

Trainer pack

Approaches to the formative and summative assessment of problem solving for functional skills

Module 10

Course information	Length of session: 3-5 hours, depending on activities required by participants. Trainers can customise, shorten and lengthen the session to suit the audiences and settings. The session as it stands is intended to be 4 hours long.
Audience	Job roles: Practitioners who are teaching or supporting functional skills on embedded and discrete programmes. Sector/setting: FE, work-based learning and adult and community learning

Notes to trainer

Terminology

This CPD focuses on functional skills, however participants are likely to come with a range of experience including key skills and literacy, language and numeracy. Several terms are in current use for describing adult literacy, language and numeracy. These include basic skills (a term still used in some settings); adult literacy, language and numeracy – variously abbreviated to LLN, ALN, ALAN; and Skills for Life. The term ‘English, maths and ESOL’ will replace these terms, but expect participants to use terms with which they are familiar.

Trainer pack

All handouts and resources are included at the end of this document, for ease of printing. A separate participant pack is also available.

Aim

To explore a range of approaches to assessment for learning that help identify learners’ progress in relation to solving complex problems independently

Outcomes

By the end of the session participants should be able to:

- Identify a range of approaches for assessing problem solving for both 1:1, online / remote and group working;
- Formatively assess learners’ abilities to problem-solve independently using maths, English and ICT;
- Identify approaches that help learners understand how well they can solve everyday and work-related problems using maths, English and ICT; and
- Understand the requirements of functional skills summative assessments in order to make judgements about learners’ test readiness.

Module overview

No.	Activity	Content
1	Warmer	'Shoe shop' ice-breaker activity to introduce / remind participants about the concept of being functional (in maths, English and ICT).
2	Aims and outcomes	Introductions. Group discussion to identify what participants hope to gain from the session and share session aim and planned outcomes. Set up reflection log.
3	Assessing learners' abilities to solve problems independently using maths, English and ICT - 'functionality'	Small group activity looking at the type of complex problems learners have to solve for functional skills end tests and different 'assessment for learning' approaches that can be used.
4	Assessing functionality: problem solving flashcards	Role play activity introducing problem solving flash cards and ways that they could be used to plan learning. Discussion about assessing process skills, coverage and range for functional skills qualifications.
5	Including assessment of problem solving / functionality in the curriculum	Jigsaw discussion about assessing problem solving / functionality in different types of delivery models (1:1 support, small group work, class teaching and online / remote learning).
6	Self-assessment cards for problem solving and being functional	Participants experience using functional skills self-assessment cards and discuss ways they could be used to plan and review learning.
7	Recording the development of problem solving process skills	Participants reflect on how learners' abilities to solve problems independently using maths, English and ICT could be recorded on ILPs / eILPs including the use of multi-modal methods (photos, sound recordings, posters, etc).
8	Understanding the requirements of the functional skills summative assessments	'DARTs' activity to ensure participants are familiar with functional skills assessments. Participants also undertake a marking activity to familiarise themselves with functional skills success criteria.
9	Developing a bank of assessment resources	Establish networking via online tool (Edmodo) to share assessment approaches and resources following the CPD session and provide peer review of each others' work.
10	Summary and review of the day	Identifying which aspects of the day will impact on own teaching practice.

Trainers

Trainer experience or qualifications required	Trainers must have experience of English, maths and / or ICT teaching and learning and teacher education / staff development in a range of contexts; knowledge of the adult core curriculum and functional skills subject criteria; and a good level of personal maths, English and ICT skills.
Reference material for trainers	Trainer notes

Resources

Resources for reference during the session	<p>Trainer notes</p> <p>SfLIP leaflet: <i>Assessment for learning</i>, LSIS, 2008 Available from http://sflip.excellencegateway.org.uk/pdf/4.2sflguidance_5.pdf</p> <p>Functional skills subject criteria, Ofqual, 2011 Available from http://www.ofqual.gov.uk/downloads/category/68-functional-skills-subject-criteria</p> <p>Being Functional – Assessment for Learning CPD:</p> <ul style="list-style-type: none"> • Functional skills self-assessment cards (Word doc) • Self-assessment record sheet (Excel) <p>Available from http://tlf.excellencegateway.org.uk/tlf/fs/fs-resources/cpd_act_1.php</p>
Resources	<ul style="list-style-type: none"> • Presenter PC / laptop connected to the internet • Additional PCs / laptops (1 per 2-3 participants - if possible, connected to the internet) • If possible, mini wipe boards / pens/ cloths (1 per 3 participants) • Sticky notes • Flip chart (+ pens)
Pre-course activity for participants	Register with Edmodo as a teacher not a learner . Go to www.edmodo.com to do so.
Useful websites	<p><i>Functional skills starter kit</i>, LSIS, 2012 http://www.excellencegateway.org.uk/node/1150</p> <p>Functional Skills Support programme (archived) http://collections.europarchive.org/tna/20101108130848/http://www.fs-support.org/</p> <p>Being Functional Resource Library http://tlf.excellencegateway.org.uk/tlf/fs/fs-resources/library.php</p> <p>Preparing to manage and co-ordinate functional skills, LSIS, 2009</p>

	<p>www.excellencegateway.org.uk/pdf/fsfa_ptcmfa_web.pdf</p> <p>Assessment and Learning Guidance Booklets http://sflip.excellencegateway.org.uk/resources/assessmentguidance.aspx</p> <p>Assessment for Learning on the Excellence Gateway http://www.excellencegateway.org.uk/page.aspx?o=131258</p> <p>Being Functional – Assessment for Learning CPD, with resources http://tlp.excellencegateway.org.uk/tlp/fs/fs-resources/cpd_act_1.php</p> <p><i>Functional skills guide</i>, AELP, 2012 Available from: http://www.aelp.org.uk/news/general/details/moving-from-key-skills-to-functional-skills-a-step/</p>
<p>Before the session the trainer needs to:</p>	<p>For TN 8. Select and download summative assessments, from one or more awarding organisations. Trainers will need one for every 2 participants in different subjects (maths, English and, if required, ICT) and at different levels (Entry 1 – Level 2, again depending on the participants coming to the training session. For example, work-based learning assessors, teachers and trainers may not need to focus on Entry 1 / 2 as they are unlikely to teach at these levels). Links to sample assessments via the awarding organisations' websites can be found here: http://www.functionalskills4u.com/mod/page/view.php?id=56</p> <p>Familiarise themselves with the Edmodo for the resource-sharing activity (see www.edmodo.com for an introductory video).</p> <p>Prepare participant packs. Note that the participant pack has copies of all handouts and PowerPoint notes. It does not have copies of the resources.</p> <p>Prepare resources: R 1a: Example assessment flashcard (maths focus) R 1b: Example assessment flashcard (English focus) R 2: Observer questions R 3a: Level 1 maths functional skills criteria R 3b: Level 1 English functional skills criteria R 4: Equivalences matching cards R 5: Assessment jigsaw discussion – instructions R 6: Problem for discussion</p>

Session plan

Aim

To explore a range of approaches to assessment for learning that help identify learners' progress in relation to solving complex problems independently.

Outcomes

By the end of the session participants should be able to:

- Identify a range of approaches for assessing problem solving for both 1:1, online / remote and group working;
- Formatively assess learners' abilities to problem-solve independently using maths, English and ICT;
- Identify approaches that help learners understand how well they can solve everyday and work-related problems using maths, English and ICT; and
- Understand the requirements of functional skills summative assessments in order to make judgements about learners' test readiness.

Suggested timings are for guidance purposes only (trainers need to build in breaks and, if necessary, lunch). Trainers should adapt content to meet the needs and experience levels of the participants.

