Participant pack

Module 13

Using ICT to support the development of English and maths skills

Handouts

HO 1: Confidence assessment
HO 2: Reflection
HO 3: ICT applications and tools
HO 4: The advantages of blended learning
HO 5: Finding the ICT application / resources
HO 6: A session plan using ICT – example
HO 7: A session plan using ICT – blank proforma
HO 8: A collaborative process using ICT for English
HO 9: A collaborative process using ICT for maths
HO 10: A 7-stage plan for collaborative working using ICT
HO 11: A plan for collaborative working using ICT
HO 12: ICT tools for education and learning
HO 13: A planner for developing the use of ICT in English and maths
HO 14: Coaching questions

PowerPoint notes

HO 1   **Confidence Assessment**

1. Mark yourself on the confidence scale.

How confident do you feel about using ICT to support the development of English and maths skills?

1	2	3	4	5	6	7	8	9	10

Not at all confident   **Fully confident**

2. Now discuss with 2 OR 3 people on your table:

   a) What makes you feel confident about ICT?
   b) What worries you about ICT?
   c) What are the reasons for your score?

3. Re-score your confidence after your discussion.

How confident do you feel about using ICT to support the development of English and maths skills?

1	2	3	4	5	6	7	8	9	10

Not at all confident

Fully confident

4. Re-score your confidence at the end of today's session.

How confident do you now feel about using ICT to support the development of English and maths skills?

1	2	3	4	5	6	7	8	9	10

Not at all confident

Fully confident

HO 2   Reflection

Activity	Notes	Actions	By when?
2. Introduction	**My question for the day:**		
3. ICT – what and why?	**?**		

4. Try something new in the classroom	**?**		
5. Collaborative work in English and maths	**?**		
6. 100 hours – is it enough?	**?**		

7. What about the teachers?	?		
8. Planning implications			

	?		
9 Action planning	**ACTION POINTS** **1.** **2**. **3.**		

HO 3   ICT applications and tools – glossary

Here are some examples of ICT applications and tools already in use across the sector.

MS Office applications	Electronic software, such as Word, Excel, etc
VLE	Virtual Learning Environment where learners can enter a secure 'virtual classroom', e.g. Moodle, Blackboard
Websites	Online sites devoted to skills development, practice tests, games, quizzes, self-assessment
Google	Search engine and associated applications such as 'Google +' social network
Wikis	Web pages that groups can edit together, such as Wikispaces
Shared spaces	Secure sites where teachers can set up groups and load resources, e.g. Google Docs for collaborative writing
Downloadable (and up-loadable) resources	Such as skills development, practice tests, games, quizzes, self-assessment tools, texts, pictures, music
Social networks, chat rooms and blogs	Sites where learners can interact and collaborate online, such as Edmodo, Facebook, Twitter, etc
Intranet	Secure network, internal to an organisation
Smartphone apps (applications)	Mobile phone games, education, utilities, networking, music, web browser, camera, messaging, etc
Dropbox and other 'cloud' file storage sites	A service that lets you bring photos, documents, videos and files to any electronic point and share them easily
Webinars	Presentations prepared and transmitted on the web
Podcasts and Vodcasts	Audio or video files downloaded for web transmission
Blogs	Personal or group-based journals published on the internet consisting of discrete entries ('posts'). e.g. Blogger
Skype/ Google handouts	For free audio./ video-conferencing / meetings online
Mind mapping software	To develop individual or group-based electronic mind maps, e.g. 'Inspiration' or 'Freemind'

Bookmarking software	For saving and sharing good websites (e.g. Delicious)
WebQuesting software	For planning and sharing structured online research activities

And what about the hardware…?

Laptops and desktops	Computer suites and work stations
Interactive whiteboards / Smart boards	Communication and classroom management devices for teacher and learner in the classroom / workshop
Internet tablets, pads and voting technology	Interactive devices for learner involvement and communication in the classroom / workshop
Mobile phones and smart phones	Search engine and associated applications such as 'Google +' social network
MP3 players	Digital media devices for storing and playing audio video and document files
Digital cameras and video equipment, including cameras on mobile phones	Equipment for capturing visual imagery and motion
Sound and recording equipment	Tools for capturing and transmitting sound, music and the spoken word

HO 4   The advantages of blended learning

What is blended learning?
Blended learning is an approach to teaching, learning and assessment which combines and aligns:

- face-to-face, instructor-led learning;

- collaborative peer working;

- online, mobile and interactive working; and

- self-paced learning using virtual and 'real time and space' materials and resources.

