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Digital Literacy Professional Development Resource

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Contents

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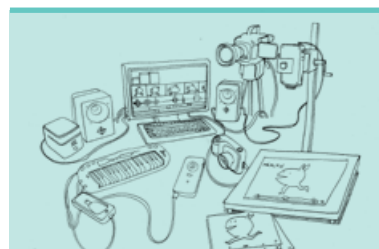
Introduction

This professional development resource is designed to support primary and secondary school teachers integrate the development of students' digital literacy into everyday curriculum teaching and learning.

The collection of activities, which can be undertaken by a single teacher or a small group of practitioners, is divided into sections.

The first section aims to develop practitioners' understandings of digital literacy and its relevance to their own contexts.

The materials in the second, third and fourth sections are designed to help teachers plan activities they can integrate into their everyday teaching to support students to develop both subject knowledge and digital literacy.
These sections include practical ideas for the classroom, including explorations of free web-based tools and activities to support planning.
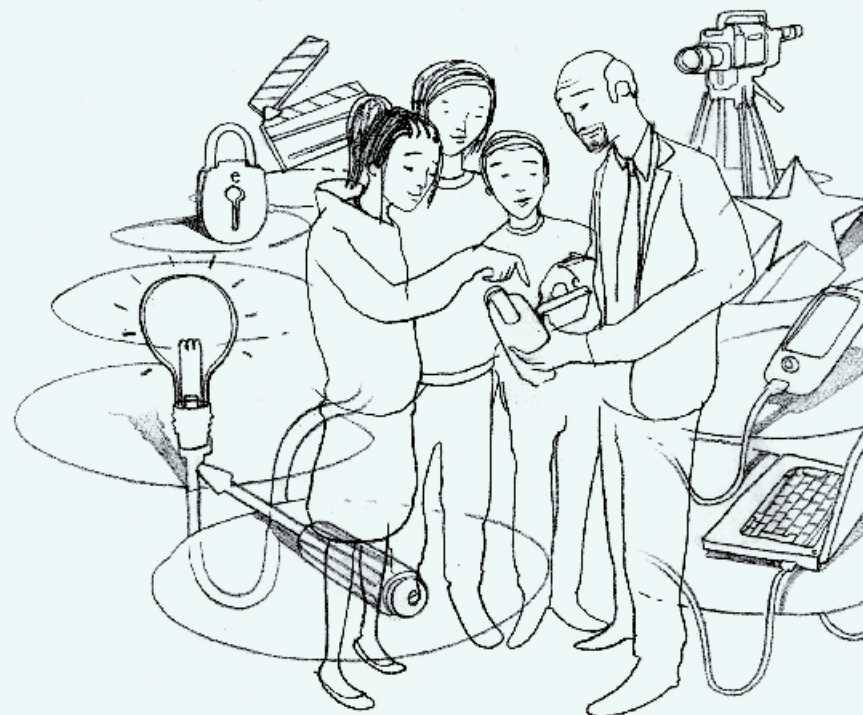
The materials in this resource have been developed and refined with teachers as part of Futurelab's two-year Digital Participation project in which researchers worked with primary and secondary school teachers in order to co-develop approaches to fostering digital literacy in the classroom. As part of the second year of the project, researchers held a series of professional development workshops which aimed to strengthen the ability of practitioners to understand and support learners' digital literacy in subject teaching, and to gain an understanding of what best supports teachers' professional development in digital literacy. This resource is the culmination of that work.[01]

Why digital literacy?
Over the past decade digital technologies have become embedded in popular culture and digital media has come to play an ever more important role in many societies. Although we must not overlook the inequalities that still exist in access to digital technologies and the internet, it can be said that people are increasingly engaged in everyday practices that take place in digital contexts.

In this increasingly digital world, digital literacy is an important entitlement which enables people to actively participate in their cultures and communities. Developing students' digital literacy furnishes them with the skills, knowledge and understanding that will help them to take a full and active part in social, cultural, economic, civic and intellectual life now and in the future.

Conceptually, digital literacy goes beyond a focus on the individual technical competence and functional skills needed in order to operate digital tools; it refers to the more subtle and situated practices associated with being able to create, understand and communicate meaning and knowledge in a world in which these processes are increasingly mediated via digital technologies.

Digital literacy is therefore coming to the attention of educators as they recognise that not only does the teaching profession have a role in preparing children for a digital world, but that a sustained engagement with technology and media is now integral to the development of knowledge across disciplines and subjects.

To be digitally literate is to have access to a broad range of skills, practices and cultural resources that you are able to apply to digital tools. It is the ability to make, represent and share meaning in different modes and formats; to create, collaborate and communicate effectively; and to understand how and when digital technologies can best be used to support these processes. Digital literacy involves critically engaging with technology and developing a social awareness of how a number of factors, including commercial agendas and cultural understandings, can shape the ways in which technology is used to convey information and meaning.

Activities 1.3, 1.4 and 1.5 explore the concept of digital literacy further and Resource Sheet 4 discusses some components of digital literacy.

How to use these professional development materials
Most of the activities included in this pack may be used by an
individual teacher or by a group of teachers (for example, during
an inset day) and some are designed to be used with students in
the classroom.

The activities aim to provide a coherent and logical process through
which to think through the issues relating to digital literacy. They can
either be worked through sequentially or activities can be picked out
to suit particular purposes and time frames.

Some activities will make more sense if completed after others.
Where this is the case it will be stated in the 'Preparation' section
of the activity.