TN – trainer notes HO – handout R – resources PPT – PowerPoint

Time	Content	Resources		
		No.	Style	Title
10m <i>(Total 10m)</i>	TN 1. Warmer: Shoe shop Following registration (5m), participants line up according to whether they are wearing black shoes or not (in two lines facing each other). Trainer states that (s)he is opening a shoe shop and asks questions relating to the group 'data' shown. The questions draw out the ways in which maths, English and ICT are used to solve problems in this situation (e.g. how many black and different colour shoes to order and how to carry out more reliable research).	PPT 1	Slide	Title slide
10m	TN 2. Aims and outcomes Introductions.	PPT 2	Slide	Session aims

Time	Content	Resources		
		No.	Style	Title
(Total 20m)	<p>Share session aim (PPT 2). Say that we need to assess if learners are becoming more functional in maths, English and ICT. Elicit what this means.</p> <p>Ask what people hope to learn from this session and share session objectives (PPT 3). Signpost to other CPD / info if participants want topics that will not be covered.</p>	PPT 3	Slide	Session objectives
		HO 1	Handout	Aims and outcomes
		HO 2	Handout	Reflection log
25m	<p>TN 3. Assessing learners' abilities to solve problems independently using maths, English and ICT</p> <p>Say that there are processes we undertake to solve problems. Ask people to say what some of these could be, e.g. recognise and understand the problem, plan my approach, etc.</p>	PPT 4	Slide	A problem solving process
(Total 45m)	<p>Share 'problem solving process' (PPT 4)</p> <p>Show PPT 5 – formative assessment (<i>assessment for learning</i>) approaches. How we can assess whether learners can solve (complex) problems?</p> <p>In threes, participants discuss ways to assess if learners can solve a complex problem ('the flat pack'), using process skills. Take feedback from groups on assessment approaches and develop a mind map. Distribute HO 3.</p>	PPT 5	Slide	Assessment for learning
		PPT 6	Slide	The flat pack
		HO 3	Handout	Assessment for learning approaches
30m	<p>TN 4. Assessing functionality role play using problem solving flashcards</p> <p>Distribute an assessment flashcard (R1a or b) to groups of three or four and set up 3 roles: learner, assessor + observer(s) – see PPT 7 for instructions.</p>	PPT 7	Slide	Activity Instructions
(Total 1h 15m)	<p>Distribute question slips to observers (R 2). Tell 'observers they will need to lead a discussion based on their questions when the role-play is finished.</p>	R 1a / R 1b	Resource cards	Assessment flashcards
		R 2	Question slips	Observer questions
		R 3a / R 3b	Resource sheet	Level 1 maths and English functional

Time	Content	Resources		
		No.	Style	Title
	After role-play, distribute Level 1 maths and Level 1 English functional skills criteria to groups (depending on if they discussed the maths or the English-focused problem) and ask what underpinning maths and English are covered.			skills criteria
35m <i>(Total 1h 50m)</i>	<p>TN 5. Including assessment of problem solving / functionality in the curriculum</p> <p>Jigsaw discussion – full instructions for this task can be seen in TN 5 and in R 5 (instructions for participants).</p> <p>Divide participants into fours by distributing equivalence or conjunction matching cards (R 4). Allocate each group member a ‘specialist’ teaching context (1:1 support, small group work, class teaching and online / remote learning).</p> <p>Now reorganise into specialist groups. Each group need to brainstorm how they could assess development of functionality in their context (e.g. if I were working with learners remotely, I might post a problem to solve on the VLE and set an assessment task).</p> <p>Finally, ask original base groups to reform and share ideas from their ‘specialist group’ discussions.</p> <p>In full group plenary, elicit more of a mind shift rather than a radical change in approach for assessing functional skills development in different situations (see trainer notes).</p>	R 5 R 4	Laminated cards Resource (cards)	Activity instructions Equivalences matching cards
20m <i>(Total 2h 10m)</i>	<p>TN 6. Using the problem solving self-assessment cards</p> <p>Show an example of a problem which requires the use of English to solve (the recycling plant). In pairs, participants write mind maps / bullet points / flowcharts on mini-wipe-boards or flip chart pages to show the steps required to solve this problem.</p>	PPT 8 / R 6 Mini wipe-boards	PPT / Discussion card	‘Recycling plant’

Time	Content	Resources		
		No.	Style	Title
	<p>Ask if any planning is required, e.g. to write an email to a local councillor. Highlight that learners may not be aware about how to plan writing (using mind maps, or visual organisers. NB: planning is part of the problem solving process when writing.</p> <p>Distribute self-assessment questions (SAQs) for problem solving. In twos, undertake self-assessment task (split card set in half and, in turns, assign each card to 'I can do this...sometimes, always, never' headings). Then, in fours discuss how these cards could be used with learners in different contexts and, as a full group, share some of the ideas.</p>	R 7	Resource cards	Problem solving SAQ cards
15m	<p>TN 7. Recording the development of problem solving skills</p> <p>Show the recording sheets that accompany the SAQs (HO 3). Ask groups of four to think about how learners' abilities to solve problems independently using maths, English and ICT could be recorded including the use of multi-modal methods (photos, sound recordings, posters, etc).</p> <p>Even though there are no formal evidence requirements (like the key skills portfolios) for functional skills, draw out the importance of recording progress to aid learner / teacher reflection and, hence, learning. Link to target setting CPD (Module 10) and recording proforma shown there.</p>	HO 4	Handout	Being functional SAQs recording sheets
30m	<p>TN 8. Understanding the requirements of the functional skills summative assessments</p> <p>Pairs do a functional skills summative assessment labelling activity, highlighting key features such as the fact that learners can use calculators / dictionaries (and need to know <i>how</i>), the time allowed, the marks awarded and spaces given for planning / working out, etc.</p>	Functional skills summative assessments	Carousel activity	Sample assessment papers and marking guides

Time	Content	Resources		
		No.	Style	Title
	Pairs look at and discuss marking guidelines for their reviewed script. After 10m, put into fours to discuss what they have learned. Take full group feedback on key points this activity has raised.			
25m <i>(Total 3h 20m)</i>	<p>TN 9. Developing a bank of assessment resources</p> <p>Introduce group Edmodo page (via PPT 9). Explain that we will be able to share resources / approaches via Edmodo (or similar system) for assessing problem solving / functionality. If possible (time permitting), in groups of three, design assessment tasks on laptops / PCs and upload to ensure that everyone is comfortable using this site.</p> <p>Share timeline for submitting a task if people want trainer / peer feedback (trainer will collate key ideas and share them back with all people who have undertaken this CPD course via the Edmodo message board / an Excellence Gateway forum.</p>	PPT 9 Laptops / PCs (1 for 3 people)	Slide	Link to Edmodo page
10m <i>(Total 3h 30m)</i>	<p>TN 10. Feedback and finish</p> <p>Complete reflection sheets and ask people to share one thing they will do as a result of this session and one thing they will feedback to their colleagues</p> <p>Distribute evaluation forms, if used</p>	HO 2 n/a	Handout n/a	Reflection sheet Evaluation form

Trainer notes

These notes are to support trainers to facilitate the different activities in the module. **They are not meant to be prescriptive, and trainers can adapt the activities as needed to suit the participants.** Some activities can be omitted, and others extended, according to the group.

Suggestions for **alternatives**, or for **differentiation** strategies (according to the background and experiences of participants) are given in boxes in the notes for most activities.

PowerPoint slides, resources and handouts can be adapted or omitted as needed.

The instructions for the activities are given on the PowerPoint slides. Trainers can decide to show the instructions on PowerPoint or to print off these 'instructions' slides and lay copies on tables instead or in addition.

