

## Using resources and technology

### This handout will cover:

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- Examples of resources
- People as a resource
- Meeting the individual needs of learners when using resources
- Using and adapting resources
- The role of technology in teaching and learning
- Examples of using technology
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### What are resources?

Resources are all the aids, books, handouts, items of equipment, devices, objects and people that you can use to deliver and assess your subject. Depending upon your subject and what is available, you may need to create your own or adapt someone else's resources. This could be a handout of useful information, an exercise, activity or worksheet, or it could be a complex working model used to demonstrate a topic. If you can search the internet, you might find resources for your subject area are freely available.

The main purpose of using resources is to stimulate learning, add impact and promote interest in your subject. Whichever resources you choose to use, you will need to make sure they are fit for purpose, are at the required level of learning and are relevant and are accessible to everyone. To help you decide what sort of resource to use, it might help to consider why you want to use it to ensure learning can take place.

For example, to:

- aid revision
- assess learning
- consolidate learning
- encourage learning
- support teaching.

Placing posters on the wall of a room will help to reinforce points. Learners may not always look at them consciously, but subconsciously they may glance at them, taking in the information.

You may have to deal with unexpected situations which relate to resources. It is useful to have a contingency plan just in case i.e. hard copies of an electronic presentation. You will also need to make sure the resources are available and accessible.

### **Examples of resources**

- audio/digital/visual equipment, 3D printers
- books, catalogues, journals, magazines
- computers, devices, tablets and smartphones
- electronic items, the internet
- flip chart paper, boards, markers, pens
- handouts, worksheets, workbooks, posters
- interactive whiteboards
- people i.e. specialist speakers, colleagues
- physical resources i.e. models, apparatus, equipment, tools, utensils
- rooms e.g. library, classrooms, workshops

### **People as a resource**

People can be a very useful resource – you are the main resource for your subject. Other people can include visiting speakers and colleagues. A visiting speaker is someone who works in the field of your specialist subject. They can help bring the subject to life with anecdotes and real stories of what it's like to work in that area.

Colleagues can include specialists in other subject areas for example literacy, numeracy and ICT, and they could be used to support various aspects of your course.

Other people can be utilised to give an added dimension to the teaching and learning process. They can bring valuable skills and knowledge and give a 'change of face' if you have been with your learners for a long period of time.

There might be issues when using other people, such as security clearance for visiting speakers, and/or would they need a payment or want their expenses refunded?

Timetabling, schemes of work, session planning and timings would need to be taken into account.

## Meeting the individual needs of learners when using resources

Whatever resources you use, it's important to ensure they meet the individual needs of your learners. Resources should stimulate learning, be fit for purpose, add impact and promote interest in the subject. Resources should be accessible and inclusive to all learners, whilst enabling them to acquire new skills and knowledge

Whatever resources you use, it's important to ensure they meet the individual needs of your learners. Needs might include: dyslexia, a hearing or sight impairment, a physical or a mental disability. You might have to acknowledge your organisation's resource and budget constraints and make best use of what is available. You might also have to follow organisational procedures when creating, copying and using resources. Health and safety considerations will also need to be taken into account when using certain resources.

Use initial and diagnostic assessment approaches to ascertain the needs of your learners. Talk to your learners and encourage them to let you know how you can help them. Make sure all resources are appropriate in terms of level, quality, quantity and content, and are relevant to the subject and the learning expected. Ensure all resources promote equality of opportunity, reflect diversity and challenge stereotypes. Use text and pictures which portray all aspects of society.

## Using resources

During a session, it's useful to have relevant resources such as stationery, pens, paper, board markers and other items to ensure it runs smoothly. You could create a *teacher's toolkit* or *resource box*. This will contain items which you can carry around with you and use when needed.

If you are working in venues away from the main building, you may have to transport heavy resources which can be difficult and time-consuming. A portable trolley might be a useful resource to help you, for example, to move heavy text books or small items of equipment. You would need to plan ahead to ensure you have enough time to move them or to get someone to help you. Advance booking may also be required for some types of equipment and resources.