An indication of the time needed to complete each activity is provided.

Section 1: What is Digital Literacy, and how does it relate to my practice?

This first section of this resource provides teachers with a set of activities designed to explore the concept of digital literacy and how it relates to their own professional practice.

The section begins by asking teachers to reflect on their own contexts, values, aspirations and the students they teach. It then moves through a number of activities that support practitioners to gain an understanding of digital literacy and develop their own approach to the concept and its implications for curriculum teaching and learning.

Each activity in this section of the resource ends with a 'takeaway.' This part of the activity asks practitioners to respond to some prompt questions and to note down the key points of the activity to take away and consider.

It is suggested that you record your takeaways on the handout provided (Resource Sheet 1), in a notepad, on sticky notes, or by talking into a voice recorder.

This collation of takeaways will be referred to in subsequent sections of this resource and will provide a quick reference to the key points that underpin an understanding of digital literacy.

1.1 Contexts

50 MINS

PRINT THIS ACTIVITY

Purpose
This activity is designed to provide teachers with an opportunity to reflect on their professional values, the young people they teach, their aspirations for these students and the contexts in which they're working. It provides a useful starting point and an anchor for future activities, when teachers will be considering the importance of digital literacy in relation to their own practice.

Preparation/Materials needed
For Part 2 of the activity it is useful to have some old magazines to cut up, or access to a collection of online images.

Activity

Part 1: Your school context (5-10 mins)
Create an A to Z of your school. For each letter of the alphabet, come up with and record a word that relates to one aspect of the experience of being a teaching practitioner in your school, from the classroom to policy level.

It is suggested that you set a time limit to complete this of between 2 and 5 minutes.

Once the A to Z is complete, spend a few minutes considering and/or discussing the context in which you teach and the breadth of factors that influence that context.

– Which do you feel currently have the most impact on your practice?

– Which are the highest priorities for you as a practitioner? For your school as whole?

Part 2: Your students (30 mins)
Create a representation of the students at your school. Your representation might take the form of a drawing of a typical student or a collage of images that you feel represent students at your school (perhaps using magazine pictures or images from an online source such as Flickr: **www.flickr.com**) or you might wish to create a mind map (perhaps using a free online mind mapping tool such as Webspiration: **www.mywebspiration.com**).

Try to make this a holistic representation of your students. Think about what you know about their lives outside of school as well as in, their formal and informal learning lives, their social lives, their hobbies etc.

If you are working in a large group you might wish to break into smaller groups to complete this task and then share your outputs once they are completed. Are there similarities?

Consider the following questions and annotate your pictures with your answers.

– What characterises the students you teach?

– Are there any assumptions that you think you or colleagues have made in creating the representations? Can you think of examples that might confirm and/or challenge these assumptions?

– What are your aspirations for your students as learners, and as people?

– What do you think students need to know now, and in the future?

Consider/discuss:

– How do you think your aspirations for your students differ from those your teachers had for you? How are they the same?

Part 3: Digital natives? (10 mins)
In the past decade it has become increasingly common to hear young people referred to as digital natives. In this part of the activity you will consider the meaning 'digital natives' and the complex issues that surround such a concept.

Read the boxed text below. What is your reaction to the piece? What do you think?

Digital natives?
The past decade has seen increasing access to the internet, mobile phones and other digital technologies that offer children and young people opportunities to actively manipulate digital media, new ways to participate in social and cultural life and the possibilities of creating outputs, communicating in new ways and participating in new communities.

As increasing attention has been given to young people and their use of technologies, various commentators have championed children's interactions with technology as different from those of adults who were not born into a digitised world.

Children, according to this view, have an innate affinity with technology and are even 'wired' differently, having interacted with media via digital technologies almost since birth. They are 'digital natives'.[02]

It is alleged that digital natives have a wealth of digital technology skills that far surpass those of their 'digital immigrant' parents and teachers. It also positions young people as savvy consumers of digital media who are growing up in a world where they make their own choices, create their own outputs and participate in their own informal learning.

However in recent years, an increasing number of scholars have questioned the concept of the digital native, stating that evidence does not support the fact that all young people have this high level of digital competency.[03]

Indeed an increasing number of teachers are reporting that young people, although confident in using digital technology, are not necessarily competent in skills such as searching for relevant and reliable information on the internet.

"I don't buy the digital natives argument, a lot of them are quite perplexed by the amount of stuff on the web, actually they have a pretty poor understanding of the reliability of sources, how to assess it and how to reference it." Year 11 science teacher, Digital Participation Project.[04]

Others have pointed out that in addition to this, the concept of the digital native ignores the realities of significant and persistent inequalities in terms of access to and competence in using digital technologies.[05]

02.
See Prenksy, M (2001). Digital natives, digital immigrants. **www.marcprensky.com** andTapscott, D (1998). Growing up digital: the rise of the net generation. New York: McGraw-Hill.

03.
Critiques of the idea of the concept of the digital native include: Facer, K, Furlong, J, Furlong, R and Sutherland, R (2003). Screenplay: Children and computing in the home. London: Routledge; Buckingham, D and Willett, R (eds) (2006). Digital Generations: Children, young people and new media. London: Lawrence Erlbaum Associates Publishers; Selwyn, N (2009). The digital native – myth and reality. Aslib Proceedings: New Information Perspectives Vol. 61 No. 4: 364-379

04.
Hague, C & Payton, S (2010). Digital Literacy Across the Curriculum. Bristol: Futurelab **www.futurelab.org.uk/resources/digital-literacy-handbook:** 10

05.
Buckingham, D (2007). Beyond Technology: Children's learning in the age of digital culture. Cambridge: Polity.

www.futurelab.org.uk/what-we-do/resources

Consider/discuss:

– In your experience of working with young people do you agree that all young people are innately digitally competent?