Advantages for the learner
Blended learning:

- allows self-paced, self-access learning;

- enables learners to produce well presented, polished work;

- facilitates learner autonomy and collaborative learning;

- provides learning and practice opportunities at all times; and

- allows learners to use their own electronic devices in their own homes.

Advantages for the teacher
Blended learning:

- allows teachers to extend the learning experience for the learner beyond the 'classroom';

- enables them to 'manage' learning programmes and shift the emphasis from the teacher to the learner; and

- supports achievement targets by providing infinite scope for learner skills development.

Advantages for the organisation
Blended learning enables organisations to:

- plan flexible, learner-centred programmes;

- raise achievement rates because learners can study and practise skills in ways more suited to their particular lifestyles; and

- reduce the cost per hour of learners' learning time.

HO 5   Finding the ICT application / resources

Try to build up a bank of online resources for the learners to use in the classroom or workshop.

Consider how these can be used interactively or in groups.

Moodle
http://moodle.org/
A free web application that educators can use to create effective online learning sites

Blackboard
http://www.blackboard.com/
An online learning environment with special provision for engaging non-traditional learners, mobile learning, virtual classrooms and more

T**he LSIS Excellence Gateway**
http://www.excellencegateway.org.uk/
This is the leading online service for the FE and skills sector in England. It offers resources, support and advice. Look especially for online materials:

- Resources including the online versions of the Skills for Life teaching and learning materials and the materials for embedded learning http://rwp.excellencegateway.org.uk/
- Resources for functional skills http://tlp.excellencegateway.org.uk/tlp/fs/fs-resources/index.php and foundation learning http://www.excellencegateway.org.uk/node/475
- A range of interactive resources, including the 'Gold Dust' resources http://tlp.excellencegateway.org.uk/tlp/cetts/goldust/index.html
- The literacy, language and numeracy starter kits http://www.excellencegateway.org.uk/node/1150
- The English, maths and ESOL main menu page http://www.excellencegateway.org.uk/node/18272

Move On
http://www.move-on.org.uk/
English and Maths resources for teachers, learners and providers

BBC Skillswise
http://www.bbc.co.uk/skillswise/
Online and paper-based resources aimed at learners working towards Level 1

Skilled to Go Toolkit webpage
http://www.oft.gov.uk/oft_at_work/partnership_working/consumer-alliance/resources/toolkitfront/toolkittitle/table1
A range of every day life scenarios that enhance literacy and numeracy skills

Skills workshop

http://www.skillsworkshop.org/numeracy
Online resources, developed by teachers

Wedigtv
http://www.wedigtv.com/
Interactive website for fun with words and numbers. You have to log in.

Skills for Families
http://skillsforfamilies.excellencegateway.org.uk/
Schemes of work, lesson plans and resources

National Learning Network
http://www.nln.ac.uk/support/help.asp?p=Start
Free downloadable materials

Key Skills 4 U
http://www.excellencegateway.org.uk/keyskills4u
e-learning resources and practice tests

ESL Games
http://www.eslgamesworld.com/Games.html
A variety of interactive games and exercises for English as a second language , including: Snakes and Ladders, Hangman, Spelling games, Wheel of Fortune, TV Games(Betting Game), Mazes, Memory Games, Matching exercises, Sequencing exercises, Picture Quizzes, Designed fro children.

Brain Games
www.braingames.org.uk/
English and maths games that function as a large sporting competition. You are able to compete against the clock or each other in events designed to test your English and Maths skills. All progress is saved and you can check your score, performance over time and ranking, as well as compare performances in head to head challenges against your 'training buddies': friends that you have invited to compete against you within the resource.

SEN teacher
http://www.senteacher.org/Print/Maths/
Free teaching resources for maths

What can you add to this list of resource?

HO 6   A session plan using ICT - exemplar

90 MINUTE SESSION PLAN   **Maths or English**   *English*

Activity type   *Replying to an email at work*   **Level 1**

Time	Activity	Learning outcome	Resources	Notes
5 mins	*Activity instructions*	*Begin activity*	*Laptop or work station: Moodle*	*Work in pairs*
10 mins	*Skills games*	*Write good compound sentences*	*BBC Skillswise*	*Take turns*
10 mins	*Read email*	*Read for gist Read for detail*	*Move On*	*Read and answer questions together in pairs*
10 mins	*Spelling game*	*Spell words relating to work*	*Podcast with supporting multiple choice on Moodle*	*Compete for best score and fastest time*
10 mins	*Plan email*	*Plan structure of short email*	*Writing Frames – Word resource adapted from Skills for Life Network writing frames*	*Discuss in pairs*
10 mins	*Draft email*	*Draft writing*	*Word document*	*Discuss and agree wording in pairs*
5 mins	*Check grammar, spelling etc.*	*Proofread and revise draft*	*Word document, use of Word tools*	*Discuss and agree revisions in pairs*
10 mins	*Write and share email*	*Write and send short email*	*Email connection*	*Send emails to network address for all members of the group to read and discuss differences / similarities*
10	*Rewrite and*	*Produce final*	*Interactive*	*Teacher*