The total running time for the session as it stands is 3.5 hours. This allows for a four-hour training session (e.g. 9am – 1pm) with, for example, 2 x 15-minute breaks. However, these times can be changed.

TN 1

Trainer notes

Time	Content	Resources		
		No.	Style	Title
10m (Total 10m)	TN 1. Warmer: Shoe shop Following registration (5m), participants line up according to whether they are wearing black shoes or not (in two lines facing each other). Trainer states that (s)he is opening a shoe shop and asks questions relating to the group 'data' shown. The questions draw out the ways in which maths, English and ICT are used to solve problems in this situation (e.g. how many black and different colour shoes to order and how to carry out more reliable research).	PPT 1	Slide	Title slide

Purpose of the activity: to engage participants interactively with the different thinking needed for functional skills.

Once everyone has registered, ask participants to line up according to whether they are wearing black shoes or not (in two lines, facing each other). Stand between the two lines and say that you are opening a shoe shop '(e.g. 'Claire's Shoe Emporium' – insert your own name!) and ask the group questions such as:

- What does this data tell us about people's shoe colour preferences?
- How could we describe these findings (e.g. as percentages / fractions)?
- Is this a representative sample?
- What research could you do to decide what colour / type of shoes to stock?
- If you wanted to buy 120 pairs of shoes for your shop and 3 in every 5 people nationally wear black shoes, how many of this colour would you buy?

The questions draw out the ways in which maths, English and ICT are used to solve problems (e.g. how many black and different colour shoes to order and how to carry out reliable research). It is vital that participants recognise that technical aspects of functional skills (like calculating $\frac{3}{5}$ of 120 or using a search engine on the internet) are not all that should be considered. Being 'functional' in maths, English and ICT is about solving problems step-by-step, using 'process' as well as technical skills. Reinforce the complexity of real-world problems and the need for everyone to take a 'what if...' approach to assessment in every aspect of a learner's programme (i.e.

what if you were offered a 20% reduction for a bulk order of shoes – say 100 pairs, how much would you save from the original price of £8.50 per pair, etc).

Differentiation

If you have learners in the group who are not able to stand easily, you could adapt the activity by asking people to raise their hands if they are wearing black shoes / not black shoes instead of lining up (make a tally of the results on a flip chart so that you can discuss the 'data').

Alternative

This warmer has an emphasis on functional use of maths (a key priority for lifelong learning providers). However, it is possible to bring the focus back to English and ICT by asking different questions, for example:

- If we were doing market research, what type of writing would you need to do to develop a questionnaire?
- What speaking and listening skills would be used by someone if they were leading a focus group with members of the public about what shoes they like to buy and their use of the internet to find the local shoe retailers?
- What reading is involved in undertaking internet-based research and what specific ICT practices are involved (e.g. using key words in search engines and, perhaps, downloading documents from the internet)?

TN 2

Trainer Notes

Time	Content	Resources		
		No.	Style	Title
10m (Total 20m)	TN 2. Aims and outcomes Introductions. Share session aim (PPT 2). Say that we need to assess if learners are becoming more functional in maths, English and ICT. Elicit what this means. Ask what people hope to learn from this session and share session objectives (PPT 3). Signpost to other CPD / info if participants want topics that will not be covered.	PPT 2 PPT 3 HO 1 HO 2	Slide Slide Handout Handout	Session aims Session objectives Aims and outcomes Reflection log

Purpose of this activity: introductions; to begin to explore participants' expectations and experience; to set up the reflection log.

Introductions. Now is a good opportunity to introduce yourself and ask participants to introduce themselves. If appropriate (e.g. for a group coming from a number of organisations), ask them to give a brief overview of their interest and experience in functional skills.

Share session aim (**PPT 2**). Say that we need to assess if learners are becoming more functional in maths, English and ICT. Elicit what this means: assessing for functional skills is about finding out if learners can use and apply maths, English and ICT in real-life, authentic contexts.

Ask what people hope to learn from this session and note this as a mind map on the flip chart. Share session objectives (**PPT 3**) and discuss with participants if there are any topics they hoped for that may not be covered in this session. If possible, signpost participants to other CPD information where this is required. This opening dialogue also gives you the opportunity to begin to explore participants' experience and expertise in functional skills. You may need to check that everyone understands terms such as 'formative assessment' (TN 3 explores this in more detail), 'summative assessment' and 'problem solving'. This may help you to form appropriate groups for later activities.

Introduce the reflection sheet **HO 2**. Tell participants that at the end of each section of the training they will be given a few minutes to reflect on what they have just discussed and note any issues and actions they need to take when they return to their centre.

TN 3

Trainer notes

Time	Content	Resources		
		No.	Style	Title
25m	<p>TN 3. Assessing learners' abilities to solve problems independently using maths, English and ICT</p> <p>Say that there are processes we undertake to solve problems. Ask people to say what some of these could be, e.g. recognise and understand the problem, plan my approach, etc.</p>	PPT 4	Slide	A problem solving process
(Total 45m)	Share 'problem solving process' (PPT 4)	PPT 5	Slide	Assessment for learning
	Show PPT 5 – formative assessment (<i>assessment for learning</i>) approaches. How we can assess whether learners can solve (complex) problems?	PPT 6	Slide	The flat pack
	In threes, participants discuss ways to assess if learners can solve a complex problem ('the flat pack'), using process skills. Take feedback from groups on assessment approaches and develop a mind map. Distribute HO 3.	HO 3	Handout	Assessment for learning approaches

Purpose of this activity: to ensure there is a shared vocabulary and understanding and begin to explore what happens in a problem solving process.

Ask participants to share their understanding of what functional skills are and how assessment differs from key skills and adult literacy and numeracy. In this way, you can assess the degree of understanding in the group.

Confirm that there is a focus in functional skills on problem solving in new and familiar situations (which could be vocational contexts), and on making decisions, for example about what method or approach to use, or how to present and explain results. In the summative assessments, learners might be asked to choose a product to buy, or to plan a journey or arrange an event, and to use a range of information to help them assess their choices. More generally, these skills are about applying and interpreting maths, English and ICT in familiar contexts (work, studies, life) as well as unfamiliar contexts.

Explain that learners need to develop abilities to solve problems methodically. Elicit some of the activities required to solve a problem (e.g. plan an approach, check

results, etc). Share an example of a problem solving process (**PPT 4**) and discuss the importance of being able to assess how well learners can do these things (as well as the more technical aspects of functional skills that are currently assessed for adult literacy and numeracy and in key skills).

Show **PPT 5** (formative assessment). Emphasise the fact that formative assessment (often called 'assessment for learning') is a central aspect of every learning programme. Refer participants to the LSIS Skills for Life Improvement Programme leaflet: *Assessment for Learning* (accessible via http://sflip.excellencegateway.org.uk/pdf/4.2sflguidance_5.pdf). Ask for suggestions about how to assess if learners can solve a (complex) problem. Put ideas into a mind map. Ensure there is space to add further ideas after the next task. For unlimited space and to be able to keep and share the mind map after the session, you can use mind mapping software, such as Freemind.

Show **PPT 6** (the flat pack) and present participants with the problem: "I am going out in a hour and a half for a meeting – do I have time to make this?"

Draw out from the group what steps they will need to take to solve this problem. If necessary, refer back to **PPT 4** (problem solving process):

1. Identify and understand the problem / task. I need to estimate how long this flat pack will take to assemble and then deduct that from the time I have (1½ hrs).
2. Identify possible solutions. Is there an estimated time in the instructions? Should I jot down how long each step will take? How long is this taking me (i.e. planning)? Do I still have 1½ hrs remaining? Do I have all the tools I need? How long will it take me to find them?
3. Plan how to tackle the problem / task. I will need to read the instructions, gather my tools and then build the item.
4. Carry out the plan.
5. Monitor and reflect on progress. Is it made correctly?
6. Decide whether the problem has been solved. Did I really have time? Is the job finished successfully?
7. Review the problem solving process. Would I do this the same way next time?