There will be times when the resources you planned to use are not available or not working. Preparing for unforeseen circumstances comes with experience. Whenever you are due to meet your learners, ask yourself, *What would I do if something wasn't available or doesn't work?* For example, you might prepare an electronic presentation and want to issue a hard copy as a handout to your learners. However, if you can't get copies made in time, you can still deliver your presentation and offer

to e-mail a copy, upload it to a virtual learning environment (VLE), or get photocopies made later.

Try not to rely totally on presentation software when teaching: use different approaches and activities to add variety. Activities during a session can be differentiated, for example, one learner may prefer to read a handout but another may prefer to watch and listen to a video clip. You could therefore try and incorporate a variety of resources and activities when you can.

If you give a handout at the beginning of the session, you may find your learners fiddle with it and become distracted. If you can, issue handouts at an appropriate time and talk through the content, asking questions to ensure your learners have understood the topic. Otherwise, issue them at the end of the session and ask learners to read them later to help reinforce what has been covered. Alternatively, to aid sustainability, you could upload handouts to a VLE or e-mail them.

Handouts can also be used as activities; for example, a worksheet or a gapped handout can contain sentences with missing words that learners need to fill in. These are useful to assess lower level or new learners, as a fun team activity, or to fill in time at the end of a session. However, don't get too reliant on the use of handouts or worksheets as learners could become bored of them.

If a resource you are using is not effective with some learners, try changing the experience rather than the resource, for example, change a group activity to become an individual one.

Wherever possible, try and use resources which involve your learners actively, rather than just passively reading or watching something. You could involve them by creating a resource which they will all benefit from, such as a glossary of terms relating to the subject they are taking. You could create a blank template and store it in the cloud, learners could then add to it as the programme progresses.

### **Adapting resources**

When adapting and using resources, any individual needs of your learners should be taken into account, for example, if they have dyslexia, dyspraxia, a hearing impairment, a visual impairment, a physical or mental disability.

It's possible you may have updated or revised many of your resources in the past, either based on feedback, the success (or otherwise) of their use, or to meet any individual learner needs. However, you will need to make sure they are still fresh, professional looking, and current, i.e. reflecting the latest developments regarding your subject.

You could:

- adapt an activity to reach more than one level of difficulty by challenging higher level learners further
- use different media with some learners, for example creating a video, vlog, podcast or webcast
- produce handouts in a larger sized font or print them on different coloured paper.

Whatever resources you use, it's useful to evaluate them to improve or amend them. For example, it could be that a handout you used was not read thoroughly by your learners, i.e. it was too complex (see the Fog calculator in the website list).

Alternatively, it could be that you used a working model to demonstrate something but it didn't function on the day. It's best to practise with your resources in advance of using them with your learners, just in case anything could go wrong.

### **The role of technology in teaching and learning**

Technology is about the application of knowledge for practical purposes, such as using a new piece of equipment or machinery. Digital technology is about using electronic systems and devices which generate, store and process data. These can include computers, tablets, smart phones, 3D printers, virtual reality goggles and game consoles. Encouraging your learners to use technology and digital technology will help increase their knowledge and skills in areas which relate to their learning.

*Technology enhanced learning* (TEL), *edtech* (short for educational technology) and *information and communication technology* (ICT) are terms which are often used for incorporating technology for the purposes of enhancing teaching, learning and assessment. It's not just about using programs such as word processors and databases, it's about using what is currently available and what is emerging. Please note that the spelling of program for a computer *program* is different to the spelling of *programme* which refers to a course of learning.

It would be worthwhile for your learners to use digital technology when possible, as it is bound to form a part of their professional or personal lives. It could be that your subject is more practical than theoretical and doesn't lend itself to using technology. If this is the case, you could ask your learners to carry out some research via the internet regarding a particular topic. They might find some interesting facts or useful information and videos to help them. Learners could also decide which areas of digital technology they could use to support their learning. This could stretch and challenge them to find out about particular software or applications. This could be a good activity for self-study which would enable them to report back during the following session.