– Do you agree with the quote by the teacher? If so, what implications does this have for the role of schools in developing young people's digital practices?

Takeaway

The purpose of this activity was to provide you with a chance to reflect on the context you are working in and the young people you are working with. These are important considerations for you to bear in mind throughout the rest of the activities.

Reflect on the three parts of this activity that you have completed.

– What are the key points about the context you work in, your students and the aspirations you have for them that you would like to keep in mind to anchor your thoughts throughout the other digital literacy professional development activities?

Record these key points on **Resource Sheet 1**: Collation of takeaways, or in the place you have chosen to collate them.

1.2 School subjects and changing knowledge practices

Purpose

In this activity practitioners continue to consider the context in which they are working by exploring what an increasingly digital world means for school curriculum subjects.

Preparation

Each person or group will need a copy of **Resource Sheet 2: Thinking Boxes.** You might like to enlarge the diagram so there is more space to write in the boxes.

Activity

Individually or as a group, choose a subject of the curriculum. Perhaps the one you teach, lead or have a particular interest in. For the subject you have chosen, complete the Thinking Boxes activity on Resource Sheet 2 as follows:

Present

Write your brief responses to the questions below in the central boxes in the diagram.

- What continues to make your chosen subject's perspective or approach relevant in today's world:
  - for individuals?
  - in your local context/school?
  - on a national/global level/for society?

Past

Write your brief responses to the following questions in the left hand arrow box in the diagram.

- What is the history of your chosen subject discipline?

- In what conditions did your subject emerge as a discipline? Do those conditions still exist?

- How was it decided what bits of that subject were important to learn? Who decided?

- Was your subject approached differently in the past?

Towards the future [06]

Read and consider the boxed text: Changing knowledge practices. Write your brief responses to the questions below in the right hand arrow box in the diagram.

- How should your subject respond to changing knowledge practices in an increasingly digital world?

- How are digital tools shaping the development and sharing of knowledge in your chosen subject discipline and its related professions? What does this mean for the future of your subject?

- What sorts of practices do young people need to develop in order to be expert or competent in your chosen subject?

- Are the core values of your chosen discipline changing? Why and how? Should they be?

- Is your subject constrained by current contexts/policy? If so, how?

07.
Erstad, O (2010). Educating the Digital
Generation. Exploring Media Literacy for
the 21st Century. Nordic Journal of Digital
Literacy (5) 1

08.
Thomson, P (2007). Whole School Change
– A review of the literature. London:
Creative Partnerships **www.creative-
partnerships.com/data/files/whole-
school-change-14.pdf** : 27

09.
A Different View: a manifesto from the
Geographical Association provides a good
example of a manifesto for a subject
**www.geography.org.uk/resources/
adifferentview**

Changing knowledge practices

Each subject of the curriculum provides a distinct approach and perspective that supports people to make sense of their experiences of the world. However subject knowledge is constantly evolving and the speed of this change has increased with the development of digital technologies which allow online content to be more readily produced and updated.

Creating and editing information is no longer the preserve of the educated elite; knowledge and information are now more accessible than ever and internet resources can be created and edited by anyone.

Accessing information and knowledge through diverse technological and media forms affects knowledge itself. Knowledge is connected to the cultural tools we have available in order to create that knowledge and these change over time. New knowledge practices are therefore being developed and they are changing what is considered to be core knowledge and how students build knowledge in established school subjects[07].

The challenge for school then is to move from educating for the 21st century to educating "in, through, with and about this new interconnected world."[08]

Takeaway

Record your responses to the following on Resource Sheet 1: Collation of takeaways, or in the place you have chosen to collate these key points.

– In an ideal world how would you like to see the subject discipline you have chosen respond to the challenges and opportunities created by an increasingly digital world?

– What aspects of the way your subject is presented to students in the curriculum do you think should change? What do you think should remain the same?

– What case would you make for your subject's place in the National Curriculum in the 21st century?

Reflecting on your responses to the above and your thoughts throughout this activity, write a manifesto for your chosen subject discipline in the 21st century.[09]

Set yourself a word limit for your manifesto, of say 100 words. If you are a Twitter user you could even experiment with trying to create a 40 character manifesto and then tweeting it and getting your network's response to it.

1.3 Changing literacies

Purpose

One of the principles underpinning the idea of digital literacy is that people are active in making sense of the world and in both producing and consuming texts. For example, when someone is making sense of an advertisement, they are not just passively receiving a message, they are drawing on what they already know and understand in order to give that collection of words and images meaning in that context. In this activity you will:

- consider the everyday literacy practices through which we, as humans, communicate meaning, the tools we use to support these practices and the existing knowledge we draw upon in order to make sense of the world around us

- think about what this means in a world in which many everyday literacy practices take place in a digital context.

Preparation/Materials needed

For Part 2 of the activity it is useful to have some old magazines to cut up.

Activity

Part 1: Making meaning (20 mins)

Literacy can be understood as a set of social and cultural practices that involve the interpretation, production and communication of shared meanings. Literacy implies the ability to make sense of and to create meaning, as well as an understanding that doing so is a social practice that draws on an array of complex, interwoven social, cultural and historical contexts.[10]

In this part of the activity you will explore what existing cultural and social understandings we draw on to make sense of what we encounter by considering an image that we don't have all the cultural and social resources we need to understand.

