refused	Z

ASK IF QMAINACTIV = 1 thru 4. (IF EMPLOYED OR SELF-EMPLOYED)

Qworkactivity. I am going to read a list of activities people sometimes do in their jobs. Please tell me how often, if ever, you do each of the following in your current job. How often, if ever, do you…

SHOW CARD N. IF QUERIED, WE DO COUNT GOVERNMENT WORK SCHEMES AS BEING 'A JOB'. (SEE BELOW FOR ANSWER CODES). SCRIPTER: RANDOMISE ORDER. SHOW ONE STATEMENT PER SCREEN ALONG WITH ANSWER CODES.

Read documents about your company's policies or health and safety	1
Read instructions or requests about tasks that you need to do	2
Read reports, training materials or manuals	3
Read or write emails	4
Find information on the internet	5
Read a computer screen or enter information into a computer	6
Handle money	7
Write instructions for other people	8
Talk to clients or customers	9
Take part in meetings	10
Do activities involving maths, such as calculations involving numbers, weights or lengths	11
Plan or record time	12

ANSWER CODES:

Every working day	1
A few times a week	2
Once a week	3
Less than once a week	4
Rarely	5
Never	6
[Don't know	Y]
[Refused	Z]

ASK ALL

Qhomeactivity   And now I am going to read a list of activities people sometimes do as part of their personal or household activities at home. Please tell me how often, if ever, you do each of the following...

SHOW CARD O (SEE BELOW FOR ANSWER CODES). SCRIPTER – DISPLAY A SINGLE STATEMENT PER SCREEN ALONG WITH THE ANSWER CODES. RANDOMISE ORDER.

Read instructions - for example on medicines, recipes, etc.	1
Read for information - for example, leaflets, manuals, timetables, TV guides, etc.	2
Read for pleasure – for example, short stories, magazines, books, etc.	3
Fill in forms	4
Write notes, letters or emails	5
Work out weights and measurements, for example for a recipe, DIY, etc.	6
Work out money – for example for home budgeting, checking bank statements or costs for a journey, etc.	7
Work out timings – for example for making journeys, arranging an appointment, etc.	8

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Take part in meetings or group discussions   9

Speak to people outside your immediate circle of family and friends – for example
teachers, doctors, shop assistants etc.   10
ANSWER CODES:

Every day   1

A few times a week   2

Once a week   3

Less than once a week   4

Rarely   5

Never   6

[Don't know   Y]

[Refused   Z]

 ASK IF QMAINACTIV = 1 thru 4 OR qeverjob = 1 (yes)

G3a. Can you tell me what your usual pay [IF COMPLETED: was] [IF CURRENT: is]
AFTER any deductions for tax or national insurance? Please do not include bonuses,
tips or overtime.

CODE TO BAND. ALLOW REF AND DK. NULL NOT ALLOWED

PROBE FOR ESTIMATE IF NECESSARY. INTERVIEWER NOTE: IF INCOME
VARIES/ VARIED, REITERATE "USUAL".

SINGLE CODE ONLY

SHOW CARD P

	Per Week	Per Month	Per Year
A	Up to £86	Up to £374	Up to £4,499
B	£87 - £125	£375 - £541	£4,500 - £6,499
C	£126 - £144	£542 - £624	£6,500 - £7,499
D	£145 - £182	£625 - £791	£7,500 - £9,499
E	£183 - £221	£792 - £958	£9,500 - £11,499
F	£222 - £259	£959 - £1,124	£11,500 - £13,499
G	£260 - £298	£1,125 - £1,291	£13,500 - £15,499
H	£299 - £336	£1,292 - £1,458	£15,500 - £17,499
I	£337 - £480	£1,459 - £2,083	£17,500 - £24,999
J	£481 or more	£2,084 or more	£25,000 or more

1. Don't know

2. Prefer not to say

ASK ALL

QNEWincomepers I would now like to ask you a question about your total <u>personal</u> income. That is from all of those sources of income you receive, including from work and benefits…

Please look at this card and estimate the amount that you have coming in before tax.

SHOW CARD Q.

	WEEKLY	MONTHLY	ANNUAL
1	Up to £9	Up to £42	Up to £519
2	£10 up to £19	£43 up to £85	£520 up to £1,039
3	£20 up to £29	£86 up to £129	£1,040 up to £1,559
4	£30 up to £39	£130 up to £172	£1,560 up to £2,079
5	£40 up to £49	£173 up to £216	£2,080 up to £2,599
6	£50 up to £59	£217 up to £259	£2,600 up to £3,119
7	£60 up to £69	£260 up to £302	£3,120 up to £3,639
8	£70 up to £79	£303 up to £346	£3,640 up to £4,159
9	£80 up to £89	£347 up to £389	£4,160 up to £4,679
10	£90 up to £99	£390 up to £432	£4,680 up to £5,199
11	£100 up to £119	£433 up to £519	£5,200 up to £6,239
12	£120 up to £139	£520 up to £606	£6,240 up to £7,279
13	£140 up to £159	£607 up to £692	£7,280 up to £8,319
14	£160 up to £179	£693 up to £779	£8,320 up to £9,359
15	£180 up to £199	£780 up to £866	£9,360 up to £10,399
16	£200 up to £219	£867 up to £952	£10,400 up to £11,439
17	£220 up to £239	£953 up to £1,039	£11,440 up to £12,479
18	£240 up to £259	£1,040 up to £1,126	£12,480 up to £13,519
19	£260 up to £279	£1,127 up to £1,212	£13,520 up to £14,559

20	£280 up to £299	£1,213 up to £1,299	£14,560 up to £15,599
21	£300 up to £319	£1,300 up to £1,386	£15,600 up to £16,639
22	£320 up to £339	£1,387 up to £1,472	£16,640 up to £17,679
23	£340 up to £359	£1,473 up to £1,559	£17,680 up to £18,719
24	£360 up to £379	£1,560 up to £1,646	£18,720 up to £19,759
25	£380 up to £399	£1,647 up to £1,732	£19,760 up to £20,799
26	£400 up to £449	£1,733 up to £1,949	£20,800 up to £23,399
27	£450 up to £499	£1,950 up to £2,166	£23,400 up to £25,999
28	£500 up to £549	£2,167 up to £2,382	£26,000 up to £28,599
29	£550 up to £599	£2,383 up to £2,599	£28,600 up to £31,199
30	£600 up to £649	£2,600 up to £2,816	£31,200 up to £33,799
31	£650 up to £699	£2,817 up to £3,032	£33,800 up to £36,399
32	£700 up to £749	£3,033 up to £3,249	£36,400 up to £38,999
33	£750 up to £799	£3,250 up to £3,466	£39,000 up to £41,599
34	£800 up to £849	£3,467 up to £3,685	£41,600 up to £44,199

35	£850 up to £899	£3,686 up to £3,899	£44,200 up to £46,799
36	£900 up to £949	£3,900 up to £4,116	£46,800 up to £49,399
37	£950 up to £999	£4,117 up to £4,332	£49,400 up to £51,999
38	£1000 or more	£4,333 or more	£52,000 or more

ENTER CODE NUMBER CORRESPONDING TO AMOUNT: __ __

Don't Know   Y

Refused   Z

ASK ALL

Qhealth. I would now like to ask you a few questions about your health. Firstly, how is your health in general? Would you say it is...

SHOW CARD R.

SINGLE CODE.

Very good   1

Good   2

Fair   3

Poor   4

Very poor   5

[Don't Know   Y]

[Refused   Z]

ASK ALL

Qilldisab. This question asks you about any health conditions, illnesses or impairments you may have.

Do you have any physical or mental health conditions or illnesses lasting or expected to last for 12 months or more?

Yes   1

No   2

Don't know   Y

Refused   Z

ASK IF QILLDISAB = 'YES' (HAS LONG-STANDING ILLNESS)

Qilltype. The purpose of this question is to establish the type of impairment(s) you experience currently as a result of your health condition or illness. Do any of these conditions or illnesses affect you in any of the following areas?

INTERVIEWER: IF RESPONDENT HAS A CONDITION BUT IT DOESN'T ACTIVELY AFFECT THEM BECAUSE IT IS BEING SUCCESSFULLY TREATED, THEN DO NOT CODE IT (E.G. THEY MIGHT HAVE HEARING PROBLEMS BUT THEIR HEARING AID MEANS THEY AREN'T ACTIVELY AFFECTED)

SHOW CARD S.

CODE ALL THAT APPLY.

Vision (for example blindness or partial sight)   1

Hearing (for example deafness or partial hearing)   2

Mobility (for example walking short distances or climbing stairs)   3

Dexterity (for example lifting and carrying objects, using a keyboard)   4

Learning or understanding or concentrating   5

Memory   6

Mental health   7

Stamina or breathing or fatigue   8

Socially or behaviourally (for example associated with autism, attention deficit disorder or Asperger's syndrome)   9

Other (please specify) _____   10

[None of these   X]

[Don't know   Y]

[Refused   Z]

ASK IF QILLDISAB = 'YES' *(HAS LONG-STANDING ILLNESS)*

Qillimpact. This question asks about whether your health condition or illness currently affects your ability to carry-out normal day-to-day activities, either a lot or a little or not at all.

[TEXTFILL: Does your condition or illness/do any of your conditions or illnesses] reduce your ability to carry-out day-to-day activities?

INTERVIEWER: AGAIN, IF RESPONDENT HAS A CONDITION BUT IT DOESN'T ACTIVELY AFFECT THEM BECAUSE IT IS BEING SUCCESSFULLY TREATED, THEN DO NOT CODE IT AS 'YES'.

PROMPT WITH CODES AS NECESSARY.

Yes, a lot   1

Yes, a little   2

Not at all   3

[Don't know   X]

[Refused   Y]

ASK IF QILLTYPE = 'Learning or understanding or concentrating'

Qwhatdiff What specific kind of difficulty do you have with learning, understanding or concentrating?

CODE ALL THAT APPLY. DO NOT READ OUT.

Autism related	1
ADD / ADHD /Attention Deficit (Hyperactivity) Disorder	2
Cerebral palsy related	3
Down's syndrome related	4
Dyscalculia	5
Dyslexia	6
Dyspraxia	7
Epilepsy related	8
Other specify _____	9
[Don't Know	Y]
[Refused	Z]

ASK ALL

Qethnic. What is your ethnic group?

SHOW CARD T. CODE ONE ONLY

English / Welsh / Scottish / Northern Irish / British	1
Irish	2
Gypsy or Irish Traveller	3
Any other White background	4

White and Black Caribbean	5
White and Black African	6
White and Asian	7
Any other Mixed / Multiple ethnic background	8
Indian	9
Pakistani	10
Bangladeshi	11
Chinese	12
Any other Asian background	13
African	14
Caribbean	15
Any other Black / African / Caribbean background	16
Arab	17
Any other ethnic group	18
[Don't know	Y]
[Refused	Z]

ASK IF QETHNIC = 'Any other White background' OR 'Any other Mixed / Multiple ethnic background' OR 'Any other Asian background' OR 'Any other Black / African / Caribbean background' OR 'Any other ethnic group'

Qethnicother. ASK OR RECORD BASED ON RESPONSE ALREADY GIVEN

Can I just check, what do you consider your ethnic group or background to be?

INTERVIEWER: ENTER DESCRIPTION OF ETHNIC GROUP

TYPE IN: _____

Don't Know   Y

Refused   Z

ASK ALL

Qchild. Do you have any children under the age of 16 currently living with you in your household? Please only include children for whom YOU are the parent or guardian.

Yes   1

No   2

Refused   Z

IF QCHILD = 'YES' (HAVE CHILDREN IN HOUSEHOLD)

Qnumchild   How many children under the age of 16 currently live with you? Please only include children for whom YOU are the parent or guardian.

ENTER NUMBER: __ __

Refused   Z

SCRIPTER: ALLOW RANGE FROM 1 TO 15

IF QCHILD= 'YES' (HAVE CHILDREN IN HOUSEHOLD)

Qageyoungest. How old is your youngest child who is currently living with you? Please only include children for whom YOU are the parent or guardian.

INTERVIEWER: IF CHILD IS UNDER 1 YEAR OLD, ENTER 0

ENTER NUMBER: __ __ [SCRIPTER: ALLOW RANGE FROM 0 TO 90]

Refused   Z

ASK ALL

Othchild. 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

ASK IF QAGEYOUNGEST = 0-9 (HAS CHILDREN BETWEEN THE AGES OF 0 AND 9 LIVING IN THE HOUSEHOLD)

Qreadchild. I know that there may be different demands on your time from week to week, and that your children may have different needs. But, just thinking about last week, how often, if at all, did you read to or with any of your children, or get them to read to you?

SHOW CARD U. CODE ONE ONLY.

Did not do any reading with my children last week	1
On 1 or 2 days	2
On 3 or 4 days	3
On 5 or 6 days	4
Every day	5
[Don't know	Y]
[Refused	Z]

ASK IF QAGEYOUNGEST = 5-15 (HAS CHILDREN BETWEEN THE AGES OF 5 AND 15 LIVING IN THE HOUSEHOLD)

Qhomework [TEXT FILL IF NOT ASKED Qreadchild: I know that there may be different demands on your time from week to week, and that your children may have different needs, but just] [TEXT FILL IF ASKED Qreadchild: And, just] thinking about last week, how often, if at all, did you help any of your children with their homework?

INTERVIEWER: IF THE RESPONDENT MENTIONS THAT IT IS OR HAS JUST BEEN SCHOOL HOLIDAYS, PLEASE ASK HIM/HER TO THINK ABOUT THE MOST RECENT WEEK THAT WAS DURING THE SCHOOL TERM

SHOW CARD V. CODE ONE ONLY.