Alternative

You can use the same slide but change emphasis from maths to English by asking a different question – not ‘Have I got time to make this?’ but instead, ‘How will I make this?’. The problem solving process will be the same but the emphasis will be on the reading aspect of solving it:

1. Identify and understand the problem / task. I need to make these drawers – how am I going to do this?
2. Identify possible solutions. Read the manual from cover to cover before I start? Look at the pieces and decide if I can manage and only use the manual if I get stuck (skimming and scanning for the information I need and detailed reading when I find it)? I might decide to use the contents page in the instruction manual to find the section I am not sure about, using text-level reading skills.
3. Plan how to tackle the problem / task. I will need to read the instructions, gather my tools and then build the item.
4. Carry out the plan.
5. Monitor and reflect on progress. Is it made correctly? Does it look the same as the picture on the front of the box!
6. Decide whether the problem has been solved. Is the job finished successfully? Should I have read the health and safety section? Should I have followed the instructions more carefully?
7. Review the problem solving process. Would I do this the same way next time?

It would also be possible to draw out ICT as a focus by saying that the pack did not come with any instructions – participants might then discuss use of the internet to find the instructions or the use of sites like YouTube to watch instructional videos, as well as internet discussion sites if they get stuck on anything.

Take feedback from buzz groups to add to the group mind map of formative assessment (assessment for learning) approaches. Discuss the need for learners to be able to try out a range of different approaches to solving problems and then evaluate their success.

Distribute **HO 3** (‘Assessment for Learning’). This is a resource showing a range of formative assessment approaches, which was produced by the Assessment Reform Group (2002). This group defined assessment for learning (formative assessment) as “... the process of seeking and interpreting evidence for use by learners and their teachers to decide where the learners are in their learning, where they need to go and how best to get there”. Refer participants to their reflection log **HO 2**.

TN 4

Trainer notes

Time	Content	Resources		
		No.	Style	Title
30m	TN 4. Assessing functionality role play using problem solving flashcards	PPT 7	Slide	Activity Instructions
(Total 1h 15m)	Distribute an assessment flashcard (R1a or b) to groups of three or four and set up 3 roles: learner, assessor + observer(s) – see PPT 7 for instructions.	R 1a / R 1b	Resource cards	Assessment flashcards
	Distribute question slips to observers (R 2). Tell 'observers they will need to lead a discussion based on their questions when the role-play is finished.	R 2	Question slips	Observer questions
	After role-play, distribute Level 1 maths and Level 1 English functional skills criteria to groups (depending on if they discussed the maths or the English-focused problem) and ask what underpinning maths and English are covered.	R 3a / R 3b	Resource sheet	Level 1 maths and English functional skills criteria

Purpose of this activity: to focus on the problem solving involved in typical tasks, using the functional skills subject criteria.

Split the participants into buzz groups of three (or four if necessary). Distribute an assessment flashcard (**R 1a** or **R 1b**) to each group and ask them to allocate themselves three roles:

- learner
- assessor / teacher
- observer(s).

Explain that the role of the assessor and the learner can be played either as imaginary people or as yourself (someone may wish, for example, to role play in the character of a learner they know and carry out the activity accordingly). Distribute question slips to observers (**R 2**). The role play instructions can be found on **PPT 7** as follows:

1. Assessor shows the learner the image on one side of the card and uses the prompt questions on the back to draw out from the learners how (s)he would solve the problem.

2. Observer(s) reflect on the questions provided and prepare to lead a discussion based on these questions after the role play.

As each group finishes, distribute the Level 1 Maths Functional Skills criteria (**R 3a**) to groups with the maths-focused 'painting a room' flashcard (**R 1a**).

Give the Level 1 English Functional Skills criteria (**R 3b**) to groups with the English-focused 'customer complaint' flashcard (**R 1b**).

Instruct groups to decide which underpinning maths / English could be assessed in practice through the use of the different flashcards.

If you have participants in your group who will be supporting learners to develop functional ICT, you should include the ICT criteria. Looking up guidance on the internet could be a feature of both problems, e.g. finding an area calculator for painting a room, finding guidance for customer complaints from a retail website or looking at bad practice in a YouTube video. You can distribute Level 1 overviews for ICT or, as with maths and English, you could choose to share a range of level overviews for this task. The Functional Skills subject criteria (2011 versions) can be accessed at <http://www.ofqual.gov.uk/downloads/category/68-functional-skills-subject-criteria>

Alternatives

You can use any problem for this activity and any media with which to show it. For example, a problem could be shown as a short film from YouTube or a piece of 'realia' (an actual damaged item, for example, that needs to be sent back to a manufacturer, where learners would need to plan and write a letter explaining the situation and asking for a refund). A problem requiring the use of ICT to find a solution would also be appropriate (e.g. researching how to make a garden pond). The possibilities are, of course, endless!

Maths and English Functional Skills Subject Criteria at Level 1 have been used as the examples for this activity but it is easily adapted to other levels (Entry Level 1 to Level 2). The 2011 Functional Skills subject criteria at different levels can be downloaded from Ofqual at <http://www.ofqual.gov.uk/downloads/category/68-functional-skills-subject-criteria>. If you do ask participants to consider other levels, you may wish to choose different problems (see notes on this above). You may also need to choose different problems if you want participants to consider the ICT Functional Skills Subject Criteria.

Differentiation

Although everyone will do this next task, not everyone needs to spend the same amount of time on it, which will be useful if some groups spend longer than others on the role play.

During full group feedback, focus on:

- The activity itself (verbally assessing problem solving / process / technical abilities) - what do people think about this? The idea here is that learners *talk about* solving a problem using maths, English and ICT without their ability to read / write their answers being a barrier. Note: of course, learners do have to read / write their answers in the end assessments so it is worth noting that their abilities to do so will also need to be formatively assessed.
- Other ways to assess problem solving abilities (add new ideas to mind map from previous activity).
- Other problems that could be used for assessment (perhaps, starting from a familiar vocational context – embedded learning and moving to wider contexts to assess transfer from the familiar to the unfamiliar). See ideas above for alternative problems as well as different ways of presenting them.

Refer participants to their reflection log **HO 2**.

TN 5

Trainer notes

Time	Content	Resources		
		No.	Style	Title
35m	<p>TN 5. Including assessment of problem solving / functionality in the curriculum</p> <p>Jigsaw discussion – full instructions for this task can be seen in TN 5 and in R 5 (instructions for participants).</p> <p>Divide participants into fours by distributing equivalence or conjunction matching cards (R 4). Allocate each group member a ‘specialist’ teaching context (1:1 support, small group work, class teaching and online / remote learning).</p> <p>Now reorganise into specialist groups. Each group need to brainstorm how they could assess development of functionality in their context (e.g. if I were working with learners remotely, I might post a problem to solve on the VLE and set an assessment task).</p> <p>Finally, ask original base groups to re-form and share ideas from their ‘specialist group’ discussions.</p>	R 5 R 4	Laminated cards Resource (cards)	Activity instructions Equivalences matching cards
(Total 1h 50m)	In full group plenary, elicit more of a mind shift rather than a radical change in approach for assessing functional skills development in different situations (see trainer notes).			

The purpose of this activity is for participants to consider how they might assess problem solving / process skills in different learning contexts (e.g. 1:1 support and small group). This is a ‘jigsaw’ discussion which involves learners starting with a ‘base group’, where they each have a different context to consider, then moving into ‘specialist groups’, where everyone is thinking about the same context. Finally, participants re-form into their base groups (with more confidence) to discuss assessment ideas. Not only does this promote collaborative / active learning but is also a very good speaking and listening development task.