mins	present email	written copy	whiteboard	displays samples for group plenary
10 mins	Evaluation	Review of progress; lessons learnt	Evaluation process on Moodle	Evaluation form on Moodle followed by whole class discussion and feedback

HO 7   A session plan using ICT – blank

SESSION PLAN   **Maths or English …………………………….**

Activity type   **…………………………………………………………………**
Level   **………………………….**

Time	Activity	Learning outcome	Resources	Notes

HO 8   A collaborative process using ICT for English

In groups of 3 or 4, consider how your learners could make good use of shared space online to complete the following Level 1 assignment.

Sample assignment: English

You are going to write to write a Personal Profile that you can attach to **any** job application.

This profile will describe your skills, qualities, attributes and personality traits. Your profile should be informative and make the most of your positive features.

You should include:

- an introduction, setting out the reason(s) for writing;

- a section describing your skills, qualities, personality traits and attributes and why they could be of benefit to a company; and

- a conclusion that summarises your main points.

Write your letter in a style and format that is suitable for your audience.

You will be assessed on:

- presenting your work clearly and in a logical sequence;

- including relevant information and a suitable amount of detail;

- well structured with sentences and paragraphs;

- accurate spelling;

- correct use of punctuation; and

- correct use of grammar.

HO 9   A collaborative process using ICT for maths

In groups of 3 or 4, consider how your learners could make good use of shared space online to complete the following Level 1 assignment.

Sample assignment: maths

Task 1 Travelling by train

Ron wants to travel from Stockport to Eastbourne to visit a friend.

He wants to travel on Friday 26th June, returning on **the following Friday**.

He also wants to arrive in Eastbourne **no later than 3pm** and to arrive back in Stockport **no later than 7.30pm**.

He looks at the journey by train first.

The table shows the journey times when travelling by train.

TRAIN TIMES

Outward journey: Friday 26 June			
Depart Stockport	**10:04**	**10:23**	**10:42**
Arrive Eastbourne	**14:15**	**14:44**	**15:04**
Journey length	4 hrs 11 mins	4 hrs 21 mins	4 hrs 22 mins
Return journey: Friday ……………			
Depart Eastbourne	**14:31**	**15:00**	**15:31**
Arrive Stockport	**18:37**	**19:18**	**19:36**

1.   What date does Ron travel back on?

2.   If Ron catches the 14:31 **from** Eastbourne, is this longer or shorter than the mean journey **to** Eastbourne? Show all your working.

HO 10   A 7-stage plan for collaborative working using ICT

Now, in your group, you are going to collaborate with other groups to produce 3 stages of a plan. You can do this on a shared space electronically or you can simulate the process by completing the blank template (**HO 11**)

First here is an example of how a plan for your maths or English task might develop in stages.

A final 7-stage plan for collaborative working using ICT might consider:

Stage	Learner activity
1.	**Problem solving – what is the task and what does the learner have to do?** *Here the learner will enter ideas into the shared space about what needs to be done and what skills are required.*
2.	**1st step workings** *This can involve maths workings or, for English, brainstormed plans for writing.*
3.	**2nd step workings** *This can involve next stage maths workings or, for English, placing in logical order the brainstormed content of the last stage.*
4.	**3rd step workings** *This can involve next stage maths workings or, for English, writing in good sentences and paragraphs.*
5.	**1st draft answer(s)** *This allows each learner to place a first draft on the shared space.*
6.	**Proof reading and checking** *This enables cross-reference and checking between learners.*
7.	**Final answer(s) – OWNERSHIP** *This is the point at which the learner feels proud of the final result and takes ownership.*

HO 11   A plan for collaborative working using ICT

A. Complete 3 stages of a plan for collaborative working.

B. Work collaboratively yourselves to complete the plan.

In the plan, you will record some of your discussion about the maths or English problem you have just considered. Ideally you will use a shared space to do this or you can use the hard copy handout. For instance, how might the learners start? Enter, in box 1 of the blank table below your group's ideas for how the learners might begin this task, using a shared blog or chat room. Consider:

- What can they write in the shared space?