Look at the picture below.[11]

- What might it mean?

- Discuss/think about what you would need to know in order to fully understand what it means, what it is communicating.

- What questions are raised about this image as you try to understand what it means?

Now read the boxed text on the next page.

10.
This view of literacy draws on the work of Brian Street and the New Literacy Studies, Street, B (2003). What's 'new' in New Literacy Studies? Critical approaches to literacy in theory and practice, Current Issues in Comparative Education, 5,2: 77.

11.
Image courtesy of P Gruban:
www.flickr.com/photos/ gruban/137421901/in/photostream

Whenever we engage with texts or images or conversations we draw on the existing cultural and social understandings we have in order to put them in context and make sense of them. We are doing this all the time without being fully aware of it.

This part of the activity draws our attention to this process because with this image, although we can recognise some of the elements of the picture, such as what the shapes mean, we can't truly comprehend its meaning because we don't fully understand the social and cultural context in which it was created.

Part 2: The train vignette[12]
Now imagine yourself in a busy train carriage full of a diverse range of people.

– In this snapshot of everyday life what are the people doing?

– Create a picture or collage of what's going on around you in that train carriage (if doing this in a large group, split into smaller groups and share your creations once they are complete).

You'll find you get more out of this activity if you complete your collage before reading on.

13

12.
This activity is based on the train vignette used as an example by Guy Merchant in: Davies, J and Merchant, G (2009). Web 2.0 for Schools: Learning and social participation. Peter Lang Publishing.

13.
Courtesy of Train Chartering & Private Rail Cars: **www.flickr.com/photos/14589121@ N00/2722816418/sizes/l/in/photostream**

Once your collage or picture is complete move on to the
questions and tasks below.

Communication
List all of the ways in which people in your train carriage are
communicating and sharing information, with each other or with
the outside world.

Consider/discuss:
- What tools are people using to communicate?

- For each tool are there any customs or social rules they might
  be making use of or adhering to?

- You'll probably find that some of the tools are digital
  technologies. What new social rules are there for the use of
  these tools?

Making sense in different formats
List all of the types of information and cues that people in your
train carriage are actively taking in and decoding in order to
make sense of the world around them, often without realising
they are doing it.

Consider/discuss:
- What are the different texts people are interacting with or
  creating and what formats are those texts in? For instance,
  a person might be engaging with printed text in a book,
  sending an email or making sense of a visual image such
  as an advertisement.

- What are the people in your carriage drawing on in order to
  make sense of those texts and the world around them?

Takeaway
Consider/discuss the boxed text below and the following questions.
Note down your responses on Resource Sheet 1: Collation of
takeaways, or in the place you have chosen to collate these
key points.

Digital technologies provide an increasing range of resources for
meaning-making and as such change what it means to 'read'
and 'write' in a culture. Not only does this imply changes in the
ways in which people access traditional literacy practices of
reading and writing but it also opens up new and changing
dimensions of what it means to be literate in a culture saturated
with digital media[14].

"The big picture; the changing world and the new demands
being placed upon people as makers of meaning in changing
workplaces, as citizens in changing public spaces and in the
changing dimensions of our community lives – our
lifeworlds"[15]

- What do students need to know, what practices do they need to
  develop in order to flourish in a world in which they will need to
  communicate in multiple ways with different technologies and
  media and in different formats?

- How can you support students of all ages to be active in and reflect
  on the process of making sense of a world in which digital
  technologies provide an increasing range of resources for
  meaning-making?

- How do schools help students make sense of the world?
  How can digital technology and media support this?

14.
Erstad, O (2010). Educating the Digital
Generation. Exploring Media Literacy for
the 21st Century. Nordic Journal of Digital
Literacy (5) 1

15.
New London Group (2000). A pedagogy of
multiliteracies: Designing social futures. In
Cope, B & Kalntzis (eds). Multiliteracies
London: Routledge: 4-5

1.4 Definitions of digital literacy

30 MINS

PRINT THIS ACTIVITY

Purpose
This activity provides practitioners with a number of different definitions of digital literacy and supports them to unpick them in order to decide which definitions they find most useful in relation to their own practice.

Preparation
This activity can be done individually or in small groups. Each person or group will need a copy of **Resource Sheet 3:** Compare and contrast definitions of digital literacy.

Activity

Before beginning this activity it is useful to have read the introduction to this resource and to complete the Changing Literacies activity.

Consider the following definitions of digital literacy and the boxed text entitled Making meaning:

— "the skills, knowledge and understanding that people need to use digital media and technologies critically, creatively, effectively and safely"

— "the skills, knowledge and understanding that people need to participate in economic, social, cultural and political life using digital media"

— "understanding, creating and sharing meaning with digital technologies and media"

— "the constantly changing practices through which people make traceable meanings with digital technologies."**16**

Making meaning
Many academics suggest that digital literacy should be understood as the practices involved in understanding, making and sharing "meaning" with digital technologies and media. But we've talked to some teachers who question what "making meaning" refers to.

To explore this further, it can help to think about the words 'meaningless' and 'meaningful'. There is no point using technology and media in a meaningless way; the way we use technology and media should be meaningful. It should help a person to understand, create, communicate or participate in something that has value to that person or to others (ie something which has some sort of 'meaning').

When students are developing their digital literacy, they are developing their ability to use technology and media to make sense of the world and to create and share forms of meaning and knowledge that are relevant and germane in particular contexts. The challenge is who gets to define what has meaning!