Did not help my children with their homework last week	1
On 1 or 2 days	2
On 3 or 4 days	3
On 5 or 6 days	4
Every day	5
[Don't know	Y]
[Refused	Z]

ASK IF RCTPARTICIPANT = 'NO' (RESPONDENT WAS NOT INVOLVED IN THE RCT TRIAL)

Qtintro For this next section of the interview, I'm going to pass the computer over to you, so that you can look at the questions and enter the answers yourself. This section will involve answering some [TEXT FILL: English / maths] questions, similar to things you might have done on courses that you have attended. I'm going to pass the laptop over to you in a moment. Before that, I'm just going to give you a pen and some paper which you can use to work things out on, if you want to. [TEXT FILL IF COURSETYPE VARIABLE = 'Maths': The first section of questions needs to be answered without using a calculator, but part way through you'll see a clear prompt which tells you to ask me for a calculator, which you will then be able to use from that point onwards]

NOTES FOR INTERVIEWER (DO NOT READ OUT)

ENSURE THAT YOU HAVE GIVEN RESPONDENT A PEN AND NOTEPAD. [TEXT FILL IF COURSETYPE VARIABLE = 'Maths': YOU WILL ALSO NEED TO GIVE THEM A CALCULATOR WHEN THEY ARE PROMPTED BY THE LAPTOP TO ASK FOR IT. PLEASE **DO NOT** GIVE THEM THE CALCULATOR BEFORE THAT POINT.]

THROUGHOUT THIS SECTION YOU MAY HELP THE RESPONDENT TO USE THE COMPUTER, BUT YOU **MUST NOT** HELP THEM TO ANSWER THE QUESTIONS

ENSURE RESPONDENT IS SITTING SOMEWHERE WHERE THE LAPTOP AND MOUSE CAN BE USED. IF NO TABLES ARE AVAILABLE, THEN YOU MAY FIND IT USEFUL TO OFFER A CLIPBOARD TO USE AS A FLAT SURFACE.

WHEN RESPONDENT IS SETTLED, CLICK TO MOVE ONTO THE NEXT SCREEN, WHERE YOU WILL NEED TO ENTER THE UNIQUE ID CODE THAT RELATES TO THIS RESPONDENT – THIS IS IN YOUR PACK.

WHEN YOU HAVE ENTERED THIS CODE, PLEASE PASS THE LAPTOP OVER TO THE RESPONDENT.

IF NECESSARY: CONFIRM THAT ALL ANSWERS ARE ABSOLUTELY CONFIDENTIAL AND/OR THAT THIS ISN'T AN EXAM THAT CAN BE PASSED OR FAILED, WE'RE JUST INTERESTED IN UNDERSTANDING THE KIND OF QUESTIONS THEY MIGHT FIND EASIER OR HARDER SINCE THEY STARTED THEIR COURSE.

Respondent has all the necessary materials and is ready to start (confirm before proceeding)   1

ASK IF RCTPARTICIPANT = 'NO'

(RESPONDENT WAS NOT INVOLVED IN THE RCT TRIAL)

Qcode   INTERVIEWER: The code that you will need to type in at the next screen is [TEXT FILL 'ASSESSCODE' FROM SAMPLE]

This code is also printed on the sheet in your packs. Please remember that each respondent has a unique code and it is vital that you enter the correct one.

ASSESSMENT SECTION LAUNCHES

ASSESSMENT SECTION ENDS

Qtoutro. That's the end of the section that you will complete yourself – thank you! Please now pass the computer back to the interviewer and they will just run through a couple more things with you.

INTERVIEWER CLICK TO CONTINUE   1

Qcompletechk. INTERVIEWER: PLEASE PICK THE MOST RELEVANT OPTION BELOW

Respondent completed (or attempted to complete) the whole assessment section
       1

Respondent started the assessment section but broke off partway through
       2

Respondent did not answer any of the assessment section at all
       3

There was a technical problem that caused the assessment section to crash
       4

Qhelped. INTERVIEWER: DID ANYBODY IN THE HOUSEHOLD HELP THE RESPONDENT TO ANSWER THE ASSESSMENT SECTION QUESTIONS (I.E. GAVE THEM THE ANSWERS)?

Yes – somebody gave them several answers   1

Yes – somebody gave them 1 or 2 answers   2

No   3

ASK ALL

Qrecont. We will be doing some more interviews in about a year's time and we would really like to speak to you again at that time. Just like today, we will be offering £10 vouchers as a thank you to everybody that takes part. Can I just check - is it OK if we do try to get in touch with you again in about a year?

IF NECESSARY: The interview would be similar to this one.

IF NECESSARY: If you decided it wasn't convenient for you at that time, you could decide not to take part when we do get in touch with you.

IF NECESSARY: All your answers are treated confidentially and nobody will ever be able to identify you from the answers that you give

Yes – willing to be recontacted   1

No – do not want to be recontacted   2

IF QRECONT = 2 (No – do not want to be recontacted)

Qrecont2

We would really like to talk to as many people as possible in a year's time. If you do say yes today – this doesn't mean you have to take part – you could still decide not to take part when we do get in touch with you…

Yes – respondent changed mind – willing to be recontacted   1

No – do not want to be recontacted   2

ASK ALL

Qlinks. Finally, we would like to link your answers in this survey to a learner dataset that also includes some benefits and employment details. This would allow the Department for Business, Innovation and Skills to analyse the effect of training on, for example, employment and wages over the longer-term. Would you be willing for the Department and its appointed researchers to match your records to this merged learner dataset? After linking, your name will not be held with the information.

Yes   1

 No   2

6. Wave 3 - Background questionnaire, English and maths (CAPI)

ASK ALL

Qengread   To start with, I'd like to ask you a few questions about English and maths. Firstly, 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?

SHOW CARD A.

READ OUT CODES.

Very good	1
Fairly good	2
Below average	3
Poor	4
(SPONTANEOUS ONLY – DO NOT READ OUT) Cannot read English	5
[Don't know	Y]
[Refused	Z]

ASK ALL

Qengwrite   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?

SHOW CARD A

READ OUT CODES.

Very good	1
Fairly good	2

Below average   3

Poor   4

(SPONTANEOUS ONLY – DO NOT READ OUT) Cannot write English   5

[Don't know   Y]

[Refused   Z]

ASK ALL

Qnumdaily   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?

SHOW CARD A

 READ OUT CODES.

Very good   1

Fairly good   2

Below average   3

Poor   4

[Don't know   Y]

[Refused   Z]

ASK ALL

Qengspeak And 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?

SHOW CARD A.

READ OUT CODES

Very good	1
Fairly good	2
Below average	3
Poor	4
[Don't know	Y]
[Refused	Z]

ASK IF COURSETYPE = ENGLISH OR BOTH (COURSETYPE = 3 or 4)

Qengopinion   Please can you tell me how strongly you agree or disagree with each of the following?

SHOW CARD B

(SEE BELOW FOR ANSWER CODES)

SCRIPTER – DISPLAY A SINGLE STATEMENT PER SCREEN ALONG WITH THE ANSWER CODES. DO NOT RANDOMISE ORDER.

INTERVIEWER: IF ASKED QUESTIONS ON READING AND WRITING RELATE TO ENGLISH LANGUAGE ONLY.

I find it easy to read the directions on items such as food labels, medicines or flat-packs

I worry about not spelling words correctly

When I am writing I worry about making mistakes with grammar

I find it easy to write, for example by texting, e-mailing or sending a postcard, to someone I know

I sometimes have difficulty filling in forms

I feel nervous when I have to take an English test

I would enjoy improving my reading and writing skills

ANSWER CODES:

Strongly agree   1

Agree   2

Neutral   3

Disagree   4

Strongly disagree   5

[Don't know   Y]

[Refused   Z]

ASK IF COURSETYPE = MATHS OR BOTH (COURSETYPE = 3 or 4)

Qmathopinion   Please can you tell me how strongly you agree or disagree with each of the following?

SHOW CARD B

(SEE BELOW FOR ANSWER CODES)

SCRIPTER – DISPLAY A SINGLE STATEMENT PER SCREEN ALONG WITH THE ANSWER CODES. DO NOT RANDOMISE ORDER.

I find maths interesting

I get anxious during maths tests

My mind goes blank and I am unable to think clearly when doing a maths test

I worry about my ability to solve maths problems

I find maths challenging

Maths makes me feel nervous

I would like to take more maths classes

I enjoy learning with maths

I find maths easy in my day to day life, for example when I'm working out bills or discounts in shops

ANSWER CODES:

Strongly agree   1

Agree   2

Neutral   3

Disagree   4

Strongly disagree   5

[Don't know   Y]

[Refused   Z]

ASK ALL

Qitaccess   Can you easily access the internet from a computer or tablet, for example at home, at work, in a library or college, or at a friend or relative's house?

Yes   1

No   2

Don't know   Y

Refused   Z

ASK ALL

Qitconf   How good are you at using computers? For example, word processing, using the Internet and sending emails.

SHOW CARD C

Very good   1

Fairly good   2

Below average   3

Poor   4

[SPONTANEOUS ONLY – DO NOT READ OUT - Respondent never uses computers 5]

[Don't know   Y]

[Refused   Z]

ASK IF QITCONF = 1-4 OR 'DON'T KNOW' OR 'REFUSED'

Qitfreq   The next few questions are about the use of computers, including tablets and smartphones, and the internet. This could be at work, at home or in other places that offer internet services like libraries, colleges or internet cafes.

How often do you usually ...

SCRIPTER – DISPLAY A SINGLE STATEMENT PER SCREEN ALONG WITH THE ANSWER CODES

SHOW CARD D

(SEE BELOW FOR ANSWER CODES)

Use e-mail?

Use the internet to find information?

Use the internet for buying or selling products or services, or banking?

Use spreadsheet software, for example Excel?

Use a word processor, for example Word?

ANSWER CODES:

Never	1
Less than once a month	2
At least monthly but not every week	3
At least weekly but not every day	4
Every day	5
[Don't know	Y]
[Refused	Z]

ASK ALL

Qintrolife   Next I would like to ask you a question about your feelings about your life generally.

ASK ALL

Qlifehappy   Overall, how happy did you feel yesterday?

Where nought is 'not at all happy' and 10 is 'completely happy'.

Numeric Range: 0-10

Don't know

Refused

ASK ALL

Qothercourses The last time that we interviewed you, about a year ago, we asked some questions about the [TEXTFILL: course/courses] in [TEXTFILL: English/Maths/English and Maths] that you had been on. [TEXTFILL: This was the course/These were the courses] that you would have been due to finish sometime around [TEXTFILL: insert date/date range]. Have you been on any other courses since the [TEXTFILL: one/ones] that we spoke to you about last time? We're only talking about courses that would end up in a qualification of some type being awarded.

IF QUERIED: THESE CAN BE COURSES IN ANY SUBJECT, NOT JUST IN ENGLISH OR MATHS].

IF QUERIED: THIS INCLUDES BOTH COURSES THAT YOU HAVE ALREADY FINISHED (OR LEFT) SINCE WE SPOKE TO YOU LAST TIME AND COURSES THAT YOU ARE STILL ATTENDING.

SINGLE CODE.

Yes – have been on other courses	1
No – have not been on other courses	2
[Don't know	Y]
[Refused	Z]

IF QOTHERCOURSES = 1 (YES – HAVE BEEN ON OTHER COURSES), THEN ASK QCOURSENUM

Qcoursenum How many other courses have you been on since the [TEXTFILL: one/ones] that we spoke to you about last time?

IF QUERIED: THIS INCLUDES BOTH COURSES THAT YOU HAVE ALREADY FINISHED (OR LEFT) SINCE WE SPOKE TO YOU LAST TIME AND COURSES THAT YOU ARE STILL ATTENDING.

SINGLE CODE.

One   1

Two   2

Three   3

Four or more 4

None   5   [SCRIPTER LOOP BACK TO PREVIOUS QUESTION WITH INTERVIEWER INSTRUCTION SAYING 'AT THE PREVIOUS QUESTION YOU SAID THAT THE RESPONDENT HAD BEEN ON A COURSE. THE SCRIPT WILL NOW TAKE YOU BACK TO THAT QUESTION SO THAT YOU CAN AMEND YOUR ANSWER IF NECESSARY]

[Don't know   Y]

[Refused   Z]

IF QCOURSENUM = 1-4 (HAVE BEEN ON ONE, TWO, THREE, OR FOUR OR MORE COURSES) THEN ASK QCOURSE1FIN

Qcourse1fin [TEXTFILL IF QCOURSENUM = 2-4: For the next few questions, please focus on the highest level course that you've been on since the one we spoke to you about last year.] Which of these best describes whether or not you have finished this course?

SHOWCARD E. SINGLE CODE.

I have already completed the course   1

I'm still attending the course   2

I left the course partway through   3

[Don't know   Y]

[Refused	Z]

IF QCOURSENUM = 1-4 (HAVE BEEN ON ONE, TWO, THREE OR FOUR OR MORE COURSES) THEN ASK QCOURSE1SUB

Qcourse1sub What subject [TEXTFILL IF QCOURSE1FIN = 1 OR 3: did you study] [TEXTFILL IF QCOURSE1FIN = 2: are you currently studying] [TEXTFILL IF QCOURSE1FIN = Y OR Z: did you study or are you currently studying] on this course?