- How can this be used as part of a sharing process?

Then, when you have done this, pass your plan to another group (A) and receive another plan from a second group (B). You can pass your plans electronically or manually, depending on the method you are using.

In the plan that has been passed to you, look at what Group A have written for **stage 1** and add any additional suggestions to theirs, if you have any.

Move on to **stage 2** of the plan you now have. Record what the learners will do next and pass on and receive your plans as before.

Complete **3 stages** in all.

Three stages of a plan

Stage	Learner activity
1.	
2.	
3.	

HO 12   ICT tools for education and learning

The LSIS Excellence Gateway
http://www.excellencegateway.org.uk/
This is the leading online service for the FE and skills sector in England. It offers resources, support and advice.
For example, click on 'Teaching and learning' > 'Research and effective practice' > 'Case studies on good e-practice' then look for 'Barnsley College'.
http://www.excellencegateway.org.uk/node/3645

Top 10 ICT tools for education
www.youtube.com/watch?v=627P3WYaU-o
ICT education tools for the twenty-first century

C4LPT
http://c4lpt.co.uk/top-100-tools-for-learning-2011/
The top 100 tools

Promethean
http://www.prometheanworld.com/en-us/education/products/interactive-displays
Twenty-first century product details such as the ActivBoard

JISC
http://www.jisc.ac.uk/whatwedo.aspx
JISC is funded by the UK HE and FE funding bodies to provide world-class leadership in the innovative use of ICT to support education and research. It offers e-learning programmes, frameworks and tools.

Blogger
https://accounts.google.com/ServiceLogin?service=blogger&passive=1209600&continue=http://www.blogger.com/home&followup=http://www.blogger.com/home&ltmpl=start#s01A secure networking website with a wealth of resources

Edmodo
www.edmodo.com
A secure networking website offering a wealth of ideas and resources

Blended learning
http://www.grayharriman.com/blended_learning.htm
Blended learning categories and e-learning resources

Moodle
http://moodle.org/
A free web application that educators can use to create effective online learning sites

Blackboard
http://www.blackboard.com/

An online learning environment with special provision for engaging non-traditional learners, mobile learning, virtual classrooms and more

Tribal's Digital Learning Studio
http://www.m-learning.org/case-studies/foyer-lifeskills
Free advice, help and information on mobile learning

And the research:

'*ICT and Adult Literacy and Numeracy*', National Research and Development Centre for adult literacy and numeracy (NRDC), 2004
http://www.nrdc.org.uk/content.asp?CategoryID=440&ArticleID=365

'*What is effective practice? In ICT?*' National Research and Development Centre for adult literacy and numeracy (NRDC) 2007
http://www.nrdc.org.uk/content.asp?CategoryID=1105

HO 13　A planner for developing the use of ICT in English and maths

Action plan for developing the use of ICT in English and maths				
Planning Element				
....				
Action	**By when**	**Who?**	**Intended outcome**	**Predicted impact**

HO 14

Coaching questions

These questions can be used as a tool to help you coach and support each other in the action planning process.

What is your first objective?

- What do you want to achieve?

- What impact will this have on your learners, yourself, other staff, your organisation?

- When would you like to achieve this by?

Progress to date

- How far have you begun this process already?

- What have been your achievements so far?

- Are there any barriers hindering your progress?

Moving forward

- What action could you take?

- What else could you do?

Action

- What will you actually be able to do?

- How will you do this?

- By when?

- Who do you need to help you?

PowerPoint notes

ICT – what and why?

Work in groups of 4 to discuss:

  a) Some of the ways in which you currently use ICT
  b) Your main reasons for using ICT

Feed back to the group.

BIS Review – December 2011

"There is increasing evidence of the contribution of ICT skills to literacy and numeracy demands in social and employment contexts, including in particular a combination of ICT and mathematical literacies in the workplace."

'Review of research and evaluation on improving adult literacy and numeracy skills'
BIS, December 2011

NRDC research

"… we found significant gains in ICT literacy and in learners' confidence with ICT. This included the use of internet searches (such as Web Quests), of mindmaps to plan writing, of tablets, and of m-learning (using technologies such as mobile phones and hand-held computers) to improve language skills and extend the classroom. All groups showed improvement in English reading ability…"

What is effective practice? In ICT?
NRDC, 2007

NRDC research

Our analysis pointed to four guiding principles for using ICT in a *Skills for Life* context:

- Foster learner autonomy
- Enhance peer collaboration
- Plan the construction of artefacts
- Aim for technological diversity

We also identified two strategies that do not appear to work:

- Telling learners how to do the task rather than listen, discuss, prompt and extend
- Teachers using PowerPoint

Why use ICT for teaching and learning?