Consider/discuss:

– What are your initial reactions to the definitions?

– Is there one which seems to make most sense to you?

Choose two of the definitions, the one you are most drawn to and the one which you feel you would like to explore some more. Using the template provided in Resource Sheet 3, compare and contrast the two definitions.

16.
Gillen, J and Barton, D (2010). Digital Literacies: A research briefing by the technology enhanced learning phase of the Teaching and Learning Research Programme. London Knowledge Lab, Institute of Education: 8.

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- How are they different in the way they approach the concept of digital literacy?

- What elements of them are the same?

Take the parts of each one that make most sense to you and write your own definition of digital literacy.

Takeaway
On Resource Sheet 1: Collation of takeaways or in the place you have chosen to collate these key points record:

- ways in which your thinking about what digital literacy is has changed

- your definition of digital literacy

- your questions about how digital literacy relates to your practice.

1.5 The components of digital literacy

Purpose
In this activity teachers consider the sorts of skills, practices and understandings that comprise digital literacy. The activity encourages practitioners to reflect on how their existing teaching skills and their aspirations for their students relate to the components of digital literacy.

Preparation
Each person undertaking this activity will need a copy of **Resource Sheet 4**: The components of digital literacy.

Activity

Read Resource Sheet 4: The components of digital literacy, which gives a brief explanation of each component. Consider also the boxed text below the explanation of the components.

As you read through the resource sheet, underline parts that resonate with your own beliefs and put a question mark by those parts which you feel you need to spend more time becoming familiar with, or indeed disagree with.

If you are working in a group you might wish to discuss each component in turn.

Consider/discuss:

- Do you think any skills, practices or understandings are missing from this representation of digital literacy? Is there anything you would add?

Refer back to Activity 1.1: Contexts.

- Consider your students and your aspirations for them. Do any of your aspirations map to the components of digital literacy? For example you might wish your students to become competent and confident communicators, this would map to the effective communication component of digital literacy.

- On your digital literacy components, note down next to each component any aspirations you have that relate to them.

Now read the short scenario below.

A teacher would like to his Year 9 science class to split into small groups, each of which will research a certain aspect of a topic and then make podcasts to 'teach' their peers what they have learnt.

The teacher has never made a podcast before and does not have the knowledge of the functional skills needed to edit audio recordings or upload a podcast to a website.

He has however spoken to his students, several of whom have used audio editing software and are confident they will be able to share the functional skills needed with students who haven't edited audio. The teacher has also asked his colleague for support with uploading the finished podcasts to the school website.

Now that the teacher has allayed his concerns over the functional side of the use of technology, he turns his attention to how best he can use his skills as a practitioner to support students' digital literacy through this activity.

The fact that a teacher may not have used certain digital tools before doesn't mean they don't have the skills to support students' digital literacy.

- How can the teacher in the scenario above use his professional skills as a teacher to foster student's digital literacy throughout the activity?

- Which components of digital literacy might the teacher be able to support his students to develop even though he does not have in-depth knowledge of the tool his students are using? For instance, collaboration by supporting his students to work effective together to produce the podcast or effective communication by supporting the students to reflect on which key bits of subject knowledge they need to include in the podcast.

Takeaway

On Resource Sheet 1: Collation of takeaways, or in the place you have chosen to collate these key points record your responses to the following:

- How do the components of digital literacy support students to make sense of the contemporary world?

- How might this help students to meet their own aspirations and the aspirations of their teachers?

- Even if a teacher doesn't have in-depth knowledge about technology or well-developed functional skills, what can they offer to support students' digital literacy practices?

It is difficult to use technology meaningfully and competently to create and communicate understandings unless there is some meaningful content to work with. In the context of a school classroom, subject knowledge is the content around which these digital literacy practices can be developed.

- How might the components of digital literacy support students to develop their subject knowledge?

1.6 Students' digital practices

Purpose
This activity builds on the premise that young people do not leave the experiences they have out-of-school behind the moment they enter their school building. Many teachers are now exploring how links can be made between young people's out-of-school interests and knowledge practices and their in-school learning.

This activity is designed to help teachers gain an understanding of their students' digital media literacy practices outside of school and to consider how these can be valued and built upon in the classroom.

Preparation
If you are planning to undertake a training session with colleagues, you might like to ask them to undertake this activity with their students before coming to the session so that they could discuss their experiences with each other. Alternatively Part 1 could be undertaken before the session, Part 2 during the session and Part 3 as follow-up work.

Each teacher undertaking this activity will need a copy of **Resource Sheet 4**: The components of digital literacy. It will also be useful if teachers have explored these components in Activity 1.5: The components of digital literacy, prior to commencing this activity.

Your students will need copies of **Resource Sheet 5**: What connections can be made between our in and out-of-school digital practices? for Part Three of the activity.

Activity

Part 1: An audit of digital media practices with your students
In this part of the activity you will work with some of the young people you teach to design and carry out an audit of their digital practices.

- Explain to your students that as part of your professional development you are considering the links between the ways in which digital technology is used in and out-of-school, and that you would like to work with them to design a way of gaining an overview of the sorts of digital practices young people are engaged in outside school.

- With your students design and carry out an audit that allows them to share with you the sorts of activities they undertake with digital technology outside of school.

Examples of ways to gather information about digital practices:

- A survey: 'What I do with technology outside of school'. You and your students could design a survey which they then fill in themselves or ask other students to fill in. The questions would need to be carefully phrased so that they result in information about digital practices rather than simply an overview of the sorts of technology used.