*Digital literacy skills* is the term often used for being able to use, to understand, and to benefit from ICT. This includes all the devices which will store, retrieve, display,

manipulate, send or receive information electronically in a digital format. For example, personal computers, tablets, smart phones and interactive whiteboards.

Technology should always be used in a way that educates and informs, for example to illustrate a point, to promote a discussion, and to further skills, knowledge and understanding. It should not be relied on as a means to entertain learners or used to fill in time during a session. Your organisation should have a fair use policy regarding access to computers and internet devices. Learners should be aware of the fair use policy and that both they, and you, adhere to it. Ground rules should be agreed beforehand and learners should know how to stay safe online.

You will need to establish what technology is available for your own, and your learners' use in your organisation, and what technical support is available. You may be teaching in an environment which has access to all types of technology and technical support, for example, wi-fi enabled computers, tablets and smart phones. You may, however, be teaching in a community building with restrictions to the systems and no internet connection. You will need to take account of this when deciding which resources you will use and whether they will work or not.

### **Examples of using technology**

Using technology doesn't just have to take place during sessions. Learners could use their own devices in their own time. They could continue working on something they started during the session or begin something new to discuss at the next session. This can *blend* the learning process by using traditional teaching methods along with technology. Wherever possible, you should try and involve your learners with ICT during and after their sessions with you, for example by using:

- applications (apps) and relevant software
- audio, video, digital and online clips and videos
- distance/online/open learning
- e-assessments
- e-mail (text and video)
- laptops, netbooks, tablets, smart phones
- interactive whiteboard
- social media (if appropriate)
- virtual learning environments (VLEs).

### **Flipped learning**

This flips the work normally carried out during a session, to be away from the session. Examples include learners using multimedia i.e. watching videos, listening to podcasts and collaborating with their peers away from the session, then

discussing relevant points during the next session. This gives the teacher the opportunity to give a more personalised and interactive approach during the session. The teacher becomes more of a facilitator of learning, guiding and supporting learners to find things out for themselves.

### **Meeting individual needs with technology**

Never assume your learners are capable or confident at using technology, always carry out an initial assessment to ascertain their prior skills, knowledge and understanding. They, and indeed you, might need some training, for example; how to access, log on and use a particular program. The use of technology can also assist when differentiating activities to meet a particular learner's requirements. For example, using a screen reader or text enlargement software for a learner who is partially sighted.

*Assistive resources* or *adaptive technology* are the terms used to denote devices and their use for people with disabilities or difficulties. Their use can lead to greater independence by providing enhancements to, or changing the methods of use. This should enable learners to accomplish tasks they might not have been able to do without it.

Technology can provide a means of access to learning for those who:

- are hearing impaired
- are visually impaired
- have a degenerative condition which is physically tiring
- have a first language which is not the one used during the course
- have difficulty in speaking
- have difficulty with manipulation and fine motor control.

### **BYOD – bring your own device**

You might not have access to computers or the internet in your learning environment. You could ask your learners to bring their own devices e.g. tablets, smart phones and e-readers, to use during the session. Ground rules would need to be agreed and the use of social media, access to e-mails and texts limited.

If you have computer and internet facilities in your teaching environment, do make use of it whenever possible, however, never make assumptions about technology. Always check the equipment personally and in the context in which you are planning to use it. Have a contingency plan in case of technical failure at the time you are teaching. If your learners are using their own technology, avoid trying to fix any problems which might occur, in case you damage their device or the software.

## Synchronous and asynchronous learning

These are types of online learning. Synchronous learning is carried out by learners and the teacher at the same time, asynchronous learning is carried out by learners and the teacher at different times.

Synchronous learning enables learners to study via a virtual classroom and duplicates the capabilities found in a real classroom.

Asynchronous learning gives e-learning (short for electronic learning) much of its appeal, as learners can engage with each other when it is most convenient. A knowledge thread (or trail) of their postings is left which is useful for auditing purposes. A discussion thread is an example of asynchronous learning. One learner can post a question, and hours (or days) later, another learner can post a response.