INTERVIEWER: PROBE TO CODES IF NECESSARY. IF RESPONDENT MENTIONS THE SAME SUBJECT AS THE COURSE THEY HAD BEEN ASKED ABOUT LAST YEAR, CHECK IT IS DEFINITELY A DIFFERENT ONE (OR A GENUINE CONTINUATION OF THAT ORIGINAL COURSE). IF NOT, THEN SKIP BACK AND AMEND ANSWER TO QUESTIONS RELATING TO NUMBER OF COURSES ATTENDED.

SINGLE CODE

English	1
Maths	2
Science (including physics/chemistry/biology etc.)	3
Computing / Information Communication Technology (ICT)	4
Design and technology	5
Music / drama	6
Art / craft	7
Languages other than English	8
History	9
Geography	10
A course relating to a specific job (e.g. hairdressing/accountancy etc.)	11

A general business skills course	12
Other (specify) _____	13
[Don't know	Y]
[Refused	Z]

IF QCOURSENUM = 1-4 (HAVE BEEN ON ONE, TWO, THREE OR FOUR OR MORE COURSES) THEN ASK QC1WEEKS

Qc1weeks   How many weeks [TEXTFILL IF QCOURSE1FIN = 1 OR 3: did you attend this course for] [TEXTFILL IF QCOURSE1FIN = 2: does this course run for in total] [TEXTFILL IF QCOURSE1FIN = Y OR Z: does, or did, this course run for]?

INTERVIEWER: PROBE FOR BEST ESTIMATE IF UNSURE – AN APPROXIMATE ANSWER IS ACCEPTABLE.

SHOW CARD F ONLY IF RESPONDENT IS HAVING TROUBLE CONVERTING MONTHS TO WEEKS

TYPE IN: __ __

[Don't know   Y]

[Refused   Z]

 [SCRIPTER – ALLOW VALUES FROM 1 TO 250]

IF QC1WEEKS HAS A NUMERICAL VALUE ENTERED, THEN ASK QC1HOURPER

Qc1hourper And, on average, how many hours per week [TEXTFILL IF QCOURSE1FIN = 1 OR 3: did you spend at this course] [TEXTFILL IF QCOURSE1FIN = 2: do you spend at this course] [TEXTFILL IF QCOURSE1FIN = Y OR Z: do, or did, you spend at this course]?

INTERVIEWER: PROBE FOR BEST ESTIMATE IF UNSURE – AN APPROXIMATE ANSWER IS ACCEPTABLE. WE'RE INTERESTED IN TIME SPENT IN CLASS (OR IN

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THE SOFTWARE LEARNING ENVIRONMENT IF IT WAS AN ELECTRONIC LEARNING COURSE]

TYPE IN: __ __

[Don't know   Y]

[Refused   Z]

 [SCRIPTER – ALLOW VALUES FROM 1 TO 99]

IF QCOURSENUM = 1-4 (HAVE BEEN ON ONE, TWO, THREE OR FOUR OR MORE COURSES) THEN ASK QCOURSE1LEV

Qcourse1lev   And do you know which of these levels that course [TEXTFILL IF QCOURSE1FIN = 1 OR 3: was] [TEXTFILL IF QCOURSE1FIN = 2: is] [TEXTFILL IF QCOURSE1FIN = Y OR Z: was, or is,] at?

SHOW CARD G. SINGLE CODE.

Entry level 1 or 2 – e.g. Functional skills/Skills for Life   1

Entry level 3 - e.g. Functional skills / Skills for Life   2

Level 1 - e.g. Functional skills / Skills for Life / NVQ / BTEC   3

Level 2 - e.g. GCSE / Functional skills / Skills for Life / NVQ / BTEC 4

Level 3 - e.g. A levels / AS levels / NVQ / BTEC / International Baccalaureate 5

Level 4 – e.g. NVQ / BTEC   6

Level 5 – e.g. NVQ / BTEC / HNC / HND   7

Level 6-8 - e.g. A degree or higher, e.g. BSc, BA, MSc, MA, MBA, PGCE, PhD / BTEC8

Other (please specify as much detail as possible)   9

[Don't know   Y]

[Refused   Z]

IF QCOURSENUM = 1-4 (HAVE BEEN ON ONE, TWO, THREE OR FOUR OR MORE COURSES) THEN ASK QC1IMPACT

Qc1impact   How much [TEXTFILL IF QCOURSE1FIN = 1 OR 3: did this course help] [TEXTFILL IF QCOURSE1FIN = 2: is this course helping] [TEXTFILL IF QCOURSE1FIN = Y OR Z: did this course help (or is this course helping)] to improve your skills? Would you say…

INTERVIEWER: THIS CAN BE ANY TYPE OF SKILLS, NOT NECESSARILY JUST SKILLS RELATED SPECIFICALLY TO THE COURSE SUBJECT

READ OUT CODES. SINGLE CODE

Not at all   1

A little bit   2

A lot   3

[Don't know   Y]

[Refused   Z]

IF QCOURSENUM = 1-4 (HAVE BEEN ON ONE, TWO, THREE OR FOUR OR MORE COURSES) THEN ASK QC1INFLUENCE

Qc1influence   If you hadn't been on the [TEXTFILL: course/courses] in [TEXTFILL: English/Maths/English and Maths] that finished sometime around [TEXTFILL: insert date/date range], do you think you would have still have gone on the other course we have just been discussing?

SHOW CARD H. SINGLE CODE.

Yes – would definitely have gone on the other course anyway

Yes – would probably have gone on the other course anyway

No – probably wouldn't have gone on the other course

No – definitely wouldn't have gone on the other course

[Don't know   Y]

[Refused   Z]

IF QCOURSENUM = 1-4 (HAVE BEEN ON ONE, TWO, THREE OR FOUR OR MORE COURSES) THEN ASK QCOURSE1VOL

Qcourse1vol   And did you choose to go on this course yourself, or was it something that you were told to attend by your employer or by somebody else?

SHOW CARD I. SINGLE CODE

INTERVIEWER – IF IT WAS A COURSE WHERE THE RESPONDENT WAS ENCOURAGED TO ATTEND, BUT AT THE END OF THE DAY IT WAS THE RESPONDENT'S OWN CHOICE, THEN PLEASE SELECT THE FIRST CODE.

I chose to go on the course myself   1

I was told to attend the course by my employer   2

I was told to attend the course by Job Centre Plus   3

I was told to attend the course by somebody else (please specify) _____ 4

[Don't know   Y]

[Refused   Z]

IF QCOURSENUM = 2-4 (HAVE BEEN ON TWO, THREE, OR FOUR OR MORE COURSES) THEN ASK QCOURSE2FIN

Qcourse2fin Now, for the next few questions, I'd like you to think about the SECOND HIGHEST level course that you've been on since the one we spoke to you about last year. Which of these best describes whether or not you have finished this course?

SHOWCARD J. SINGLE CODE.

I have already completed the course	1
I'm still attending the course	2
I left the course partway through	3
[Don't know Y]	
[Refused Z]	

IF QCOURSENUM = 2-4 (HAVE BEEN ON TWO, THREE OR FOUR OR MORE COURSES) THEN ASK QCOURSE2SUB

Qcourse2sub   What subject [TEXTFILL IF QCOURSE2FIN = 1 OR 3: did you study] [TEXTFILL IF QCOURSE2FIN = 2: are you currently studying] [TEXTFILL IF QCOURSE2FIN = Y OR Z: did you study or are you currently studying] on this course?

INTERVIEWER: PROBE TO CODES IF NECESSARY. IF RESPONDENT MENTIONS THE SAME SUBJECT AS THE COURSE THEY HAD BEEN ASKED ABOUT LAST YEAR, CHECK IT IS DEFINITELY A DIFFERENT ONE (OR A GENUINE CONTINUATION OF THAT ORIGINAL COURSE). IF NOT, THEN SKIP BACK AND AMEND ANSWER TO QUESTIONS RELATING TO NUMBER OF COURSES ATTENDED.

SINGLE CODE

English	1
Maths	2
Science (including physics/chemistry/biology etc.)	3
Computing / Information Communication Technology (ICT)	4
Design and technology	5
Music / drama	6
Art / craft	7

Languages other than English

History   9

Geography   10

A course relating to a specific job (e.g. hairdressing / accountancy etc.)11

A general business skills course   12

Other (specify) _____   13

[Don't know   Y]

[Refused   Z]

IF QCOURSENUM = 2-4 (HAVE BEEN ON TWO, THREE OR FOUR OR MORE COURSES) THEN ASK QC2WEEKS

Qc2weeks   How many weeks [TEXTFILL IF QCOURSE2FIN = 1 OR 3: did you attend this course for] [TEXTFILL IF QCOURSE2FIN = 2: does this course run for in total] [TEXTFILL IF QCOURSE2FIN = Y OR Z: does, or did, this course run for]?

INTERVIEWER: PROBE FOR BEST ESTIMATE IF UNSURE – AN APPROXIMATE ANSWER IS ACCEPTABLE.

SHOW CARD K ONLY IF RESPONDENT IS HAVING TROUBLE CONVERTING MONTHS TO WEEKS

TYPE IN: __ __

[Don't know   Y]

[Refused   Z]

 [SCRIPTER – ALLOW VALUES FROM 1 TO 250]

IF QC2WEEKS HAS A NUMERICAL VALUE ENTERED, THEN ASK QC2HOURPER

Qc2hourper And, on average, how many hours per week [TEXTFILL IF QCOURSE2FIN = 1 OR 3: did you spend at this course] [TEXTFILL IF QCOURSE2FIN = 2: do you spend at this course] [TEXTFILL IF QCOURSE2FIN = Y OR Z: do, or did, you spend at this course]?

INTERVIEWER: PROBE FOR BEST ESTIMATE IF UNSURE – AN APPROXIMATE ANSWER IS ACCEPTABLE. WE'RE INTERESTED IN TIME SPENT IN CLASS (OR IN THE SOFTWARE LEARNING ENVIRONMENT IF IT WAS AN ELECTRONIC LEARNING COURSE]

TYPE IN: __ __

[Don't know   Y]

[Refused   Z]

 [SCRIPTER – ALLOW VALUES FROM 1 TO 99]

IF QCOURSENUM = 2-4 (HAVE BEEN ON TWO, THREE OR FOUR OR MORE COURSES) THEN ASK QCOURSE2LEV

Qcourse2lev   And do you know which of these levels that course [TEXTFILL IF QCOURSE2FIN = 1 OR 3: was] [TEXTFILL IF QCOURSE2FIN = 2: is] [TEXTFILL IF QCOURSE2FIN = Y OR Z: was, or is,] at?

SHOW CARD L. SINGLE CODE.

Entry level 1 or 2 – e.g. Functional skills / Skills for Life
        1

Entry level 3 - e.g. Functional skills / Skills for Life
        2

Level 1 - e.g. Functional skills / Skills for Life / NVQ / BTEC
        3

Level 2 - e.g. GCSE / Functional skills / Skills for Life / NVQ / BTEC
        4

Level 3 - e.g. A levels / AS levels / NVQ / BTEC / International Baccalaureate
     5

Level 4 – e.g. NVQ / BTEC   6

Level 5 – e.g. NVQ / BTEC / HNC / HND   7

Level 6-8 - e.g. A degree or higher, e.g. BSc, BA, MSc, MA, MBA, PGCE, PhD / BTEC
     8

Other (please specify as much detail as possible)
     9

[Don't know   Y]

[Refused   Z]

IF QCOURSENUM = 2-4 (HAVE BEEN ON TWO, THREE OR FOUR OR MORE COURSES) THEN ASK QC2IMPACT

Qc2impact   How much [TEXTFILL IF QCOURSE2FIN = 1 OR 3: did this course help] [TEXTFILL IF QCOURSE2FIN = 2: is this course helping] [TEXTFILL IF QCOURSE2FIN = Y OR Z: did this course help (or is this course helping)] to improve your skills? Would you say…

INTERVIEWER: THIS CAN BE ANY TYPE OF SKILLS, NOT NECESSARILY JUST SKILLS RELATED SPECIFICALLY TO THE COURSE SUBJECT

READ OUT CODES. SINGLE CODE

Not at all   1

A little bit   2

A lot   3

[Don't know   Y]

[Refused   Z]

IF QCOURSENUM = 2-4 (HAVE BEEN ON TWO, THREE OR FOUR OR MORE COURSES) THEN ASK QC2INFLUENCE

Qc2influence   If you hadn't been on the [TEXTFILL: course/courses] in [TEXTFILL: English/Maths/English and Maths] that finished sometime around [TEXTFILL: insert date/date range], do you think you would have still have gone on the course we have just been discussing?

SHOW CARD M. SINGLE CODE.

Yes – would definitely have gone on the other course anyway

Yes – would probably have gone on the other course anyway

No – probably wouldn't have gone on the other course

No – definitely wouldn't have gone on the other course

[Don't know   Y]

[Refused   Z]

IF QCOURSENUM = 2-4 (HAVE BEEN ON TWO, THREE OR FOUR OR MORE COURSES) THEN ASK QCOURSE2VOL

Qcourse2vol   And did you choose to go on this course yourself, or was it something that you were told to attend by your employer or by somebody else?

SHOW CARD N. SINGLE CODE

INTERVIEWER – IF IT WAS A COURSE WHERE THE RESPONDENT WAS ENCOURAGED TO ATTEND, BUT AT THE END OF THE DAY IT WAS THE RESPONDENT'S OWN CHOICE, THEN PLEASE SELECT THE FIRST CODE.

I chose to go on the course myself	1
I was told to attend the course by my employer	2
I was told to attend the course by Job Centre Plus	3
I was told to attend the course by somebody else (please specify) _____	4

[Don't know   Y]

[Refused   Z]

ASK ALL

Qfuturcourse   Do you intend to go on any other courses in the next year?