- A photo collage: students could take photographs or screen shots of some of their digital practices and annotate them with further explanations of what practices those images show.

– A drawing: 'Me and technology'. Students could draw a picture of themselves and the technology they use. You would need to ask students to annotate their pictures or have conversations with you about what it is they do with those technologies.

– A digital technology day/week in the life: students could keep a diary for a day, a few days or a week in which they record their digital technology practices.

It is crucial, that whichever method you decide to use for your audit, you make sure that students are recording their practices in some level of detail.

For example many of your students may report that they play digital games but there are many different sorts of games that require or allow participants to undertake different sorts of activities; some games are multi-player and online and therefore allow communication with friends and with strangers, some games must be played collaboratively, some are played offline and individually and most games will involve some sort of progression element. Rather than just knowing that your students play games it is interesting to know some of the practices those games involve.

You might wish to audit your own digital practices and compare them with those of your students.

Part 2: Mapping students' digital media practices to components of digital literacy
In this part of the activity you will consider your students' out-of-school digital practices along with the components of digital literacy (explored in the previous activity and detailed on Resource Sheet 6) in order to map the components to the practices.

First, collate the data from your audit in a way shows the breadth of students' practices; this may simply be a list of all the students out-of-school digital practices identified through the audit or you might also wish to analyse the data for themes and group the practices under those themes.

Now list the ten most popular digital practices or groups of digital practices you have identified.

Consider the components of digital literacy on Resource Sheet 4.

– Do the components map to the practices identified?
  For example, if your students report playing digital games in which they must work as a team, you could map this to the collaboration component.

– Record on your list of practices the components they map to.

Part 3: What connections can be made between students in and out-of-school digital practices?
In this part of the activity you and your students will consider out-of-school and in-school digital practices and consider whether you can make useful connections between them.

– Share with your students their out-of-school digital practices obtained from the audit.

Now consider, with your students, how they use digital technology in-school.

- Create a class list of in-school digital practices (you might consider using a free online collaborative writing tool to compose the list, such as a wiki or Primary Pad: **www.primarypad.com** – see Section 2, Digital Tools).

- Ask your students to work together in small groups to review the lists of their out-of-school and in-school digital practices.

- Ask them to identify whether there are any digital practices that appear on both lists. For example they may use email to communicate both in-school and out-of-school or some of them may write their own personal blogs as well as contributing to a class/school blog. These practices would therefore appear on both the in-school and out-of-school lists.

- Ask each group to choose one of the digital practices that appears on both lists and to use Resource Sheet 5: What connections can be made between our in- and out-of-school digital practices? to record the differences and similarities in this particular practice when undertaken in-school and out-of-school.

Discuss with your students:

- How are the practices they have chosen being developed in different ways in-school and out-of-school?

- Are there any aspects of the out-of-school practices that students think it would be useful to be developed in-school to support their learning? Why?

- Do students think the practices they've examined are specifically relevant to their learning in the subject/s or current topic you are teaching? How?

You may also wish to consider with your students some small, practical ways in which you might work together to develop their digital practices in your subject teaching.

Takeaway
This activity was designed to enable you to gain an understanding of your students' digital practices outside of school, and to consider how these can be valued and built upon in the classroom.

Reflect on all the exploration you have done with your students around their in-school and out-of-school digital practices and also on your manifesto for your chosen subject discipline in the 21st century from Activity 1.2: School subjects and changing knowledge practices.

Then, record your response to the question below on the Resource Sheet 1: Collation of takeaways, or in the place you have chosen to collate them.

- How could students' out-of-school digital practices be extended and developed to support curriculum subject teaching?

Section 2: Digital tools

This section contains a set of five activities based around the use of some free digital tools.

The activities may introduce practitioners to some new tools but their primary purpose is to support critical thinking around how the tool might be meaningfully incorporated into teaching and learning in a way that supports students' development of both subject knowledge and digital literacy.

For each featured tool, there are some practical tasks that explore the tool's functions, along with some key questions that support the critical analysis of how that tool might be used.

How to use this section

You will need access to the internet in order to undertake the parts of the activities that involve using the tools. However, the critical analysis of the tools is the key part of this activity so if you are already very familiar with the functionality of the tools featured, you might wish to simply focus on the questions that support you to reflect on the use of the tools to support digital literacy.

If you are using this section of the resource on your own, you might wish to move through the activities sequentially or pick out the ones that interest you the most.

If doing this in a group it can be useful to use a carousel system whereby a number of tables are set up, each with one of the activities. Small groups or individuals can then move from table to table, spending a short while at each one, trying out the tool and recording their responses to the critical analysis questions onto a large piece of paper before moving on to the next tool. In this way you will have the whole group's responses to the critical analysis questions for each tool recorded in the same place. These can then be used for group discussions at the end of the session.

It is recommended that you allow a minimum of 20 mins for each activity.

At the end of the section is a digital tools resource bank with links to other digital tools and to online lists of tools compiled by teachers. You might wish to extend this section of the resource by choosing some other tools you are interested in and devising your own critical analysis questions to explore how they might be used to support the development of digital literacy and subject knowledge.

Preparation
It useful for practitioners to have a copy of **Resource Sheet 4: The components of digital literacy** to hand whilst completing these activities.