- We are in a technological age.
- ICT increases learner autonomy.
- ICT facilitates peer collaboration and sharing.
- ICT allows learners the opportunity for self-paced work in their own time
- ICT enables learners to work, practise and develop their skills between, and in addition to, formal classroom / workshop sessions

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Why use ICT to develop English and maths skills?

English / literacy – the facts

- Most writing is done through office applications or via emails and texts
- The majority of reading for information is now done online
- Increasing numbers of people read for pleasure on electronic devices, such as Kindles, i-pads etc
- Access to documents often involves downloading and (occasionally) printing
- Many people listen and watch online for information and pleasure (e.g. podcasts, catch-up, webinars, YouTube, downloads)

Why use ICT to develop English and maths skills?

Maths / numeracy – the facts

- Many people use office applications, digital calculators, specialist software to make calculations
- Many people use office applications to find and develop spatial representations, scale drawings, graphs, diagrams
- Many people enjoy interactive network sites for number games, quizzes

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Why use ICT to develop English and maths skills?

The blended learning option

Blended learning is an approach to teaching, learning and assessment which combines and aligns:

- face-to-face, instructor-led learning
- collaborative peer working
- online, mobile and interactive working
- self-paced learning using virtual and 'real time and space' materials and resources

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Trying something new in the classroom!

In pairs:

1. Using cards, match learner activity (in italics) to ICT applications (in bold)
2. Share your findings with the whole group
3. Select a group of learners you know. Focus on either maths or English. Plan a series of up to SIX activities using at least TWO ICT resources or applications you haven't used before
4. Use websites, search engines and your internal virtual learning environment (VLE) if available. Explore online and 'office' resources to plan your session

Tips for using ICT in the classroom or workshop

- ICT aids learner autonomy and empowerment in the classroom
- Working in pairs or groups keeps activities dynamic and avoids the computer becoming a solitary activity
- Strict timings for ICT activities maintain pace and purpose
- A timed carousel of ICT activities can hone English and maths skills just as workout in a gym can develop physical skills
- ICT applications allow for a greater range and diversity of activity within a short space of time
- Working with speed and spontaneity, using ICT, prepares learners for fluency in language and mental agility in maths

Collaborative working in English and maths

In small groups:

1. Choose either handout HO 8 or HO 9
2. Discuss the problem: How can the learners use a shared online space to complete the assignment effectively?
3. Make notes for stage 1 on the planner (HO 11)
4. Swap your planner with another group; amend and make notes for stage 2; repeat for stage 3
5. Retrieve your original planner. How has it developed? Has it improved? Has it given you ideas you hadn't thought of?
6. Share your findings with the whole group

The time factor for English and maths

"(It was) concluded that 100 hours of instruction is the point at which a majority of adult students are likely to show educationally significant progress."

"Research from the US has produced figures of 100-150 hours (for adult learners) to progress by one grade level."

"Analysis of 2006/07 ILR data shows that the average GLH for all literacy qualifications was 64 hours and for numeracy was slightly lower at 62 hours."

'Review of research and evaluation on improving adult literacy and numeracy skills' BIS, December 2011

The time factor for English and maths

- Most learners do not receive as many as 100 GLH each for literacy and numeracy alone
- To rise by one level in English or maths, most adult learners need to persist with study and practice for many hours outside their GLH quota
- Ideally we need to support learner persistence through a 'blend' of teaching and learning methods
- ICT provides us with a wealth of opportunities for study and practice outside the classroom / workshop in the learner's own time and at the learner's own pace

Coaching tips

- Your role is to help the coachee form realistic goals
- Do this by asking questions:
  - What…? How…? Why…? Who…? What else…?
- Give advice ONLY when asked for it
- The aim is to enable the coachee to 'own' the goal

Learning outcomes

By the end of the session participants are able to:

Understand and explain the benefits of using ICT to support the development of individual learners

Identify the planning issues involved in using ICT as a core means of raising learner achievement in English and maths

Use individual learner aims in English and maths to carry out appropriate ICT-based activities

Develop an English and maths lesson plan so that the activities focus on ICT as a core teaching and learning method

Identify and access learning environments, delivery methods and ICT resources in the development of English and maths skills

Confirm increased personal confidence in the use of ICT to develop English and maths skills

Commit to specific actions to develop the use of ICT in their own teaching and in the organisation