SHOW CARD O

I definitely will	1
I probably will	2
I probably won't	3
I definitely won't	4
[Don't know	Y]
[Refused	Z]

IF QFUTURCOURSE = 1 OR 2 (DEFINITELY OR PROBABLY WILL GO ON COURSE) THEN ASK QFUTURTYPE

Qfuturtype   What subject do you plan to study on that course?

INTERVIEWER: IF NECESSARY PROMPT – IF YOU ARE PLANNING TO ATTEND MORE THAN ONE COURSE, PLEASE JUST TELL ME ABOUT THE ONE WHICH IS AT THE HIGHEST LEVEL. PROBE TO CODES IF NECESSARY. SINGLE CODE

English	1
Maths	2
Science (including physics/chemistry/biology etc.)	3
Computing / Information Communication Technology (ICT)	4
Design and technology	5

Music / drama	6
Art / craft	7
Languages other than English	8
History	9
Geography	10
A course relating to a specific job (e.g. hairdressing / accountancy etc.)	11
A general business skills course	12
Would just like to go on a course, but not sure what yet	13
Other (specify) _____	14
[Don't know Y]	
[Refused Z]	

IF QFUTURCOURSE = 1 OR 2 (DEFINITELY OR PROBABLY WILL GO ON COURSE) THEN ASK QFUTURTYPE

Qfuturtype   And do you know what the level of that course would be?

SHOW CARD P. SINGLE CODE.

INTERVIEWER: IF NECESSARY PROMPT – IF YOU ARE PLANNING TO ATTEND MORE THAN ONE COURSE, PLEASE JUST TELL ME ABOUT THE ONE WHICH IS AT THE HIGHEST LEVEL. PROBE TO CODES IF NECESSARY.

Entry level 1 or 2 – e.g. Functional skills / Skills for Life	1
Entry level 3 - e.g. Functional skills / Skills for Life	2
Level 1 - e.g. Functional skills / Skills for Life / NVQ / BTEC	3

Level 2 - e.g. GCSE / Functional skills / Skills for Life / NVQ / BTEC   4

Level 3 - e.g. A levels / AS levels / NVQ / BTEC / International Baccalaureate   5

Level 4 – e.g. NVQ / BTEC   6

Level 5 – e.g. NVQ / BTEC / HNC / HND   7

Level 6-8 - e.g. A degree or higher, e.g. BSc, BA, MSc, MA, MBA, PGCE, PhD / BTEC
                                                                                  8

Other (please specify as much detail as possible)   9

[Don't know   Y]

[Refused   Z]

ASK ALL

Qmainactiv Which of these is currently your main activity?

SHOW CARD Q

A - employed (working full-time – 30 hours + per week)   1

B - employed (working part-time – less than 30 hours per week)   2

C - self-employed (working full-time – 30 hours + per week)   3

D - self-employed (working part-time – less than 30 hours per week)   4

E - focused primarily on looking for work   5

F - in training or education (including at school/college)   6

G - caring for children or other people   7

H - coping with a long term condition or disability   8

I - getting better from a temporary illness   9

J - unemployed and not looking for work   10

[None   X]

[Don't know   Y]

[Refused   Z]

IF ATTENDED A COURSE IN ENGLISH AT LAST WAVE (INCLUDING THOSE WHO DID BOTH MATHS AND ENGLISH) AND QMAINACTIVE AT WAVE 2 = E OR F OR G OR H OR I OR J AND QMAINACTIVE AT WAVE 3 = A OR B OR C OR D, THEN ASK QENGCHANGE.

[SCRIPTER – THIS LOGIC WILL NEED FEED FORWARD INFORMATION FROM THE PREVIOUS WAVE]

Qengchange Last time we spoke to you, about a year ago, I think that you said you were NOT working at the time. How much do you think the course in English that you completed in [TEXT FILL: Date / Date range] helped you to find work?

SHOW CARD R. SINGLE CODE

The course was the main reason that I found work	1
The course helped a lot with finding work	2
The course helped a little with finding work	3
The course didn't have anything to do with me finding work	4
[DO NOT INCLUDE ON SHOW CARD] Respondent thinks that they were actually working at the time of the last interview	5

[Don't know   Y]

[Refused   Z]

IF ATTENDED A COURSE IN MATHS AT LAST WAVE (INCLUDING THOSE WHO DID BOTH MATHS AND ENGLISH) AND QMAINACTIVE AT WAVE 2 = E OR F OR G OR H OR I OR J AND QMAINACTIVE AT WAVE 3 = A OR B OR C OR D, THEN ASK QMATHCHANGE.

[SCRIPTER – THIS LOGIC WILL NEED FEED FORWARD INFORMATION FROM THE PREVIOUS WAVE]

Qmathchange [TEXT FILL ONLY IF NOT ASKED QENGCHANGE: Last time we spoke to you, about a year ago, I think you said that you were NOT working at the time]. And how much do you think the course in maths that you completed in [TEXT FILL: Date / Date range] helped you to find work?

SHOW CARD R. SINGLE CODE

The course was the main reason that I found work   1

The course helped a lot with finding work   2

The course helped a little with finding work   3

The course didn't have anything to do with me finding work   4

[DO NOT INCLUDE ON SHOW CARD] Respondent thinks that they were
actually working at the time of the last interview   5

[Don't know   Y]

[Refused   Z]

ASK IF QMAINACTIV = 1-4 AND QMAINACTIV WAS ALSO 1-4 IN WAVE 2.

Qjobchange Have you changed your job, or been promoted, since we last spoke to you, in [INSERT DATE OF LAST INTERVIEW]?

MULTI-CODING OF YES CODES IS ALLOWED

Yes – changed job   1

Yes – have been promoted   2

No   3

[Don't know   Y]

[Refused   Z]

ASK IF QJOBCHANGE = 1 OR 2 (YES, CHANGED JOB)

Qjobopin   How do you feel about your new job compared to the job you had when we last spoke to you?

SHOWCARD S. SINGLE CODE

I much prefer my new job	1
I slightly prefer my new job	2
There's no difference in how I feel about my new job and my old job	3
I slightly preferred my old job	4
I much preferred my old job	5
[Don't know Y]	
[Refused Z]	

ASK IF QMAINACTIV = 1-4 AND NOT QJOBCHANGE = 3 (NO - HAVEN'T CHANGED JOB)

IF EMPLOYED OR SELF-EMPLOYED

Qjobtitle/Qjobdesc/Qquals   Can you give me your [TEXT FILL: last] job title and describe what you [TEXT FILL: do/did] in your job?

INTERVIEWER: ENTER JOB DETAILS BELOW. IF (TEXTFILL: HAS/HAD) MORE THAN ONE JOB, THE MAIN JOB IS THE ONE THEY (TEXTFILL: WORK/WORKED) THE MOST HOURS IN. IF (TEXTFILL: WORK/WORKED) IN BOTH JOBS FOR THE SAME NUMBER OF HOURS THE MAIN JOB IS THE MOST HIGHLY PAID. PROBE FOR QUALIFICATIONS.

SCRIPTER: DISPLAY ALL 3 OPEN ENDS ON THE SAME SCREEN

Qjobtitle   ENTER FULL JOB TITLE: _____

Qjobdesc   ENTER DESCRIPTION OF WHAT THEY DO IN THEIR JOB:
_____

Qquals   ENTER QUALIFICATIONS/TRAINING NEEDED TO DO JOB:
_____

Don't know	Y
Refused	Z

ASK ALL

Qintroincome   The next few questions are about your income and any state benefits or tax credits that you may be receiving or claiming.

ASK ALL

Qbenefits   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 Credits?

Yes   1

No   2

Don't Know   Y

Refused   Z

ASK IF QBENEFITS = 'YES'

(CLAIMED BENEFITS IN LAST SEVEN DAYS)

Qbenefittype   Which of the following types of benefit or Tax Credit were you claiming?

SHOW CARD T. MULTI CODE

A - Unemployment-related benefits, or National Insurance Credits	1
B - Income Support (not as an unemployed person)	2
C - Sickness or Disability Benefits (including Personal Independence Payment (PIP) or Employment and Support Allowance; not including Tax Credits)	3
D - State Pension (including Widowed Parent's and Bereavement Allowance)	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 Credit (including Child Tax Credit and Working Tax Credit)	8
I – Any other benefits (please specify) _____	9
Don't Know	Y
Refused	Z

_____

ASK IF QMAINACTIV = 1 thru 4

IF EMPLOYED OR SELF-EMPLOYED

QworkactivityI am going to read a list of activities people sometimes do in their jobs. Please tell me how often, if ever, you do each of the following in your current job.

How often, if ever, do you…

SHOW CARD U. IF QUERIED, WE DO COUNT GOVERNMENT WORK SCHEMES AS BEING 'A JOB'.

(SEE BELOW FOR ANSWER CODES).

SCRIPTER: RANDOMISE ORDER. SHOW ONE STATEMENT PER SCREEN ALONG WITH ANSWER CODES.

Read instructions or requests about tasks that you need to do

Read or write emails

Find information on the internet

Handle money

Write instructions for other people

Do activities involving maths, such as calculations involving numbers, weights or lengths

ANSWER CODES:

Every working day	1
A few times a week	2
Once a week	3
Less than once a week	4
Rarely	5
Never	6
[Don't know	Y]
[Refused	Z]

ASK ALL

Qhomeactivity   And now I am going to read a list of activities people sometimes do as part of their personal or household activities at home. Please tell me how often, if ever, you do each of the following...

SHOW CARD V

(SEE BELOW FOR ANSWER CODES)

SCRIPTER – DISPLAY A SINGLE STATEMENT PER SCREEN ALONG WITH THE ANSWER CODES. RANDOMISE ORDER.

Read for information - for example, leaflets, manuals, timetables, TV guides, etc.

Write notes, letters or emails

Work out money – for example for home budgeting, checking bank statements or costs for a journey, etc.

ANSWER CODES:

Every day	1
A few times a week	2
Once a week	3
Less than once a week	4
Rarely	5
Never	6
[Don't know	Y]
[Refused	Z]

ASK ALL

Qpiaacread   I would now like to talk about your reading activities in everyday life. This includes any reading you might do on computer screens or other electronic displays and any reading that you do if you are studying, [TEXTFILL IF Qmainactiv = 1-4: but please don't include any work-related reading].

In everyday life, [TEXTFILL IF Qmainactiv = 1-4: outside work,] how often do you usually ...

read directions or instructions?

read letters, memos or e-mails?

read articles in newspapers, magazines or newsletters?

read articles in professional journals or scholarly publications?

read books, fiction or non-fiction?

read manuals or reference materials?

read bills, invoices, bank statements or other financial statements?

read diagrams, maps, or schematics?

SHOW CARD U

Never	1
Less than once a month	2
Less than once a week but at least once a month	3
At least once a week but not every day	4
Every day	5
[Don't know	Y]
[Refused	Z]

ASK IF QMAINACTIV = 1 thru 4 **G3a.** Can you tell me what your usual pay [IF COMPLETED: was] [IF CURRENT: is] AFTER any deductions for tax or national insurance? Please do not include bonuses, tips or overtime.

CODE TO BAND. ALLOW REF AND DK. NULL NOT ALLOWED

PROBE FOR ESTIMATE IF NECESSARY.

INTERVIEWER NOTE: IF INCOME VARIES/ VARIED, REITERATE "USUAL".

SINGLE CODE ONLY

SHOW CARD W

	Per Week	**Per Month**	**Per Year**
A	Up to £86	Up to £374	Up to £4,499
B	£87 - £125	£375 - £541	£4,500 - £6,499
C	£126 - £144	£542 - £624	£6,500 - £7,499
D	£145 - £182	£625 - £791	£7,500 - £9,499
E	£183 - £221	£792 - £958	£9,500 - £11,499
F	£222 - £259	£959 - £1,124	£11,500 - £13,499
G	£260 - £298	£1,125 - £1,291	£13,500 - £15,499

H	£299 - £336	£1,292 - £1,458	£15,500 - £17,499
I	£337 - £480	£1,459 - £2,083	£17,500 - £24,999
J	£481 or more	£2,084 or more	£25,000 or more

3. Don't know
4. Prefer not to say

ASK ALL

QNEWincomepers I would now like to ask you a question about your total <u>personal</u> income. That is from all of those sources of income you receive, including from work and benefits…

Please look at this card and estimate the amount that you have coming in before tax.