2.1 Making short films

20-30 MINS

PRINT THIS ACTIVITY

Activity

Featured tool: Animoto

⤢ **animoto.com**

Animoto allows users to create short videos, rather like film trailers, from their own uploaded photos and videos clips. The service provides a library of music from which users can select appropriate music for their video or allows them to upload their own tunes.

Once photos, video and music clips have been uploaded and selected, Animoto automatically combines them to produce a video which can then be sent to an email address, posted to a social networking site or stored online.

What to do

- Go to animoto.com. Have a quick look at the some of the example videos Animoto provides. You might also want to browse the case studies on Animoto Education: **animoto.com/education/case_studies** (see below for more information about Animoto Education).

- Sign up for a free Animoto account. You will need an email address.

- Then log in and experiment with the process of making a short film. You will need to upload some photos in order to do this.

- If you are working on this with colleagues, has anyone in the group used Animoto with their students? How?

Whilst using Animoto, consider the questions below and record your answers, along with any other critical evaluations you might have of Animoto as a tool.

Questions to consider

- How might making a short film support students' subject knowledge?

- How might you support your students' digital literacy through the activity of making a short film? Which components/aspects of digital literacy would this involve?

- The free version of Animoto only allows you to create videos that are 30 seconds long. What would students need to think about and reflect upon in order to create a 30 second clip that communicated what they wanted it to? How could you support them to do this?

- Animoto Education (**animoto.com/education**) allows teachers to sign up for an account in which it is free to make clips of up to ten minutes in length. What different sorts of considerations would students need to keep in mind when making longer clips?

- What are the positives and negatives of the tool and when might Animoto not be an appropriate tool to use?

Other resources for making short films

Photo Story
This tool allows you to create narratives, in the form of slideshows using your digital photos. You can edit photos and then arrange them as a story, adding special effects, soundtracks, and your own voice narration, titles and captions. Small file sizes make it easy to send your photo stories in an email.
⬈ www.microsoft.com/photostory

Movie Maker and iMovie
Windows Movie Maker (Microsoft Windows) and iMovie (Apple Mac) are applications that allow you to edit video footage taken on a digital video camera. Students can make decisions about how they should edit their footage for a particular purpose, and how to use the video format and effects creatively (eg different transitions, slowing or speeding up film, adding text) to communicate ideas.
⬈ www.microsoft.com/windowsxp/using/moviemaker/default.mspx
⬈ www.apple.com/ilife/imovie

2.2 Creating animations

20-30 MINS

PRINT THIS ACTIVITY

Activity

Featured tool: DoInk

↗ **www.doink.com**

DoInk is a free online tool for creating and sharing animations. Students can design and develop their own animations using online software that's been developed to be relatively easy to use. Once the animation has been created it is stored online and students can comment on each others' work.

What to do

– You will need to create an account with DoInk at **www.doink. com**, and then log in.

– First, you may wish to explore one or two animations on the website. The links below will take you to some of the animations created by the students in the case study on the next page.
   ↗ www.doink.com/clips/05atjs/562253
   ↗ www.doink.com/clips/MUNROPOLZ/562261
   ↗ www.doink.com/clips/LaurenS/562260
   ↗ www.doink.com/clips/martinandsophie/562255

– Once you have explored, try creating your own animation, perhaps choose a theme or subject for your animation.

– If you are working on this with colleagues, has anyone in the group used DoInk or a similar online tool to create animations with their students? What are their experiences?

Whilst using DoInk, consider the questions below and record your answers along with any other critical evaluations you might have of DoInk as a tool.

Questions to consider

– How could making an animation with DoInk support subject knowledge?

– What components of digital literacy might you be able to foster in an activity in which students were creating online animations? You might wish to read the case study below and consider which aspects of digital literacy were being fostered through the activities the students undertook.

– The creation and communication of meaning via an animation differs from communication of meaning via a piece of written text or a film. What would you need to support your students to consider in order to communicate meaning and subject knowledge effectively to an audience through this format?

– Once students have created their animations they are stored online and students can comment on each others' work. Other people registered on the website can also comment on students' work and the website encourages an online community feel. What sorts of critical questioning and thinking might you need to support students to engage in because of this?

The following case study gives one suggestion for using DoInk in the classroom.

Key Stage 4 science students at Saltash Community School in Cornwall were learning about enzyme theory. Teacher Dan Roberts found that "one of the things students always seem to find difficult to grasp is visualising concepts like the 'lock and key' and how the active site changes shape when the enzyme denatures".

He thought it might help students' learning if they could create their own animations of the process. Having never done any animation before, Dan set about asking other teachers, via the social networking site Twitter, whether they knew of any simple, free animation tools. He had a quick go himself with one of the tools recommended and decided to try it out with his Year 11 students.

The students used DoInk which quickly and simply allowed them to create an animation of the 'lock and key' process which some chose to embed into a short story-like description of the process by adding text and further effects.

The animations were saved on the website. Dan was able to comment on the content of each one and they are now available for the students to use for revision, or indeed for other students to discover and learn from.

The students enjoyed using DoInk and some have said they will be using it at home to create their own animations to help them create visual stimuli to support their revision in many different subjects.[17]

Other online tools for making animations

GoAnimate
This tool allows you to make your own animated characters, direct your own cartoons and watch others' creations.
www.goanimate.com

Pixton Click-n-Drag Comics
With this tool you can create and remix your own comic characters and storylines. There is an online community so users comment on each others' creations.
www.pixton.com/uk/create

17.
Hague, C & Payton, S (2010). Digital Literacy Across the Curriculum. Bristol: Futurelab **www.futurelab.org.uk/ resources/digital-literacy-handbook** :25

2.3 Making podcasts

Activity

Featured tool: Audacity

🔗 **www.audacity.sourceforge.net**

Audacity is free online audio software used to create and edit recordings or make music. It can be used by students for creating podcasts or to create a voice-over or background music to accompany a film, animation or presentation.