The method of establishing the initial base groups, whilst seemingly quite complex, is aimed at modelling an active learning approach and is intended to give delegates a chance to move around the room, talking to one another to refresh their minds.

Activity instructions

Form 'base' groups by randomly distributing **R 4** equivalences cards (equivalent fraction symbols and words, percentages and decimals). Distribute activity instructions (laminated if possible) on the tables (**R 5**). Ask people to find their groups of four in the room by matching together their equivalences cards. If the group is not divisible by 4, set up 2-part/ 3-part matches.

When groups are formed, allocate contexts to different group members as follows:

- fraction word people look at **1:1 support**
- fraction symbol people look at **small group work**
- decimals people look at **full class teaching**
- percentages people look at **online / remote learning**

Note these contexts on the flip chart for people's reference. **Ideally, write the different contexts on the back of each equivalence matching card.**

Ask each person to jot down on a sticky note a couple of ideas about how they might assess 'functionality' in the context they have been given.

Now ask all the 'fraction words', all the 'fraction symbols', etc to sit together in 'specialist groups' and discuss their context and assessment approaches (allow about 8 minutes for this discussion).

Finally ask everyone to go back to their base groups, agree one good assessment approach for each teaching context and write these on separate sticky notes.

Set up a flip chart divided into four sections labelled with the context headings. Instruct groups to stick their ideas on the group flip chart under each heading.

In the full group plenary, elicit more of a mind shift rather than a radical change in approach for assessing functional skills development in different situations. For example:

- When observing learners undertaking workplace / everyday activities, assessors, trainers and teachers should not miss opportunities to reinforce learners' embedded use of maths / English/ ICT.

- Drawing out that, when dealing with a customer complaint, a learner made clear and concise notes to pass on to their manager or used clear explanations to resolve the situation when speaking to the customer.

Helping learners to become 'consciously aware' of the maths, English and ICT they use throughout their work and study is vital. If learners understand and can name the maths, English and ICT that naturally occur in their everyday/ working practices, they are more likely to see the relevance of functional skills development to their work and everyday lives. Everyone who works with learners including vocational tutors and, if relevant, assessors and workplace supervisors have a critical role to play in helping learners to develop their 'conscious awareness' of maths, English and ICT in use.

Refer participants to their reflection log **HO 2**.

TN 6

Trainer notes

Time	Content	Resources		
		No.	Style	Title
20m	<p>TN 6. Using the problem solving self-assessment cards</p> <p>Show an example of a problem which requires the use of English to solve (the recycling plant). In pairs, participants write mind maps / bullet points / flowcharts on mini-wipe-boards or flip chart pages to show the steps required to solve this problem.</p> <p>Ask if any planning is required, e.g. to write an email to a local councillor. Highlight that learners may not be aware about how to plan writing (using mind maps, or visual organisers. NB: planning is part of the problem solving process when writing.</p> <p>Distribute self-assessment questions (SAQs) for problem solving. In twos, undertake self-assessment task (split card set in half and, in turns, assign each card to 'I can do this...sometimes, always, never' headings). Then, in fours discuss how these cards could be used with learners in different contexts and, as a full group, share some of the ideas.</p>	PPT 8 / R 6 Mini wipe-boards	PPT / Discussion card	'Recycling plant'
(Total 2h 10m)		R 7	Resource cards	Problem solving SAQ cards

The purpose of this activity: to model a problem solving activity.

Self-assessing problem solving / process skills

Show an example of a problem on the screen (**PPT 8** and **R 6**) which requires the use of written English to solve (the recycling plant).

The participants need to identify the steps required to solve the problem. The problem is about how to decide whether to support or oppose my local council building a recycling plant close to my home. In pairs, participants write mind maps / bullet points / flowcharts on mini wipe-boards or flip chart pages to show the steps required to solve this problem and include any planning they might need to do, e.g. to identify the key points to include in an email / letter to the local council.

Highlight that learners may not know how to plan writing (which can be done using visual organisers like mind maps, flow charts, etc). Explain that learners may need to learn and practice planning approaches and that their ability to do so should be assessed as an essential element of their abilities to use English functionally. Note that learners need to show their planning or working out in the functional skills end tests.

Ask participants to share how well they think they were able to solve this problem. Say that learners need to be aware of their strengths and areas for development with regards to problem solving. Explain that the LSIS Teaching and Learning Programme developed sets of self-assessment cards to help learners develop such an awareness (e.g. problem solving, functional maths, functional ICT and functional English). The cards can be downloaded from:
<http://tlp.excellencegateway.org.uk/tlp/fs/fs-resources/assets/CPD/Functional%20skills%20self-assessment%20cards.pdf>

Learners are encouraged to use the cards to assess whether they can do particular activities always, sometimes, hardly ever.

Refer participants to their reflection log **HO 2**.

TN 7

Trainer notes

Time	Content	Resources		
		No.	Style	Title
15m (Total 2h 25m)	<p>TN 7. Recording the development of problem solving skills</p> <p>Show the recording sheets that accompany the SAQs (HO 3). Ask groups of four to think about how learners' abilities to solve problems independently using maths, English and ICT could be recorded including the use of multi-modal methods (photos, sound recordings, posters, etc).</p> <p>Even though there are no formal evidence requirements (like the key skills portfolios) for functional skills, draw out the importance of recording progress to aid learner / teacher reflection and, hence, learning. Link to target setting CPD (Module 10) and recording proforma shown there.</p>	HO 4	Handout	Being functional SAQs recording sheets

The purpose of this activity: to model how learner self-assessment can occur.

Say that we need to consider ways of recording learners' progress when we have carried out assessment tasks. As an example, show the group **HO 3** which is based on the recording sheets that accompany the *Being functional* Problem Solving self-assessment questionnaires. Note that self-assessment cards and a useful self-assessment spreadsheet can be downloaded from the '*Being functional pages* on the Excellence Gateway – see the files listed on the right-hand side of the 'Assessment for learning' menu page – the Word document entitled 'Functional skills self-assessment cards' and the spreadsheet entitled 'Self-assessment record sheet'. http://tlp.excellencegateway.org.uk/tlp/fs/fs-resources/cpd_act_1.php

It is worth noting here that there are no formal evidence requirements (like the key skills portfolios) for functional skills, with the exception of speaking and listening for some awarding organisations, where it is necessary to record evidence of learners 'mastering' / 'securing' speaking and listening prior to them being entered for summative assessments. However, draw out the importance of recording progress to aid learner / teacher reflection and, hence, support learning. Signpost participants to the target setting session (CPD Module 10) where there are ideas for developing recording proforma for target setting and monitoring.

Ask groups of 4 to think about how learners' abilities to solve problems independently using maths, English and ICT could be recorded, including the use of multi-modal methods (photos, sound recordings, posters, etc). Take feedback from these buzz groups and develop a full group mind map (electronic if possible, e.g. using Freemind so that it can be shared after the session). Draw out during the discussion the possible wider use of the self-assessment questionnaire recording sheets, e.g. as additional pages in a learner's ILP or review paperwork.

Refer participants to their reflection log **HO 2**.