SHOW CARD X

	WEEKLY	MONTHLY	ANNUAL
1	Up to £9	Up to £42	Up to £519
2	£10 up to £19	£43 up to £85	£520 up to £1,039
3	£20 up to £29	£86 up to £129	£1,040 up to £1,559
4	£30 up to £39	£130 up to £172	£1,560 up to £2,079
5	£40 up to £49	£173 up to £216	£2,080 up to £2,599
6	£50 up to £59	£217 up to £259	£2,600 up to £3,119
7	£60 up to £69	£260 up to £302	£3,120 up to £3,639
8	£70 up to £79	£303 up to £346	£3,640 up to £4,159

9	£80 up to £89	£347 up to £389	£4,160 up to £4,679
10	£90 up to £99	£390 up to £432	£4,680 up to £5,199
11	£100 up to £119	£433 up to £519	£5,200 up to £6,239
12	£120 up to £139	£520 up to £606	£6,240 up to £7,279
13	£140 up to £159	£607 up to £692	£7,280 up to £8,319
14	£160 up to £179	£693 up to £779	£8,320 up to £9,359
15	£180 up to £199	£780 up to £866	£9,360 up to £10,399
16	£200 up to £219	£867 up to £952	£10,400 up to £11,439
17	£220 up to £239	£953 up to £1,039	£11,440 up to £12,479
18	£240 up to £259	£1,040 up to £1,126	£12,480 up to £13,519
19	£260 up to £279	£1,127 up to £1,212	£13,520 up to £14,559
20	£280 up to £299	£1,213 up to £1,299	£14,560 up to £15,599
21	£300 up to £319	£1,300 up to £1,386	£15,600 up to £16,639
22	£320 up to £339	£1,387 up to £1,472	£16,640 up to £17,679
23	£340 up to £359	£1,473 up to £1,559	£17,680 up to £18,719
24	£360 up to £379	£1,560 up to £1,646	£18,720 up to £19,759

25	£380 up to £399	£1,647 up to £1,732	£19,760 up to £20,799
26	£400 up to £449	£1,733 up to £1,949	£20,800 up to £23,399
27	£450 up to £499	£1,950 up to £2,166	£23,400 up to £25,999
28	£500 up to £549	£2,167 up to £2,382	£26,000 up to £28,599
29	£550 up to £599	£2,383 up to £2,599	£28,600 up to £31,199
30	£600 up to £649	£2,600 up to £2,816	£31,200 up to £33,799
31	£650 up to £699	£2,817 up to £3,032	£33,800 up to £36,399
32	£700 up to £749	£3,033 up to £3,249	£36,400 up to £38,999
33	£750 up to £799	£3,250 up to £3,466	£39,000 up to £41,599
34	£800 up to £849	£3,467 up to £3,685	£41,600 up to £44,199
35	£850 up to £899	£3,686 up to £3,899	£44,200 up to £46,799
36	£900 up to £949	£3,900 up to £4,116	£46,800 up to £49,399
37	£950 up to £999	£4,117 up to £4,332	£49,400 up to £51,999
38	£1000 or more	£4,333 or more	£52,000 or more

ENTER CODE NUMBER CORRESPONDING TO AMOUNT: __ __

Don't Know   Y

Refused   Z

ASK ALL

Qhealth   I would now like to ask you a few questions about your health. Firstly, how is your health in general? Would you say it is...

SHOW CARD Y

SINGLE CODE.

Very good   1

Good   2

Fair   3

Poor   4

Very poor   5

[Don't Know   Y]

[Refused   Z]

ASK ALL

Qilldisab   This question asks you about any health conditions, illnesses or impairments you may have.

Do you have any physical or mental health conditions or illnesses lasting or expected to last for 12 months or more?

Yes   1

No   2

Don't know   Y

Refused   Z

ASK IF QILLDISAB = 'YES'

(HAS LONG-STANDING ILLNESS)

Qilltype   The purpose of this question is to establish the type of impairment(s) you experience currently as a result of your health condition or illness. Do any of these conditions or illnesses affect you in any of the following areas?

INTERVIEWER: IF RESPONDENT HAS A CONDITION BUT IT DOESN'T ACTIVELY AFFECT THEM BECAUSE IT IS BEING SUCCESSFULLY TREATED, THEN DO NOT CODE IT (E.G. THEY MIGHT HAVE HEARING PROBLEMS BUT THEIR HEARING AID MEANS THEY AREN'T ACTIVELY AFFECTED)

SHOW CARD Z

CODE ALL THAT APPLY.

Vision (for example blindness or partial sight)	1
Hearing (for example deafness or partial hearing)	2
Mobility (for example walking short distances or climbing stairs)	3
Dexterity (for example lifting and carrying objects, using a keyboard)	4
Learning or understanding or concentrating	5
Memory	6
Mental health	7
Stamina or breathing or fatigue	8
Socially or behaviourally (for example associated with autism, attention deficit disorder or Asperger's syndrome)	9
Other (please specify) _____	10

[None of these   X]

[Don't know   Y]

[Refused   Z]

ASK IF QILLDISAB = 'YES'

(HAS LONG-STANDING ILLNESS)

Qillimpact   This question asks about whether your health condition or illness currently affects your ability to carry-out normal day-to-day activities, either a lot or a little or not at all.

[TEXTFILL: Does your condition or illness/do any of your conditions or illnesses] reduce your ability to carry-out day-to-day activities?

INTERVIEWER: AGAIN, IF RESPONDENT HAS A CONDITION BUT IT DOESN'T ACTIVELY AFFECT THEM BECAUSE IT IS BEING SUCCESSFULLY TREATED, THEN DO NOT CODE IT AS 'YES'.

PROMPT WITH CODES AS NECESSARY.

Yes, a lot   1

Yes, a little   2

Not at all   3

[Don't know   X]

[Refused   Y]

ASK IF QILLTYPE = 'Learning or understanding or concentrating'

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Qwhatdiff What specific kind of difficulty do you have with learning, understanding or concentrating?

CODE ALL THAT APPLY. DO NOT READ OUT.

Autism related	1
ADD / ADHD /Attention Deficit (Hyperactivity) Disorder	2
Cerebral palsy related	3
Down's syndrome related	4
Dyscalculia	5
Dyslexia	6
Dyspraxia	7
Epilepsy related	8
Other specify _____	9
[Don't Know	Y]
[Refused	Z]

ASK ALL

Qchild Do you have any children under the age of 16 currently living with you in your household? Please only include children for whom YOU are the parent or guardian.

Yes	1
No	2
Refused	Z

IF QCHILD = 'YES'

(HAVE CHILDREN IN HOUSEHOLD)

Qnumchild   How many children under the age of 16 currently live with you? Please only include children for whom YOU are the parent or guardian.

ENTER NUMBER: __ __

Refused   Z

SCRIPTER: ALLOW RANGE FROM 1 TO 15

IF QCHILD= 'YES'

(HAVE CHILDREN IN HOUSEHOLD)

Qageyoungest   How old is your youngest child who is currently living with you? Please only include children for whom YOU are the parent or guardian.

INTERVIEWER: IF CHILD IS UNDER 1 YEAR OLD, ENTER ZERO

ENTER NUMBER: __ __

Refused   Z

SCRIPTER: ALLOW RANGE FROM 0 TO 90

ASK ALL

Othchild   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

ASK IF QAGEYOUNGEST = 0-9

(HAS CHILDREN BETWEEN THE AGES OF 0 AND 9 LIVING IN THE HOUSEHOLD)

Qreadchild   I know that there may be different demands on your time from week to week, and that your children may have different needs. But, just thinking about last week, how often, if at all, did you read to or with any of your children, or get them to read to you?

SHOW CARD A2 CODE ONE ONLY.

Did not do any reading with my children last week	1
On 1 or 2 days	2
On 3 or 4 days	3
On 5 or 6 days	4
Every day	5
[Don't know	Y]
[Refused	Z]

ASK IF QAGEYOUNGEST = 5-15

(HAS CHILDREN BETWEEN THE AGES OF 5 AND 15 LIVING IN THE HOUSEHOLD)

Qhomework [TEXT FILL IF NOT ASKED Qreadchild: I know that there may be different demands on your time from week to week, and that your children may have different needs, but just] [TEXT FILL IF ASKED Qreadchild: And, just] thinking about last week, how often, if at all, did you help any of your children with their homework?

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INTERVIEWER: IF THE RESPONDENT MENTIONS THAT IT IS OR HAS JUST BEEN SCHOOL HOLIDAYS, PLEASE ASK HIM/HER TO THINK ABOUT THE MOST RECENT WEEK THAT WAS DURING THE SCHOOL TERM

SHOW CARD B2 CODE ONE ONLY.

Did not help my children with their homework last week	1
On 1 or 2 days	2
On 3 or 4 days	3
On 5 or 6 days	4
Every day	5
[Don't know	Y]
[Refused	Z]

ASK IF RCTPARTICIPANT = 'NO'

(RESPONDENT WAS NOT INVOLVED IN THE RCT TRIAL)

Qtintro   For this next section of the interview, I'm going to pass the computer over to you, so that you can look at the questions and enter the answers yourself. This section will involve answering some [TEXT FILL: [IF COURSETYPE = 2 or 4] English / [IF COURSETYPE = 1 or 3] Maths] questions, similar to things you might have done on courses that you have attended. I'm going to pass the laptop over to you in a moment. Before that, I'm just going to give you a pen and some paper which you can use to work things out on, if you want to. [TEXT FILL IF COURSETYPE VARIABLE = 'Maths' (1) or Maths/English (3): The first section of questions needs to be answered without using a calculator, but part way through you'll see a clear prompt which tells you to ask me for a calculator, which you will then be able to use from that point onwards]

NOTES FOR INTERVIEWER (DO NOT READ OUT)

ENSURE THAT YOU HAVE GIVEN RESPONDENT A PEN AND NOTEPAD. [TEXT FILL IF COURSETYPE VARIABLE = 'Maths' (1) or Maths/English (3): YOU WILL

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ALSO NEED TO GIVE THEM A CALCULATOR WHEN THEY ARE PROMPTED BY THE LAPTOP TO ASK FOR IT. PLEASE **DO NOT** GIVE THEM THE CALCULATOR BEFORE THAT POINT.]

THROUGHOUT THIS SECTION YOU MAY HELP THE RESPONDENT TO USE THE COMPUTER, BUT YOU **MUST NOT** HELP THEM TO ANSWER THE QUESTIONS

ENSURE RESPONDENT IS SITTING SOMEWHERE WHERE THE LAPTOP AND MOUSE CAN BE USED. IF NO TABLES ARE AVAILABLE, THEN YOU MAY FIND IT USEFUL TO OFFER A CLIPBOARD TO USE AS A FLAT SURFACE.

WHEN RESPONDENT IS SETTLED, CLICK TO MOVE ONTO THE NEXT SCREEN, WHERE YOU WILL NEED TO ENTER THE UNIQUE ID CODE THAT RELATES TO THIS RESPONDENT – THIS IS IN YOUR PACK.

WHEN YOU HAVE ENTERED THIS CODE, PLEASE PASS THE LAPTOP OVER TO THE RESPONDENT.

IF NECESSARY: CONFIRM THAT ALL ANSWERS ARE ABSOLUTELY CONFIDENTIAL AND/OR THAT THIS ISN'T AN EXAM THAT CAN BE PASSED OR FAILED, WE'RE JUST INTERESTED IN UNDERSTANDING THE KIND OF QUESTIONS THEY MIGHT FIND EASIER OR HARDER SINCE THEY STARTED THEIR COURSE.

Respondent has all the necessary materials and is ready to start (confirm before proceeding)   1

ASK IF RCTPARTICIPANT = 'NO'

(RESPONDENT WAS NOT INVOLVED IN THE RCT TRIAL)

ASSESSMENT SECTION LAUNCHES

ASK IF RCTPARTICIPANT = 'NO'

(RESPONDENT WAS NOT INVOLVED IN THE RCT TRIAL)

ASSESSMENT SECTION ENDS

ASK IF DOING TWO ASSESSMENTS (COURSETYPE = (3/4) BOTH ENGLISH AND MATHS)

Qinterval   Thank you! Please now pass the computer back to the interviewer.

INTERVIEWER CLICK TO CONTINUE   1

ASK IF DOING TWO ASSESSMENTS (COURSETYPE = (3/4) BOTH ENGLISH AND MATHS)

Qcompletechk2   INTERVIEWER: PLEASE PICK THE MOST RELEVANT OPTION BELOW

Respondent completed (or attempted to complete) the whole assessment section

Respondent started the assessment section but broke off partway through

Respondent did not answer any of the assessment section at all

There was a technical problem that caused the assessment section to crash

---

ASK IF DOING TWO ASSESSMENTS (COURSETYPE = BOTH ENGLISH AND MATHS (3/4)) AND Qcompletechk2 = 1 | 2 | 4

Qhelped2   INTERVIEWER: DID ANYBODY IN THE HOUSEHOLD HELP THE RESPONDENT TO ANSWER THE ASSESSMENT SECTION QUESTIONS (I.E. GAVE THEM THE ANSWERS)?

Yes – somebody gave them several answers   1

Yes – somebody gave them one or two answers   2

No   3

ASK IF DOING TWO ASSESSMENTS (COURSETYPE = (3/4) BOTH ENGLISH AND MATHS) AND IF DID NOT ATTEMPT 1ST ASSESSMENT (QCOMPLETECHK2 = 3)

QOthassess

Would you be willing to complete some questions about [TEXTFILL: (IF COURSETYPE = 3) English/(IF COURSETYPE = 4)maths]? You will receive a £10 gift card if you attempt the questions.

   1- Yes

   2- No

ASK IF DOING TWO ASSESSMENTS (COURSETYPE = (3/4) BOTH ENGLISH AND MATHS) AND IF COMPLETED 1st ASSESSMENT (CODE1 or 2 or 4 AT QCOMPLETECHK2)

QTwoassess

Thank you for answering those questions. Earlier in the interview we asked about both your English and your maths courses – we would really like you to complete some additional questions on [SCRIPTER: IF COURSETYPE = 3) English/(IF COURSETYPE = 4)maths]? This would take a similar amount of time as those you just did – and we'd give you an additional £20 on top of the £10 I already mentioned if you decide to complete the extra [IF COURSETYPE = 3) English/(IF COURSETYPE = 4)maths] questions.

[IF NECESSARY: You don't need to complete the questions now – I can come back at another time.]