Asynchronous tools like e-mail and discussion forums have transformed the way learners communicate and share knowledge.

Online learning provides:

- a place to meet: teachers and learners use their computers to go to a virtual meeting place instead of a classroom
- an attendance register: a record is made of learners logging on
- facilitation of learning: teachers can choose from a variety of synchronous technologies including:
  - slide presentations
  - audio and video conferencing
  - application sharing
  - shared whiteboard
- interaction with learners: learners can indicate when they want to speak by virtually raising their hand
- teachers can enable learners to speak through audio and video conferencing
- teachers and learners can use instant messaging and chat rooms
- quizzes: teachers can present questions to learners which are automatically assessed
- breakout sessions: learners can work together in groups
- assessment: feedback and records are maintained.

## Social networking and social media

Social *networking* is about connecting and communicating with friends, family and other people who share an interest (i.e. a network of people). It can be used to build up contacts with other professionals and future employers.



Social *media* is about using technology to turn communication into an interactive dialogue. However, you might consider some networking sites to be social media sites and vice versa depending upon the situation in which they are used.

Both can be used by teachers and learners, providing everyone is aware of how to stay safe and secure online. Communities can be established and teachers and learners can communicate regarding different topics.

### Reading list

Allen M (2016) *Guide to E-learning: Building interactive, fun and effective learning programs for any company* New Jersey John Wiley & Sons

Atherton P (2018) *50 Ways to use technology enhanced learning in the classroom* London SAGE Publications Ltd

Bates B (2016) *A Quick Guide to Special Needs and Disabilities* London SAGE Publications Ltd

Bergman J (2014) *Flipped Learning* International Society for Tech in Education

Best B & Thomas W (2008) *The Creative Teaching and Learning Resource Book* London Continuum

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Salmon G (2013) *E-tivities* (2<sup>nd</sup> Edn) Abingdon: Routledge

Scott D (2018) *Learning technology: A handbook for FE teachers and assessors* St Albans Critical Publishing Ltd

Stein J (2013) *Essentials for Blended Learning: A Standards-Based Guide* Abingdon: Routledge

Stowell L (2016) *Staying Safe Online* London Usborne Publishing Ltd

White J (2015) *Digital Literacy Skills for FE Teachers* London SAGE Publications Ltd

## Website list

- Assistive technology Jisc - <https://tinyurl.com/md5pbkf>
- British Assistive Technology Association - [www.bataonline.org.uk](http://www.bataonline.org.uk)
- Copyright – [www.copyrightservice.co.uk](http://www.copyrightservice.co.uk)
- Developing Digital Literacies - [www.jisc.ac.uk/guides/developing-digital-literacies](http://www.jisc.ac.uk/guides/developing-digital-literacies)
- Dropbox file sharing in the cloud – [www.dropbox.com](http://www.dropbox.com)
- Digital pedagogy – <http://learningwheel.co.uk/2016/06/english-language/>
- Digital Unite - [www.digitalunite.com](http://www.digitalunite.com)
- FELTAG Report (2014) *Paths forward to a digital future for Further Education and Skills* <http://feltag.org.uk/>
- Free technology for teachers - [www.freetech4teachers.com](http://www.freetech4teachers.com)
- Gunning Fog Index calculator (to help make writing clearer) - <http://gunning-fog-index.com>
- Initial assessment for using technology - <http://wip.exeter.ac.uk/collaborate/itest/>
- Intellectual Property Office - <https://tinyurl.com/l7kohn6>
- Online games and teaching resources – <https://tinyurl.com/mtkwmrn>
- Online presentations – [www.prezi.com](http://www.prezi.com)
- Online safety - <http://tinyurl.com/jmunerk> and <http://tinyurl.com/o6khvla>
- Reading lists - <https://www.anngravells.com/reading-lists/index>
- Resources Centre – [www.heacademy.ac.uk/resources](http://www.heacademy.ac.uk/resources)
- Using computers and technology: free guides – <http://digitalunite.com/>