TN 8

Trainer notes

Time	Content	Resources		
		No.	Style	Title
30m	<p>TN 8. Understanding the requirements of the functional skills summative assessments</p> <p>Pairs do a functional skills summative assessment labelling activity, highlighting key features such as the fact that learners can use calculators / dictionaries (and need to know <i>how</i>), the time allowed, the marks awarded and spaces given for planning / working out, etc.</p>	Functional skills summative assessments	Carousel activity	Sample assessment papers and marking guides
(Total 2h 55m)	<p>Pairs look at and discuss marking guidelines for their reviewed script. After 10m, put into fours to discuss what they have learned. Take full group feedback on key points this activity has raised.</p>			

The purpose of this activity is to help participants become more familiar with functional skills summative assessment papers through active reading. You will need to select and download example papers, which can be found on awarding organisations' websites. Links to sample assessments via the awarding organisations' websites can be found here:

<http://www.functionalskills4u.com/mod/page/view.php?id=56>

Note to trainer: some participants may not be fully aware of the recent changes to accreditation and that registration for key skills and the national literacy and numeracy tests ceases in September and August 2012. You may need to explore this a little.

Instruct participants to work in pairs to discuss and highlight / make notes on key features of sample summative assessment papers. In order to ensure that, at the end of this task, the full group can discuss, for example the differences between Functional Maths (one paper) and Functional English (divided into speaking, listening and communication, reading and writing) and between the different levels, you need to print off a selection of assessment papers, across subjects, awarding organisations and levels.

After 10 mins, take feedback from the group on the practical differences between functional skills and, for example adult literacy or adult numeracy testing. Points might include the following:

- Learners now have to write their responses, not answer only multiple choice questions (as it is at Level 1 and Level 2 in Adult Literacy and Numeracy Certificates).
- Assessments at Entry Level in Functional English and maths differ from those at Levels 1 and 2 and resemble the adult literacy and numeracy entry level qualifications in some respects; they are internally assessed and externally verified and most awarding organisations allow for some flexibility with regard to the context of the assessment.
- Tools like calculators, protractors, rulers and dictionaries should be provided during the summative assessments (and, therefore, learners need to know *how* to use them).
- Assessment questions across all levels are task-based and vary in terms of their complexity and anticipated familiarity to learners, depending on the level being assessed.
- The marks awarded for each question help the learner know how much detail to include.
- The English paper is in three parts (which can be taken separately), whereas the maths paper is in one part only.
- The language used to ask the maths questions can be challenging and learners' abilities to 'decode' the maths from the written word will need to be developed.
- Summative assessment at higher levels also requires learners to use lower level skills in order to solve more complex and unfamiliar problems.

As a next step, distribute the marking sheets for the sample assessment papers to pairs. You can download these with the assessment papers from the awarding organisations' websites (see above). After 10m, put pairs into fours to discuss their thoughts on the assessment marking criteria (e.g. What are some of the common mistakes learners might make? What do the mark schemes tell you about the emphasis of the assessment – is there only 1 possible answer?).

Take full group feedback on key points this activity has raised. Signpost participants to the Chief Examiners' reports, also published by awarding organisations along with sample / past papers and marking guidelines. These are invaluable resources for identifying common mistakes that learners made on previous assessment papers and, hence, possible areas to focus on during teaching and learning.

Refer participants to their reflection log **HO 2**.

TN 9

Trainer notes

Time	Content	Resources		
		No.	Style	Title
25m (Total 3h 20m)	TN 9. Developing a bank of assessment resources Introduce group Edmodo page (via PPT 9). Explain that we will be able to share resources / approaches via Edmodo (or similar system) for assessing problem solving / functionality. If possible (time permitting), in groups of three, design assessment tasks on laptops / PCs and upload to ensure that everyone is comfortable using this site. Share timeline for submitting a task if people want trainer / peer feedback (trainer will collate key ideas and share them back with all people who have undertaken this CPD course via the Edmodo message board / an Excellence Gateway forum.	PPT 9 Laptops / PCs (1 for 3 people)	Slide	Link to Edmodo page

The purpose of this activity is to encourage participants to continue to work collaboratively, using an online workshop. Edmodo is used, but, as an alternative, a workroom could be set up on the Excellence Gateway <http://www.excellencegateway.org.uk/og>.

Throughout this session, the group have shared many ideas and approaches for assessing problem solving / process skills. To continue sharing and collaborating after the session, the group will have access to a networking site called 'Edmodo'.

Introduce the group Edmodo page previously set up (via **PPT 9**) and show the group around the page and its functions. Share the group code (**ued450**) so that participants can join this Edmodo group after the session. Ensure participants sign in as 'Teachers' not 'Students' so they can set their own groups up if they wish in the future.

Differentiation

This final activity has been designed to allow for the time you have remaining in the session. Some groups, where many participants are already delivering functional skills, may have finished earlier than planned and can move onto to the assessment workshop outlined below. For other groups, where the previous activities ran for longer than expected, viewing the Edmodo page to become familiar with the access requirements, layout, etc will be enough.

If possible (time permitting), put participants into groups of three or four with laptops / PCs that are connected to the internet. Point to the flip chart made in TN 5 (which you should stick to the wall) and remind participants about the suggestions they made for assessment approaches earlier in the session. Assign each group a context to work on (e.g. 1:1 support, small group learning, etc) and instruct them to design and upload an assessment task for this context to Edmodo.

Alternative

If it is not possible for people to access a laptop / PC connected to the internet, an alternative would be for people to plan a task and then transfer it to the main group PC / laptop via a memory stick. Then model uploading some of these examples to Edmodo in front of the full group.

If appropriate, share a timeline for submitting an assessment task to Edmodo if people want trainer / peer feedback. Your role after this session could be to collate key ideas and share them back with all people who have undertaken this CPD course via the Edmodo message board.

Refer participants to their reflection log **HO 2**.

TN 10

Trainer notes

Time	Content	Resources		
		No.	Style	Title
10m	TN 10. Feedback and finish Complete reflection sheets and ask people to share one thing they will do as a result of this session and one thing they will feedback to their colleagues	HO 2	Handout	Reflection sheet
<i>(Total 3h 30m)</i>	Distribute evaluation forms, if used	n/a	n/a	Evaluation form

Purpose of activity: to encourage reflective practice.

Allow participants time to complete their reflection log (**HO 2**). Deal with any final questions. Refer participants to the Excellence Gateway for further CPD, if appropriate.

Module 10

Approaches to the formative and summative assessment of problem solving for functional skills

Handouts

HO 1: Aim and outcomes

HO 2: Reflection log

HO 3: Assessment for learning

HO 4: Being functional self-assessment recording sheet

Resources

R 1a: Example assessment flashcard (maths focus)

R 1b: Example assessment flashcard (English focus)

R 2: Observer questions

R 3a: Level 1 maths functional skills criteria

R 3b: Level 1 English functional skills criteria

R 4: Equivalences matching cards

R 5: Assessment jigsaw discussion – instructions

R 6: Problem for discussion

HO 1

Session aim and outcomes

Aim

To explore a range of approaches to assessment for learning that help identify learners' progress in relation to solving complex problems independently.

Outcomes

By the end of the session participants should be able to:

1. Identify a range of approaches for assessing problem solving for both 1:1, online / remote and group working;
2. Formatively assess learners' abilities to problem-solve independently using maths, English and ICT;
3. Identify approaches that help learners understand how well they can solve everyday and work-related problems using maths, English and ICT; and
4. Understand the requirements of functional skills summative assessments in order to make judgements about learners' test readiness.