1- Respondent willing to do assessment now

2- Respondent willing to do assessment but not now – [SCRIPTER: launch appointment screen and ensure that interview restarts at this question again when relaunched]

3- Respondent does not want to do assessment

ASK IF QTwoassess = 1

(RESPONDENT WAS NOT INVOLVED IN THE RCT TRIAL)

Qtintro2   For this next section of the interview, I'm going to pass the computer over to you, so that you can look at the questions and enter the answers yourself. This section will involve answering some [TEXT FILL: [IF COURSETYPE = 3 English / COURSETYPE = 4 Maths] questions, similar to things you might have done on courses that you have attended. I'm going to pass the laptop over to you in a moment. Before that, I'm just going to give you a pen and some paper which you can use to work things out on, if you want to. [TEXT FILL IF COURSETYPE VARIABLE = English/Maths (4): The first section of questions needs to be answered without using a calculator, but part way through you'll see a clear prompt which tells you to ask me for a calculator, which you will then be able to use from that point onwards]

NOTES FOR INTERVIEWER (DO NOT READ OUT)

ENSURE THAT YOU HAVE GIVEN RESPONDENT A PEN AND NOTEPAD. [TEXT FILL IF COURSETYPE VARIABLE = 4 'English/Maths': YOU WILL ALSO NEED TO GIVE THEM A CALCULATOR WHEN THEY ARE PROMPTED BY THE LAPTOP TO ASK FOR IT. PLEASE **DO NOT** GIVE THEM THE CALCULATOR BEFORE THAT POINT.]

THROUGHOUT THIS SECTION YOU MAY HELP THE RESPONDENT TO USE THE COMPUTER, BUT YOU **MUST NOT** HELP THEM TO ANSWER THE QUESTIONS

ENSURE RESPONDENT IS SITTING SOMEWHERE WHERE THE LAPTOP AND MOUSE CAN BE USED. IF NO TABLES ARE AVAILABLE, THEN YOU MAY FIND IT USEFUL TO OFFER A CLIPBOARD TO USE AS A FLAT SURFACE.

WHEN RESPONDENT IS SETTLED, CLICK TO MOVE ONTO THE NEXT SCREEN, WHERE YOU WILL NEED TO ENTER THE UNIQUE ID CODE THAT RELATES TO THIS RESPONDENT – THIS IS IN YOUR PACK.

WHEN YOU HAVE ENTERED THIS CODE, PLEASE PASS THE LAPTOP OVER TO THE RESPONDENT.

IF NECESSARY: CONFIRM THAT ALL ANSWERS ARE ABSOLUTELY CONFIDENTIAL AND/OR THAT THIS ISN'T AN EXAM THAT CAN BE PASSED OR FAILED, WE'RE JUST INTERESTED IN UNDERSTANDING THE KIND OF QUESTIONS THEY MIGHT FIND EASIER OR HARDER SINCE THEY STARTED THEIR COURSE.

Respondent has all the necessary materials and is ready to start (confirm before proceeding)   1

ASK IF DOING TWO ASSESSMENTS (COURSETYPE = (3/4) BOTH ENGLISH AND MATHS) AND QTwoassess = 1 OR QOthassess = 1

ASSESSMENT SECTION LAUNCHES

ASK IF DOING TWO ASSESSMENTS (COURSETYPE = (3/4) BOTH ENGLISH AND MATHS) AND QTwoassess = 1

ASSESSMENT SECTION CLOSES

ASK IF RCTPARTICIPANT = 'NO'

(RESPONDENT WAS NOT INVOLVED IN THE RCT TRIAL)

Qtoutro   That's the end of the section that you will complete yourself – thank you! Please now pass the computer back to the interviewer and they will just run through a couple more things with you.

INTERVIEWER CLICK TO CONTINUE   1

ASK IF RCTPARTICIPANT = 'NO'

(RESPONDENT WAS NOT INVOLVED IN THE RCT TRIAL)

Qcompletechk   INTERVIEWER: PLEASE PICK THE MOST RELEVANT OPTION BELOW

Respondent completed (or attempted to complete) the whole assessment section

Respondent started the assessment section but broke off partway through

Respondent did not answer any of the assessment section at all

There was a technical problem that caused the assessment section to crash

---

ASK IF QCOMPLETECHK = 1 | 2 | 4

Qhelped   INTERVIEWER: DID ANYBODY IN THE HOUSEHOLD HELP THE RESPONDENT TO ANSWER THE ASSESSMENT SECTION QUESTIONS (I.E. GAVE THEM THE ANSWERS)?

Yes – somebody gave them several answers   1

Yes – somebody gave them one or two answers   2

No   3

ASK ALL

Qrecont We might be doing some more interviews in about a year's time and we would really like to speak to you again at that time. Just like today, we will be offering £10 vouchers as a thank you to everybody that takes part. Can I just check - is it OK if we do try to get in touch with you again in about a year?

[ASK IF DOING TWO ASSESSMENTS (COURSETYPE = (3/4) BOTH ENGLISH AND MATHS] INTERVIEWER: IF RESPONDENT SEEMS WILLING TO BE RECONTACTED BUT QUESTIONS WHETHER THEY WOULD HAVE TO DO TWO SETS OF QUESTIONS AGAIN, REASSURE THEM THAT THEY CAN CHOOSE AGAIN NEXT YEAR WHETHER THEY DO TWO SETS OR ONE.

IF NECESSARY: The interview would be similar to this one.

IF NECESSARY: If you decided it wasn't convenient for you at that time, you could decide not to take part when we do get in touch with you.

IF NECESSARY: All your answers are treated confidentially and nobody will ever be able to identify you from the answers that you give

Yes – willing to be recontacted   1

No – do not want to be recontacted   2

IF QRECONT = 2 (No – do not want to be recontacted)

Qrecont2

We would really like to talk to as many people as possible in a year's time. If you do say yes today – this doesn't mean you have to take part – you could still decide not to take part when we do get in touch with you…

Yes – respondent changed mind – willing to be recontacted   1

No – do not want to be recontacted   2

___

ASK ALL

Qlinks   Finally, we would like to link your answers in this survey to a learner dataset that also includes some benefits and employment details. This would allow the Department for Business, Innovation and Skills to analyse the impact of training on, for example, employment and wages over the longer-term. Would you be willing for the Department and its appointed researchers to match your records to this merged learner dataset? After linking, your name will not be held with the information.

Yes   1

 No   2

___

ASK ALL

STANDARD CLOSING QUESTIONS TO VERIFY:

Name of respondent

Address of respondent

Telephone number

Alternative telephone number

___

IF Qrecont = 'YES' or Qrecont2 = YES

(AGREED TO BE RECONTACTED)

Qfuturad   Can I just check whether the address details you just gave are the best ones to use if we do try to get in touch with you in around a year?

Yes   1

No   2

Don't know   Y

Refused   Z

IF Qfuturad = 'NO'

Qrevadd   COLLECT UPDATED ADDRESS DETAILS.

                              INCLUDE CODE: Respondent uncertain what new address will be

---

IF Qrecont = 'YES' OR Qrecont2 = YES

Qfuttel   And were the telephone details you just mentioned the best ones for us to use if we try to get in touch with you again in the future?

Yes   1

No   2

Don't know   Y

Refused   Z

IF Qfuttel = 'NO'

Qrevtel   COLLECT UPDATED TELEPHONE DETAILS (ALLOW FOR 2 NUMBERS).

INCLUDE CODE: Respondent uncertain what telephone number would be

---

IF Qrevtel = 'RESPONDENT UNCERTAIN WHAT TELEPHONE NUMBER WOULD BE'

Qstablecontact   Is there somebody else who we might be able to call, who would be able to let us know your new contact details if they do change in the next year or so?

Yes   1

No   2

[Don't know   Y]

[Refused   Z]

IF Qstablecontact = 'YES'

Qstablename   Can I just check what that person's name is?

ENTER FULL NAME: _____

[Don't know   Y]

[Refused   Z]

IF Qstablecontact = 'YES'

Qstablerel   And what is that person's relationship to you?

Parent   1

Brother/sister   2

Partner   3

Friend   4

Colleague   5

Other (specify) _____   6

[Don't know   Y]

[Refused   Z]

IF Qstablecontact = 'YES'

Qstablephone   And what would be the best phone number to call them on?

ENTER TELEPHONE NUMBER INCLUDING DIALLING CODE:

_____

[Don't know   Y]

[Refused   Z]

ASK IF (Qcompletechk = 1 | 2 | 4 OR Qcompletechk2 = 1 | 2 | 4) AND NOT (Qcompletechk = 1 | 2 | 4 AND Qcompletechk2 = 1 | 2 | 4)   [i.e. respondent has completed only one of the assessments]

INTERVIEWER: ENTER VOUCHER CODE BELOW BEFORE HANDING GIFT CARD TO RESPONDENT

QINCENTIV1   Thank you very much for your time – This is the £10 GIFT CARD as a thank you for your time. It should be activated within 72 hours.

IF NECESSARY: EXPLAIN THAT YOU NEED TO ENTER THE VOUCHER CODE TO ACTIVATE THE GIFT CARD.

ASK IF Qcompletechk = 1 | 2 | 4 AND Qcompletechk2 = 1 | 2 | 4 [i.e. respondent completed both assessments]

INTERVIEWER: ENTER VOUCHER CODE BELOW BEFORE HANDING GIFT CARD TO RESPONDENT

QINCENTIV1A Thank you very much for your time – This is the £30 GIFT CARD as a thank you for your time. It should be activated within 72 hours.

IF NECESSARY: EXPLAIN THAT YOU NEED TO ENTER THE VOUCHER CODE TO ACTIVATE THE GIFT CARD.

ASK IF Qcompletechk = 1 | 2 | 4 or Qcompletechk2 = 1 | 2 | 4

QINCENTIV2   INTERVIEWER: YOU HAVE ENTERED VOUCHER CODE:

[INSERT CODE FROM QINCENTIV1]

CHECK BEFORE PROCEEDING TO THE DECLARATION SCREEN

ASK IF Qcompletechk = 1 | 2 | 4 or Qcompletechk2 = 1 | 2 | 4

QINCENTIV3   INTERVIEWER: RESPONDENT TO SIGN AFTER READING DECLARATION

"I am aged 18 or over and acknowledge receipt of a [TEXTFILL: IF RESPONDENT ROUTED THROUGH QINCENTIV1 = '£10'/IF RESPONDENT ROUTED THROUGH QINCENTIV1A = '£30'] gift card"

[Write in box for respondent's signature]

Standard closing screens

Confirm interview conducted in line with guidelines

Interviewer notes screen

Appendix 3: Fieldwork documents

This appendix contains the following documents:

1. Wave 1 – Provider recruitment: Advance letter to providers

2. Wave 1 – Provider recruitment: Datasheet to providers

3. Wave 1 - Interviewer contact sheet

4. Wave 1 – Provider pack: Advance letter to main contact in colleges

5. Wave 1 – Provider pack: Summary of pack contents

6. Wave 1 – Provider pack: Process flowchart

7. Wave 1 – Provider pack: Distribution log (for main contact)

8. Wave 1 – Provider pack: Advance letter to tutor

9. Wave 1 – Advance letter to main contact in learndirect

10. Wave 2 – Advance letter to learners (core sample)

11. Wave 2 – Recruitment letter to fresh sample

12. Wave 2 – Advance letter to learners (fresh sample only)

13. Wave 3 - Advance letter to learners

1. Wave 1 – Provider recruitment: Advance letter to provider contact

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promoting adult learning

TNS

TNS BMRB

Department for Business Innovation & Skills

FULL NAME
Street name
Town
County
Postcode

BIS
Vocational Education Directorate
Level 2, area N
2 St. Paul's Place
125 Norfolk Street
Sheffield
S1 2FJ

00 Month 2013

Ref: xxxxxx

Dear [Respondent name],

Investigation of Skills Gain and Decay amongst Adult Learners of English and Maths

I am writing on behalf of the Department for Business, Innovation and Skills to ask for your help with an important research project.

The Department has commissioned an independent research team led by TNS BMRB, who are working in partnership with NIACE, to conduct a study which will provide us, and the wider education sector, with a better understanding of the way in which skills acquired by adult learners of English and Maths may develop and then decay over time.

In the first phase of the research, conducted during September and October, representatives of TNS BMRB will be visiting educational establishments with a view to arranging the distribution of paper-based assessments to adult learners who are embarking on an English or Maths course. In later phases, interviewers from TNS BMRB will conduct follow-up interviews directly with any learners who have agreed to take part

in the later stages (shortly after the completion of their course, and then again, when further time has passed).

We would only need your support during the first phase of the research programme (i.e. the distribution of assessments to learners). All subsequent phases would be managed without any need for your further involvement.

All learners who take part in the research will be offered an incentive for participation, as a token of our thanks for their time. All of their responses will, of course, be treated in strict confidence - no answers allowing them to be identified will be passed from the research team to BIS or to anybody else.

A representative of TNS BMRB will call you shortly to determine whether you would be willing to take part in the research. During the call, they will also ask you for some basic details about the likely scale of your adult English and Maths provision in 2013/14. To help with this process we have included a data sheet, which outlines the specific information that we will be looking to collect. If you can fill in the data sheet before the initial call this will help a lot, but there is no need to return a copy to us.

If you do not want TNS BMRB to contact you at all about taking part in the research, please call them on 0800 051 0890 between 9.30 a.m. and 5.30 p.m. from Monday to Friday and you will not then be contacted by them again (calls are free from most landlines). If you would like more information about the research programme, you can call that same number to speak to one of the research team.

We strongly believe that this research programme will provide enormously valuable data on skills development and decay, allowing us to better understand which educational approaches yield the best results for learners in the long term. Reports analysing the research findings will be made available in the public domain, as will the survey data, allowing further valuable analysis to be carried out by the sector.

As such, I do hope that you will be willing to take part, in spite of the undoubted pressures of starting a new term.

Yours sincerely,

Vikki McAuley
BIS – Programme Manager

2. Wave 1 – Provider recruitment: Datasheet to providers

TNS BMRB

Department for Business Innovation & Skills

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TNS

Investigation of Skills Gain and Decay amongst Adult Learners of English and Maths

- It would be a great help if you could complete the form below prior to the call from our interviewers.
- All the figures requested below relate to **adult learners, by which we mean learners who will be 19 or older at the start of the course, or who will turn 19 during the course itself.**
- We are also focusing specifically on those courses which **start** in either September or October 2013.

Type of Adult Learner course	Estimated number of adult learners that will participate in courses of this type starting in September or October 2013	Estimated number of classes of this type that will be starting during September or October 2013
English courses - leading to a qualification at Entry Level 1 or Entry Level 2		
English courses - leading to a qualification at Entry Level 3		
English courses - leading to a qualification at Level 1		
English courses - leading to a qualification at Level 2		
Maths courses - leading to a qualification at Entry Level 1 or Entry Level 2		
Maths courses - leading to a qualification at Entry Level 3		
Maths courses - leading to a qualification at Level 1		
Maths courses - leading to a qualification at Level 2		

3. Wave 1 – Interviewer contact sheet

Adult English & Maths
2013/2014
PROVIDER SAMPLE

CONTACT SHEET /
SAMPLE RECORD

ADULT ENGLISH AND MATHS

Address

«Org_Name»«Add1»
«Add2»
«Add4»
«Add41»
«Pcode»

Target Name (title, first name, surname)	**«Name_to_contact_for_Field_Interview»**

Telephone number(s)	**«Tel1»** **«Tel2»** **«Tel3»**

Interviewer ID					x	

Interviewer Name	

Serial / TNS ID	**«TNS_ID»**

Name of contact spoken to by	**«Initial_telephone_contact_with_NAME»**

telephone recruitment	
Title of contact spoke to by telephone recruitment	**«Initial_telephone_contact_with_JOB_TITLE»**
Notes from telephone recruitment	**«Notes_from_telephone_interviewers»**

Type of provider	**«Type_of_Org»**

1. Introduction and reminder about survey

Suggested introduction

Use for initial telephone call(s)

We were recently in touch with your {college/organisation} about a research study we are carrying out on behalf of the Department of Business, Innovation and Skills.

Your {college/organisation} agreed to help with this research study which is designed to give a better understanding of the way in which adult learners of English and Maths develop skills during their courses, and how those skills continue to change after they have completed their courses. We were given your name as the person who will help with the implementation of the research.

The study is being conducted by TNS BMRB, an independent research company, in partnership with NIACE. [IF ASKED - The National Institute of Adult Continuing Education (NIACE) aims to encourage all adults to engage in learning of all kinds]

I'm now calling you to discuss the next phase of the project and to agree a couple of things:

1. A convenient time when I can visit to drop off the assessment packs for learners and discuss face to face how the research is being conducted.
2. The number of adult learners who will to take part in research.

<u>NOTES:</u>

- The assessments are designed to measure learners' skill levels at the point when they embark on their course.
- All learners who take part in the research will be offered a thank you for taking part (£5 voucher). This will be posted to them directly by TNS BMRB following receipt of their assessment booklet.
- All responses will, of course, be treated in strict confidence - no answers allowing them to be identified will be passed from the research team to BIS or to anybody else.

2. Confirm target numbers of learners with provider

We would like to distribute assessments to classes of adult learners who are starting courses in September and October 2013.

The courses we are generally interested in for this project cover a range of adult learners (i.e. those who are aged 19+ or who will turn 19 during their courses), taking English or Maths at a range of levels from Entry Level 1 up to Level 2.

Based on the information that was provided when we last called, we would like include [«TO_SAMPLE_STRAT_ROUNDED_ALL»] of your adult learners in the research. We are looking to recruit whole classes of adult learners so that all learners in selected classes take part (we can't use individual learners or parts of classes).

More specifically, we are looking to include approximately the following number of learners at each of the following levels. At each level, we would need to give the assessments to whole classes, so we appreciate that the exact numbers will vary a little from these guidelines. INTERVIEWER: Run through the target number of interviews that we are looking for per level and per subject (see table on next page).
The numbers are a guideline. Discuss with respondent what is possible for each level and record on next page. As a general rule, it is better to include an extra class at any given level, to take the total number of learners above the target number, rather than having a shortfall.

If there is a shortfall at any given level, then it would be good if this can be made up by getting more learners at one of the other levels.

3. Agree number of classes and learners

INTERVIEWER:

After discussion with provider – record number of classes and total number of learners they are able and willing to provide below.

A B C **123**

ENGLISH	Target number of adult learners for research	Number of learners respondent agrees can be involved in research	Number of classes that will be involved in research	MATHS	Target number of adult learners for research	Number of learners respondent agrees can be involved in research	Number of classes that will be involved in research
Entry Level 1	«TO_SAMPLE_STRAT_ROUNDED_1_»			Entry Level 1	«TO_SAMPLE_STRAT_ROUNDED_5»		
Entry Level 2				Entry Level 2			
Entry Level 3	«TO_SAMPLE_STRAT_ROUNDED_2»			Entry Level 3	«TO_SAMPLE_STRAT_ROUNDED_6»		
Level 1	«TO_SAMPLE_STRAT_ROUNDED_3»			Level 1	«TO_SAMPLE_STRAT_ROUNDED_7»		
Level 2	«TO_SAMPLE_STRAT_ROUNDED_4»			Level 2	«TO_SAMPLE_STRAT_ROUNDED_8»		

TOTAL (ENGLISH + MATHS)	Target number of <u>adult</u> learners for research	Number of <u>learners</u> respondent agrees can be involved in research	Number of <u>classes</u> that will be involved in research
Total Number	**«TO_SAMPLE_STRAT_ ROUNDED_ALL»**		

Entry Level Code – *(for random selection of Entry Level 1 & 2 if required)* | *«EL12 _RAN D»* |

When you have agreed figures with the provider:

- **Tell respondent that you will now confirm the number of learners with your head office and arrange for the necessary booklets to be sent to you.**
- **Arrange a time when you can visit the respondent, give them the booklets and brief them further on the task. NB – Please allow 1 week from the date of the call, to allow time for the booklets to be sent to you. However, it is *essential* that the date should be as soon as possible after this 1 week window.**

DATE/TIME ARRANGED FOR VISIT TO RESPONDENT:

- **Collect details of exactly where the respondent should be met (specific directions are likely to be needed if based in a college) and verify that this is the best number to call them on in future.**

DIRECTIONS / REVISED TEL. No.:

When you have finished your call with the respondent, you should call 0800 051 0890 to agree the final design with the research team before assessment packs are sent to you.

It is important that you do this straight away.

NOTES ON SELECTION:

- We are asking for **whole classes of learners**. For practical reasons we need to avoid handing out booklets to some learners in classes but not others.

- **We would like to assess learners very early on during their course**. So if it's possible to make up the numbers from classes that are starting in the next 1-2 weeks, this is the ideal situation. BUT – we will accept anyone starting during September and October.

- **Record the total number of classes and learners for each course type that the provider is willing and able to include.** As above, it must be made up of whole classes (e.g. if the target number is 20 learners and the provider has a class of 10 and a class of 15 then it is fine to target 25 in total).

- **Call the research team to confirm final numbers (and if there is a significant difference between requested numbers and what the provider willing and able to include, then please highlight this during the conversation). Please call us on 0800 051 0890.**
- **During this conversation, the research team will confirm the final target number of interviews and classes that you should aim for with your provider. Please record this in the grid below. In most cases this will be the same number as the provider has offered, but in some cases we may decide to ask for fewer learners.**

- **Once your numbers are confirmed - assessment packs will issued to you ready for your drop off visit (visit 1), on the date that you have agreed with the respondent.**

ENGLISH - FINAL TARGETS AGREED WITH RESEARCH	Number of learners to specify when visiting your contact	Number of classes to specify when visiting your contact	MATHS - FINAL TARGETS AGREED WITH RESEARCH	Number of learners to specify when visiting your contact	Number of classes to specify when visiting your contact
Entry Level 1			Entry Level 1		
Entry Level 2			Entry Level 2		
Entry Level 3			Entry Level 3		
Level 1			Level 1		
Level 2			Level 2		

INSTRUCTIONS FOR ENTRY LEVEL 1 & 2

- Your initial target gave an overall number of Entry Level 1 and 2 combined.

- In reality providers offer a combination of both Entry Level 1 and 2 classes.

- You should aim to make up your allocation for Entry Level 1 and 2 equally split between the 2 levels (e.g. if you have been asked for 100 at Entry Level 1 and 2 combined, then aim for roughly 50 from each).

- For providers that provide only one of the 2 levels – then make up your allocation completely from a single level.

- If you only need a single class and this can come from either level – use the random Entry Level code that is pre-printed below the grid on the previous page (if EL1 – then the class should be Entry Level 1 /if EL2 then the class should be Entry Level 2).

4. Wave 1 – Provider pack: Advance letter to main contact in colleges

Department for Business Innovation & Skills

niace promoting adult learning

TNS   **TNS BMRB**

TNS BMRB
6 More London Place
London
SE 1 2QY

www.tns-bmrb.co.uk

FULL NAME
Street Name
Town
Country/ Country
POSTCODE

Ref:xxxx   October 2013

Dear {Project Lead Name},

Investigation of Skills Gain and Decay amongst Adult Learners of English and Maths

Your {college/organisation} has kindly agreed to help the Department of Business, Innovation and Skills with a research study designed to provide a better understanding of the way in which adult learners of English and Maths acquire and develop skills. The study is being conducted by TNS BMRB, an independent research company, in partnership with NIACE.

We would like to thank you for the contribution your {college/organisation} has already made to the research by providing estimates on the number of learners you are expecting to start courses in adult English and Maths in September or October 2013.

In this next phase of the research, our representative is visiting your establishment to discuss arrangements for some of your recently enrolled adult learners to complete a paper-based assessment. The assessment has been designed to measure their skill levels at a point as close as possible to when they embark on their course. Our representative will discuss how best to arrange the distribution, administration, and collection of the assessment booklets.

All learners who take part in the research will be offered a thank you payment (as a token of our thanks for their time). This will be posted to them directly by TNS BMRB following receipt of their assessment booklet. All learners' responses will, of course, be treated in strict confidence - no answers allowing them to be identified will be passed from the research team to BIS or to anybody else.

We consider your support in this initial phase of the research programme to be vital, and we are grateful for your assistance in helping us to co-ordinate and deliver the assessments to learners. In later phases of the research, we will be conducting incentivised follow-up interviews with any learners who agree to be re-contacted, but this will not require your involvement.

We strongly believe that this research programme will provide enormously valuable data on skills development and decay, allowing us to better understand which educational approaches yield the best results for learners in the long term. Reports analysing the research findings will be made available publicly, as will the survey data, allowing further valuable analysis to be carried out by the sector.

As such, I do hope that you are still willing to take part, in spite of the undoubted pressures of starting a new term.

Yours sincerely,

Richard Brind
TNS BMRB Senior Associate Director

5. Wave 1 – Provider pack: Summary of pack contents

Pack Summary Details

Please check that the numbers below tie up with the figures you gave to the research team.

You should **NOT** open the packs and count their contents – you should leave them sealed until they are handed over to your contact (the project lead) at the provider.

Please do, however, check that you have at least one pack of booklets for each of the levels you were expecting to be included in your pack.

Item	Number supplied to cover the number of learners / classes that you specified	Number of spare copies	Total number
English Booklet - For Entry Level 1 Classes	[X]	[X]	[X]
English Booklet - For Entry Level 2 Classes	[X]	[X]	[X]
English Booklet - For Entry Level 3 Classes	[X]	[X]	[X]
English Booklet - For Level 1 Classes	[X]	[X]	[X]
English Booklet – For Level 2 Classes	[X]	[X]	[X]
Maths Booklet – For Entry Level 1 Classes	[X]	[X]	[X]
Maths Booklet – For Entry Level 2 Classes	[X]	[X]	[X]
Maths Booklet – For Entry Level 3 Classes	[X]	[X]	[X]
Maths Booklet – For Level 1 Classes	[X]	[X]	[X]
Maths Booklet – For Level 2 Classes	[X]	[X]	[X]
Tutor letter (1 per class)	[X]	[X]	[X]
Tutor questionnaire (1 per class)	[X]	[X]	[X]
Polythene envelopes (1 per class)	[X]	[X]	[X]

Project Lead Flowchart	1	1	2
Project Lead Letter (to be used if needed)	1	1	2
Project Lead Distribution Log	1	1	2

6. Wave 1 – Provider pack: Process flow chart

Process Flow Chart – For Project Lead

Meet TNS BMRB representative and take delivery of document pack (which may be substantial). This contains:

- Assessment booklets
- Tutor letters
- Tutor questionnaires
- Polythene envelopes

Confirm final number of learners in each selected class

For each selected class, place the following in one of the polythene envelopes, but please **do NOT seal the envelope**:

- 1 x tutor letter
- 1 x tutor questionnaire
- Sufficient assessment booklets to cover ALL the learners in that class, taking care to ensure that the correct type of booklet is used (booklet type is flagged clearly on the front page)
- Please ensure that the title on the booklets you select for each class reflects the level that the class is working towards
- Also include an extra 2 booklets as contingency, just in case the actual number of learners in a given class is higher than expected

Speak to the tutor of each selected class and run through the administration process with them (as per the process flow chart below, which is also included in the tutor letter). Please stress the importance of completing the assessments as close as possible to the start of the course. This step can be done with groups of tutors at the same time, if that is easier.