HO 2 Reflection log

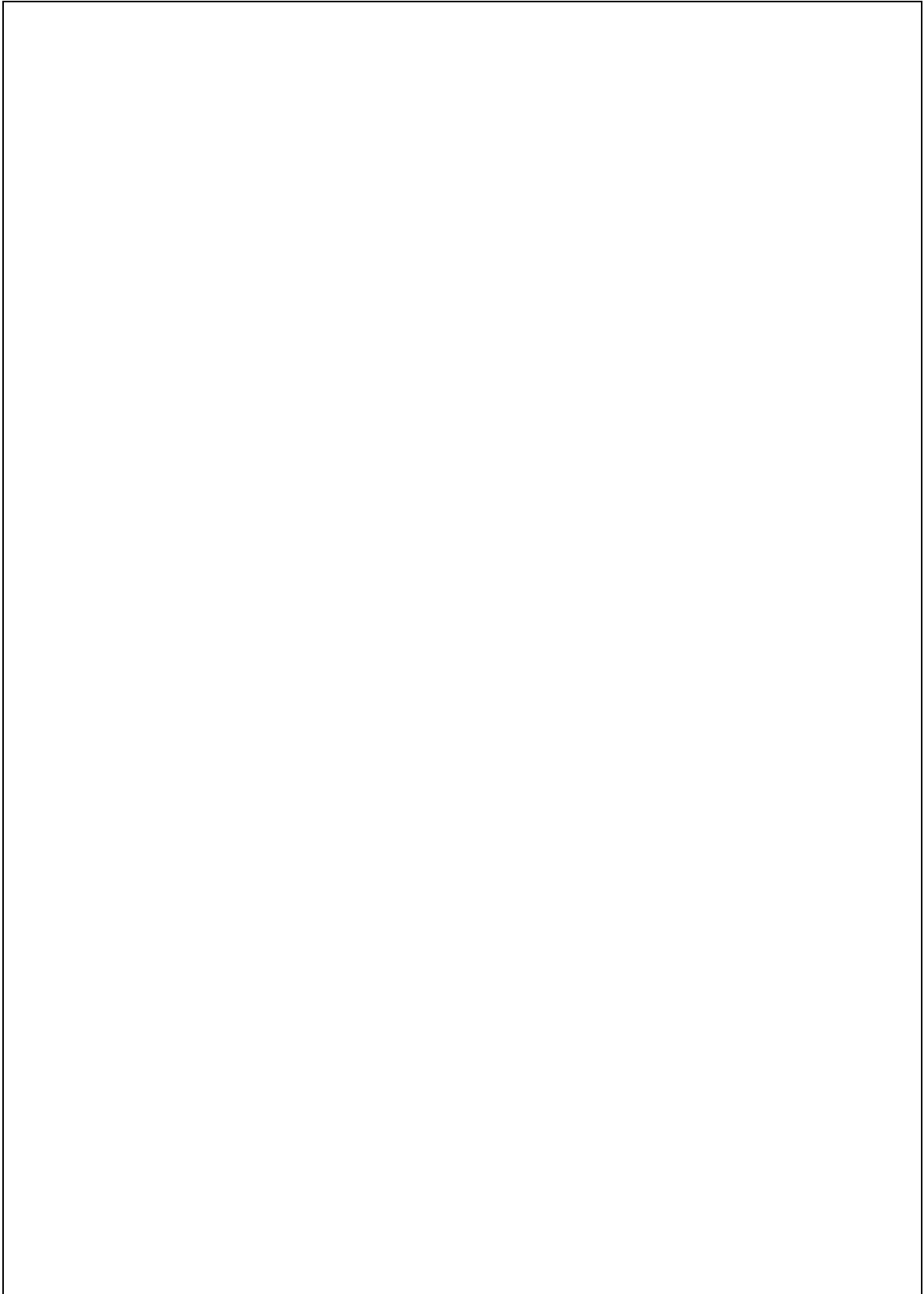
Use this sheet to record any issues and actions that arise during each section.

Use the space on the back to reflect on the session and how you have used the information and ideas to inform your own practice.

Activity	Issues	Actions
Assessing learners' abilities to solve problems independently		
Assessing functionality using problem solving flashcards		
Including assessment of problem solving / functionality in the curriculum		
Using problem solving self-assessment cards		
Recording the development of problem solving skills		
Understanding the requirements of the functional skills summative assessments		
Developing a bank of assessment resources		

Turn over 

Reflection

A large, empty rectangular box with a thin black border, intended for a reflection or response. It occupies the majority of the page's vertical space.

HO 3

Quick start guide: Assessment for learning (AfL)

Openers

Effective openers allow learners to express their own initial ideas about a topic and to reflect on prior knowledge. They are a springboard for inductive learning and also free up the teacher to listen and observe, gathering information about existing knowledge and group dynamics, so that learning can be differentiated accordingly.

Peer review

Research has shown that learners at all levels can provide valid and accurate reviews of each other's work, providing that they are given a structure to work to and are well supported by their teacher. Effective peer review helps learners to become familiar with success criteria and gain skills in assessing their own progress. Teachers can tap into the information generated by peer review to help plan future learning.

Instant feedback

Effective instant feedback techniques take very little time and effort. They provide the teacher with a quick snapshot of how learners are progressing, how effective they feel the learning is, or simply, whether they have mastered an important piece of knowledge.

Techniques that can provide instant feedback:

- Voting or polling – using sticky notes, green-amber-red cars, and so on
- Answers written in mini whiteboards.

Effective questioning

This underpins AfL. Effective questioning encourages learners to reveal **how** they are learning, as well as **what** they are learning. It can reveal deep learning not just surface learning. Effective questioning is not the sole preserve of the teacher. Learners can learn to formulate their own effective questions, helping them to become expert learners who know where to focus their efforts in order to improve.

Reflection and self-assessment

This approach to AfL encourages learners to become experts in their own learning and to be evaluative. It can be built into activities and encouraged through learning conversations.

Activities with built-in feedback

The teacher cannot always be on hand to give every learner feedback at every step. Activities can be designed so that checks on learning can be built in. For instance, a computer-based learning activity may confirm correct answers, give feedback or

offer further practice. Learning activities can be constructed so that learners can see at each stage whether they are on the right track. Activities can build in peer reviews at key points.

Learning objectives, success criteria

Learners need to know what they are learning, why, and how they can be successful. Devise success criteria with learners by analysing what makes a piece of work 'excellent', 'good' or 'poor'. Create checklists, prompts or marking frameworks to aid self-assessment and 'medal and mission' feedback.

Medals and missions

'Medals' tell the learner what they have done well. 'Missions' are individual targets that help the learner focus on what they need to do to improve their work. Grades and marks alone do not provide this information. Feedback expressed in terms of medals and missions is more effective. Each new mission is an opportunity for the teacher to adjust the learning to meet the learner's needs.

Taken from Quick Start Guide developed for the LSIS Teaching and Learning Programme.

HO 4 – *Being functional* self-assessment recording sheet

Category: Problem solving	Headings		
Enter the statements from the cards into the rows below. Enter an 'x' in one of the columns to the right to show which heading you placed the card under.	Always	Some-times	Hardly ever
I can recognise when there is a problem.			
I know when I've solved a problem.			
I check that I understand the problem.			
I can work out what resources (such as time or materials) I need to solve problems.			
I ask other people for advice when I'm stuck on a problem.			
My solutions to problems take safety into account.			
I think about different options before deciding on the best way to solve a problem.			
I can find out about the risks involved in tackling problems.			
I can work out solutions to problems for myself.			
I stay calm when people don't agree with my solution to a problem.			
I can say why I solved a problem in a particular way.			

Category: Problem solving	Headings		
<p>Enter the statements from the cards into the rows below.</p> <p>Enter an 'x' in one of the columns to the right to show which heading you placed the card under.</p>	Always	Some-times	Hardly ever
I know my first solution to a problem might not always be the best one.			
I can understand why there is a problem.			
I can see more than one possible solution to a problem.			
People ask my advice about solving problems.			
I suggest ways of solving problems when working in a team.			
I can identify what skills will be needed to solve a problem.			
I listen to other people's suggestions and take note of them.			
I think about how I'll know that a problem has been solved.			
I can work with other people to solve problems.			
I can recognise how well I solved a problem.			
If my solution to a problem doesn't work, I find out why.			
I can select the information I need to solve a problem or complete a task.			

R 1a – Example assessment flashcard (maths focus)

Ideally to be printed as cards back to back (the picture on front and prompt questions on the reverse)



Prompt questions

What's the problem that you need to solve?

What information do you need to solve it?

What are some possible solutions?

Choose a solution and explain step by step what you would do.

How would you check if your answer is correct?

R 1b – Example assessment flashcard (English focus)

To be printed as cards back to back (the picture on front and prompt questions on the reverse)



Prompt questions

What's the problem that you need to solve?

What information do you need to solve it?

What are some possible solutions?

Choose a solution and explain step by step what you would do.

How would you check if your answer is correct?

R 2 – Observer question slips (x 3 slips)

Observer questions

1. What could this assessment tell us about a learner's ability to solve a problem using maths / English?
 2. To what extent was there one correct answer to this problem?
 3. How could this problem be extended to challenge more able learners? It might help to think of 'What if...' questions (e.g. 'What if there was a 20% reduction...?')
-

Observer questions

1. What could this assessment tell us about a learner's ability to solve a problem using maths / English?
 2. To what extent was there one correct answer to this problem?
 3. How could this problem be extended to challenge more able learners? It might help to think of 'What if...' questions (e.g. 'What if there was a 20% reduction...?')
-

Observer questions

1. What could this assessment tell us about a learner's ability to solve a problem using maths / English?
2. To what extent was there one correct answer to this problem?
3. How could this problem be extended to challenge more able learners? It might help to think of 'What if...' questions (e.g. 'What if there was a 20% reduction...?')

R 3a – Level 1 maths functional skills criteria

Level 1 Maths Functional Skills Criteria

Skill standards	Coverage and range
<p>Representing:</p> <p>1. Understand practical problems in familiar and unfamiliar contexts and situations, some of which are non-routine.</p> <p>2. Identify and obtain necessary information to tackle the problem.</p> <p>3. Select mathematics in an organised way to find solutions.</p>	<p>a) Understand and use whole numbers and understand negative numbers in practical contexts</p> <p>b) Add, subtract, multiply and divide whole numbers using a range of strategies</p> <p>c) Understand and use equivalences between common fractions, decimals and percentages</p> <p>d) Add and subtract decimals up to two decimal places</p> <p>e) Solve simple problems involving ratio, where one number is a multiple of the other</p>
<p>Analysing:</p> <p>4. Apply mathematics in an organised way to find solutions to straightforward practical problems for different purposes.</p> <p>5. Use appropriate checking procedures at each stage.</p>	<p>f) Use simple formulae expressed in words for one- or two-step operations</p> <p>g) Solve problems requiring calculation with common measures, including money, time, length, weight, capacity and temperature</p> <p>h) Convert units of measure in the same system</p> <p>i) Work out areas and perimeters in practical situations;</p> <p>j) Construct geometric diagrams, models and shapes</p>
<p>Interpreting:</p> <p>6. Interpret and communicate solutions to practical problems, drawing simple conclusions and giving explanations.</p>	<p>k) Extract and interpret information from tables, diagrams, charts and graphs</p> <p>l) Collect and record discrete data and organise and represent information in different ways</p> <p>m) Find mean and range</p> <p>n) Use data to assess the likelihood of an outcome</p>

R 3b – Level 1 English functional skills criteria

Level 1 English Functional Skills Criteria	
Skill standards	Coverage and range
<p>Speaking, listening and communication</p> <p>1. Take full part in formal and informal discussions and exchanges that include unfamiliar subjects.</p>	<p>a) Make relevant and extended contributions to discussions, allowing for and responding to others' input</p> <p>b) Prepare for and contribute to the formal discussion of ideas and opinions</p> <p>c) Make different kinds of contributions to discussions</p> <p>d) Present information / points of view clearly and in appropriate language</p>
<p>Reading</p> <p>2. Read and understand a range of straightforward texts.</p>	<p>a) Identify the main points and ideas and how they are presented in a variety of texts</p> <p>b) Read and understand texts in detail</p> <p>c) Utilise information contained in texts</p> <p>d) Identify suitable responses to texts</p> <p>e) In more than one type of text.</p>
<p>Writing</p> <p>3. Write a range of texts to communicate information, ideas and opinions, using formats and styles suitable for their purpose and audience.</p>	<p>a) Write clearly and coherently, including an appropriate level of detail</p> <p>b) Present information in a logical sequence</p> <p>c) Use language, format and structure suitable for purpose and audience</p> <p>d) Use correct grammar, including correct and consistent use of tense</p> <p>e) Ensure written work includes generally accurate punctuation and spelling and that meaning is clear</p> <p>f) In more than one type of text</p>

R 4 – Equivalences matching cards

$\frac{1}{5}$	a fifth	0.2	20%
$\frac{1}{2}$	a half	0.5	50%
$\frac{3}{4}$	three quarters	0.75	75%
$\frac{1}{20}$	a twentieth	0.05	5%
$\frac{3}{5}$	three fifths	0.6	60%

R 5 – Assessment jigsaw discussion – instructions

Assessing problem solving process skills in different contexts

Jigsaw discussion instructions

1. Find your base group by matching together the Equivalences cards.
2. Identify and consider assessment in your specialist teaching context as follows:

fraction words = 1:1 support

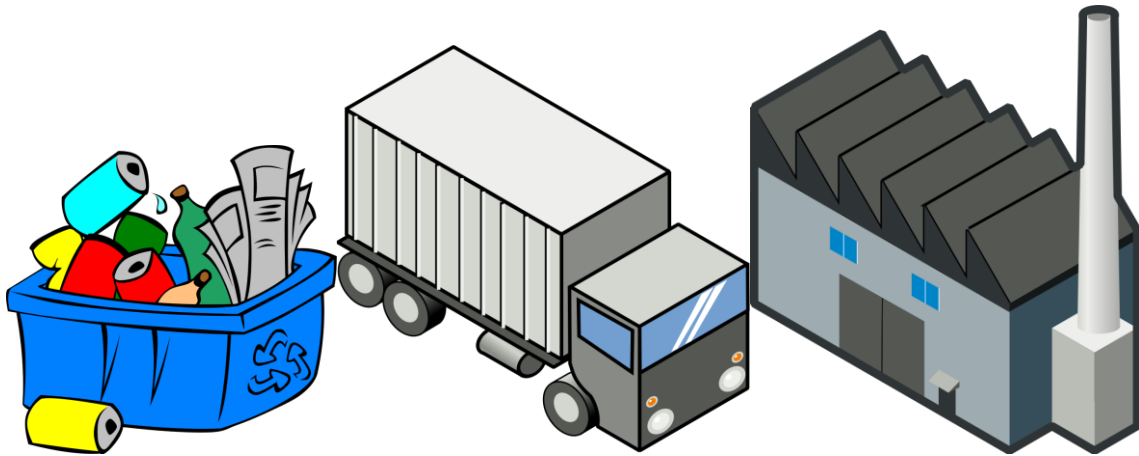
fraction symbols = small group work

decimals = full class teaching

percentages = online / remote learning
3. Move into specialist groups and share your ideas about how to assess problem solving and process skills in each teaching context.
4. Go back to your base group and agree one good assessment approach for each teaching context – write these on **separate** sticky notes.
5. Stick your ideas on the group flip chart under each context heading.

R 6 – Problem for discussion

There are plans to build a recycling plant close to your home. You are not sure if you are 'for' or 'against' this...



In the newspaper, you read that your local council will answer written questions about the recycling plant plans.