Give the relevant envelope packs (or packs) to the tutor of each selected class. If you are dealing with multiple classes, it may be helpful to keep a log of which classes have already received packs. If a tutor receives more than one pack, please clarify which pack is for which class.

Ensure that all tutors return their sealed, completed packs to you as promptly as possible and keep them in a safe place.

When all packs have been returned to you, please call the TNS BMRB representative and arrange a convenient time for collection, if this has not already been agreed.

Process Flow Chart – For Tutors (as per letter which tutors receive in their packs)

Receive booklets from project lead and check that:
- you have enough for each relevant class
- the booklets are the correct type for each class (check title on front page of booklet). The title on the booklet should reflect the level that the class is working towards

Distribute booklets to class in lesson time, as close as possible to start of course. Explain that participation in the research is voluntary but learners will receive a £5 High Street Voucher as a thank you.

Reassure learners that they may not be familiar with some of the topics covered and, as a result, we're not expecting them to get every question correct, or even to be able to attempt every question. Please encourage them not to spend a long time agonising over a question that they don't know how to do (see earlier discussion of suitable time limits).

If a learner has a visual or physical disability which means that they need a reader or scribe, then they should complete the booklet out of the earshot of other learners (as it is important that learners cannot copy the answers given by others).

Ensure that any classes taking a Maths assessment have calculators with them (also, see below).

Help students to complete the opening section, which asks for information about their course and themselves (particularly the course name and their name and their address, which will be needed to send them their incentives).

Ensure that learners complete the assessment part of the booklet themselves, without input from you or from other class members.

Ensure that any classes taking a Maths assessment only use calculators during the second part of the test, as per the instructions in the booklets – calculators should only be distributed to each respondent as they reach the instruction telling them to ask for a calculator.

⬇

Gather up the completed booklets and put them into the plastic envelope provided (but please don't seal it until the step below is completed).

⬇

Complete the sheet marked 'Questionnaire for Tutors' (confirming basic details about the process) and put it into the plastic envelope provided.

⬇

Seal plastic envelope and store securely until you return it to the project lead.

7. Wave 1 – Provider pack: Distribution Log (for main contact)

If you are distributing packs to a large number of classes, you may find it helpful to use this grid to help keep track of which classes each of the packs have been distributed to and whether you have received the packs back yet. Please also feel free to write a note of the tutor name / class details on the outside of the envelopes if that helps you with the process.

Tutor Name	Specific class that the pack is for	Date that pack was given to tutor	Pack returned?

8. Wave 1 – Provider pack: Advance letter to tutor

TNS BMRB
6 More London Place
London
SE 1 2QY

www.tns-bmrb.co.uk

Ref: xxxxx   October 2013

Investigation of Skills Gain and Decay amongst Adult Learners of English and Maths

Your organisation has kindly agreed to help the Department of Business, Innovation and Skills with a research study designed to provide a better understanding of the way in which adult learners of English and Maths acquire and develop skills. The study is being conducted by TNS BMRB, an independent research company, in partnership with NIACE.

The research involves measuring the skill level of adult learners who are starting a course involving English and/or Maths in September or October 2013, using a paper-based assessment. We would like all learners in your class to complete the paper-based assessments that are provided in the pack you have been given. **The assessments should be completed during class-room time and as close as possible to the start of their course**. Completion of the assessment at the earliest possible opportunity is a vital element of the research. This is because the research aims to measure skills development over time, identifying skill levels before learners have significantly benefited from the training they will receive on their course; at the end of their course; and again a year later.

We would like your assistance in arranging the delivery, administration, and collection of the assessment booklets at the start of the course. We would be grateful if you could help us by:

1. checking you have enough booklets and distributing the assessment booklets to all the learners in your class

2. overseeing the completion of the booklets during classroom time. There are 2 sections to the booklet:

    i) The first section collects background information about the course and the learners – on average this should take around 10-15 minutes to complete. If learners need help to complete any of the questions in this section, that is fine. Indeed, it would be helpful if you could ensure that all learners write in the same course name, as this is something that they are likely to be unsure about.

    ii) The second section is the assessment of skills itself. On average completion will take around 45-50 minutes, but we would recommend giving up to 90 minutes to allow those who work more slowly the time to complete the booklet. **It is vital that learners complete the assessment sections themselves, without help from you, and working alone rather than in groups, as we need to get a clear understanding of their personal skills.**

3. collecting the completed booklets and returning them, along with any unused booklets, to the project lead in your organisation (the person who spoke to you about the assessment process). We have provided a large envelope in which you should seal all booklets, along with the document below.

4. completing a very short (1 side) questionnaire, which specifies how many learners completed the assessment and confirms whether any refused to take part (we would not expect this to be the case) and that the assessments were completed in a classroom context (rather than at home).

Thinking specifically about the assessments, we have created a number of different versions, each tailored to be suitable for a learner starting a course at a given level. For example, for learners embarking on a course which aims to raise their skills to Entry Level 3, the relevant assessment would include a range of questions spanning from Entry Level 1 to Entry Level 3.

Learners may not be familiar with some of the topics covered – they may not have encountered them in their learning to date or in everyday life. Please reassure candidates that, as a result, we're not expecting them to get every question correct, or even to be able to attempt every question. Please also encourage them to not spend a long time agonising over a question that they don't know how to do. The assessment will make a fair judgement of their skills based on the questions they attempt.

The type of assessment is clearly shown on the front cover and, of course, should have some relevance to the course you are teaching – if not, then please contact the project lead in your organisation, as they may have given you the wrong type of

booklets. The relevant booklet's title should reference the level which learners would be expected to achieve at the end of their course.

For Maths assessments, the use of calculators is allowed during the second half of the assessment, but not for the opening batch of questions. As such, your help in assuring that calculators are distributed as learners reach the relevant section would be much appreciated. The point at which calculators may be used is clearly shown in the booklets.

All learners who take part in the research will be offered a thank you payment (as a token of our thanks for their time). This will be posted to them directly by TNS BMRB, following receipt of their assessment booklet. All of their responses will, of course, be treated in strict confidence - no answers allowing them to be identified will be passed from the research team to BIS or to anybody else. **To ensure that we can send this thank you payment it is essential that we have a valid name and address for each learner. The first section of the booklet asks for this information and contact details should be written in block capitals to ensure they are legible – as mentioned above, you may help learners fill in this section of the booklet.**

Your support in this early phase of the research is vital and we hope you are willing to offer your time and assistance, despite the undoubted pressures of starting a new term. TNS BMRB will later conduct incentivised follow-up interviews with any learners who agree to be re-contacted, but this will not require your involvement.
We strongly believe that this research programme will provide enormously valuable data on skills development and decay, allowing us to better understand which educational approaches yield the best results for learners in the long term. Reports analysing the research findings will be made available publicly, as will the survey data, allowing further valuable analysis to be carried out by the sector.

With many thanks, in advance, for your help.

Yours sincerely,

Richard Brind
TNS BMRB Senior Associate Director

9. Wave 1 – Advance letter to main contact in learndirect

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TNS BMRB

Department
for Business
Innovation & Skills

TNS BMRB
6 More London Place
London
SE 1 2QY
www.tns-bmrb.co.uk

May 2014

Research with adult Learners of English and Maths

Your **learndirect** centre is helping us with a research project with adult learners of English and Maths. We hope you will take part too.

We are doing the research for the Department for Business, Innovation and Skills. They are responsible for adult learning and skills in England.

What is it for? The research project is looking at adult learners in English and Maths. We want to find out how their skills and outlook change over time. We do this by asking learners a few questions about themselves and getting them to answer some questions about either English or Maths.

Why me? We want to include all people at this learning centre who are starting a course in English or Maths at Entry Level 3, Level 1 or Level 2.

Do I have to do it? What's in it for me? Taking part is voluntary. It won't make any difference to your courses at the **learndirect** centre. But if you take part, we will send you a £5 gift voucher as a thank you for your time.

What happens after this? If you are happy to help us with more research, we will contact you again in a few months. You don't have to take part again if you don't want to. But if you do take part, we will give you another gift card as a thank you.

We hope you will take part – thank you for your help.

Yours sincerely,

Richard Brind

10. Wave 2 – Advance letter to learners (core sample only)

BIS
Vocational Education Directorate
Level 2, Area N
2 St. Paul's Place
125 Norfolk Street
Sheffield
S1 2FJ

FULL NAME

Street name
Town
County
Postcode

00 Month 2014
Ref: xxxxxx

Dear [Respondent name],

Research among Adult Learners of English and Maths

I am writing on behalf of the Department for Business, Innovation and Skills to ask for your help with an important research project. You took part in the first stage of this project when you completed an assessment booklet as part of your course at [INSERT NAME OF COLLEGE]. We believe you were studying [INSERT COURSE NAME] when you did this. At that time, you said you were happy for us to contact you about the next stage of the research.

An interviewer will be in touch with you in the next few weeks to talk to you about the next stage of the research. If you take part and complete the assessment you are given, you will receive **a £10 High Street gift card as a token of our appreciation for your time**.

If you have any questions about the research, you can call TNS BMRB to talk to a member of the project team on 0800 051 0890 between 9.30 a.m. and 5.30 p.m. from Monday to Friday. If you do take part, all of your responses will, of course, be treated in strict confidence.

I do hope that you are able to take part and thank you in advance for your time.
Yours sincerely,

Vikki McAuley BIS – Programme Manager

11. Wave 2 – Recruitment letter for fresh sample

Department for Business Innovation & Skills

TNS BMRB

FULL NAME
Street name
Town
County/ Country
Postcode

00 Month 2014
Ref: xxxxxxxx

BIS
Vocational Education Directorate
Level 2, area N
2 St. Paul's Place
125 Norfolk Street
Sheffield
S1 2FJ

Dear [Respondent name],

Helping us to understand Adult Learning of English and Maths

I am writing from the Department for Business, Innovation and Skills to ask for your help with an important research project.

The Department is working with an independent research team, led by TNS BMRB, to help us understand how people improve their English and Maths skills. This research will be very helpful to the colleges that help adults with their English and Maths, as well as to The Department itself. We are writing to you because you recently finished a course at [INSERT NAME OF COLLEGE].

Everyone who takes part in the research will be offered a **£10** High Street gift card as a thank you for their time.

If you do decide to take part, all of your responses will, of course, be confidential.

Somebody from TNS BMRB Kantar Public will call you soon to explain more about the research, and ask whether you would be willing to help us with it. However, if you have any questions before then, you can call the research team at TNS BMRB on 0800 051 0890 between 9.30 a.m. and 5.30 p.m. from Monday to Friday.

I do hope that you will be willing to take part and thank you in advance for your time.

Yours sincerely,

Vikki McAuley
BIS – Programme Manager

12. Wave 2 – Advance letter to learners (fresh sample only)

FULL NAME
Street name
Town
County/ Country
Postcode

BIS
Vocational Education Directorate
Level 2, area N
2 St. Paul's Place
125 Norfolk Street
Sheffield
S1 2FJ

00 Month 2014

Ref: xxxxxxxx

Dear [Respondent name],

Research among Adult Learners of English and Maths

I am writing on behalf of the Department for Business, Innovation and Skills to ask for your help with an important research project related to the English or Maths course you have been taking this year. I understand that you recently spoke to an interviewer at TNS BMRB and kindly agreed to be contacted about the next stage of the research.

An interviewer will visit you in the next few weeks to talk to you about the next stage of the research and to arrange a time which is convenient for you to take part. If you do take part and complete an assessment, you will receive **a £10 High Street gift card as a thank you for your time**. Your views are greatly valued and by taking part you will be helping to make adult courses better in the future.

If you have any questions about the research, you can call TNS BMRB to talk to a member of the project team on 0800 051 0890 between 9.30 a.m. and 5.30 p.m. from Monday to Friday. If you do take part, all of your responses will, of course, be treated in strict confidence.

I do hope that you are able to take part and thank you in advance for your time.
Yours sincerely,

Vikki McAuley
BIS – Programme Manager

13.   Wave 3 – Advance letter to learners

BIS
Vocational Education Directorate
Level 2, Area N
2 St. Paul's Place
125 Norfolk Street
Sheffield
S1 2FJ

{Title} {First name} {Surname}
{Address Line 1}
{Address Line 2}
{Address Line 3}
{Address Line 4}
{Postcode}

{Dispatch Date}

Ref: 125246 / {RESP SERIAL NUMBER}
Dear {Title} {Surname},

Research among Adult Learners of English and Maths

I am writing on behalf of the Department for Business, Innovation and Skills to ask for your help with an important research project. A year ago, you kindly agreed to talk to us about your experiences of the course you took at [INSERT NAME OF COLLEGE]. We believe you were studying [INSERT COURSE NAME]. At that time, you said you were happy for us to contact you about the next stage of the research.

An interviewer will be in touch with you in the next few weeks to talk to you about the next stage of the research. If you take part and complete the assessment you are given, you will receive **a £10 High Street gift card as a token of our appreciation for your time**.

If you have any questions about the research, you can call TNS BMRB to talk to a member of the project team on 0800 051 0890 between 9.30 a.m. and 5.30 p.m. from Monday to Friday. If you do take part, all of your responses will, of course, be treated in strict confidence.

I do hope that you are able to take part and thank you in advance for your time.
Yours sincerely,

Vikki McAuley
BIS – Programme Manager

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This research was commissioned under the 2010 to 2015 Conservative and Liberal Democrat coalition government. As a result the content may not reflect current Government policy. The views expressed in this report are the authors' and do not necessarily reflect those of the Department for Education.

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