> "Podcasting refers to the practice of creating and distributing audio, and increasingly, video for people to access in a variety of convenient ways, most notably via a computer or portable media device."[18]

Many radio shows produce podcasts which you can download and listen to when it suits you. You can also subscribe to podcasts.

What to do

– If you do not already have Audacity downloaded to the computer you are using, you will need to do so. Go to the website listed above, click the link to download Audacity and follow the instructions.

– Once you have the Audacity software, explore how it works.

– We have provided some instructions onhow to use Audacity, see **Resource Sheet 6**.

– Experiment with recording a short piece about a topic of your choice.

– If you are working on this with colleagues, has anyone in the group had experience of creating podcasts in classroom to support learning? What tips can they share?

Whilst using Audacity, consider the questions below and record your answers on the sheet provided, along with any other critical evaluations you might have of Audacity as a tool.

Questions to consider

– Consider the quotes in the box below. How could you support students to think critically about whether making a podcast is appropriate for the task they are undertaking?

> "With a podcast you could listen to it over and over again to help you revise" Year 11 student (Digital Participation project)
>
> "It's hard to put a picture into words in a podcast. Looking at picture is easier for some parts of this learning" Year 11 student (Digital Participation project)

– Communicating meaning without images can be difficult. When making an audio podcast, what might students need to consider in order that their audience understands what they are communicating?

– What cultural and social understandings might students be drawing on when creating a podcast? For example, what sorts of radio broadcasts might they base the style of their podcasts on and what implicit messages might the style of the podcast convey?

- Once students have made podcasts they could be shared in class or publicly on the school website (see for example www.knowleparkfm.co.uk) or on a website such as Radiowaves: **www.radiowaves.co.uk**.

- What sorts of questions/issues might you and the students need to consider if you decide your podcasts will be uploaded to a website?

- How could making a podcast support subject knowledge?

Other useful resources

If you have never listened to a podcast before, you and you students might wish to explore the ones the BBC produces www.bbc.co.uk/podcasts. You could also ask your students whether they regularly download podcasts.

Radiowaves
Radiowaves is a free, online community which provides students with a real audience for their creativity.
The website is a safe, moderated space for school children of all ages to share their podcasts and videos with others. It allows young people to post their own work, explore video and audio uploaded by others and to give each other feedback on the media they have created. All Saints CE Junior School has a mini-site on Radiowaves which includes a selection of audio podcasts.
www.radiowaves.co.uk
www.radiowaves.co.uk/allsaintscejuniorschool

If students wish to include music in their podcasts this can be a useful opportunity to discuss the issue of copyright and how to reference sources.

Below are two websites that provide free music produced under a Creative Commons license and is therefore legal for students to use on their podcasts (provided they adhere to the terms of the license).

For more about Creative Common see:
www.creativecommons.org

Jamendo
Jamendo is a useful website for students to find free and legal music downloads for their creative outputs. All the music on Jamendo is produced under Creative Commons licenses, which enable musicians to give their music away for free, whilst still protecting their rights. This avoids copyright issues of students downloading and using, for example, chart music to add to their digital creations and presentations.
www.jamendo.com/en

The Freesound Project
The Freesound Project is a collaborative database which focuses only on Creative Commons licensed sound, not songs. It provides new and interesting ways of accessing these audio snippets, samples, recordings, and bleeps, allowing users to browse the sounds in new ways using keywords, a "sounds-like" type of browsing, up and download sounds to and from the database, under the same Creative Commons license, and interact with fellow sound-artists.
www.freesound.org

2.4 Creating a wiki

⏰ **20-30 MINS**

🖨 PRINT THIS ACTIVITY

Activity

Featured tool: PB Works

↗ **www.pbworks.com**

A wiki is an online space that can be edited and updated by a number of authors. Wikis provide opportunities for encouraging collaborative collation of information and creation of text. Setting up a wiki is simple to do. Websites such as PBworks have free options for classroom use and provide instructions.

Examples of teachers using wikis in educational settings include[19]:

- students creating a joint class statement about a particular topic

- students creating a shared resource with students from another school in another country, to develop shared cultural understandings around each others' digital media use

- developing a shared bank of definitions of terms with students adding, modifying and updating each others' definitions and adding new terms

- collaborating on a book writing project in which groups of students wrote different chapters together, building on previous chapters.

What to do

Set up a wiki using PBworks, using the free, basic education edition (**www.pbworks.com/content/edu-basic-edition**). One of the advantages of using this edition is that although you need an email address in order to register an account, you can set up access for your students/colleagues without them needing email addresses.

- Once you have set up your wiki, explore the functions available, add some content to the pages that are set up by default and create your own new pages.

- If working in a group, decide a clearly defined topic area you would like to research. Then give yourselves ten minutes to individually research that topic and to add contributions to a shared wiki. Whilst you are doing this, reflect on how you might support students to do the same.

- If you're working with colleagues, has anyone in the group got an experience of using a wiki in the classroom that they'd like to share?

Whilst 'playing' with the wiki, consider the questions below and record your answers, along with any other critical evaluations you might have of using wikis.

19.
These and other examples of using wikis in the classroom can be found in Carrington, V. (2009). From Wikipedia to the Humble Classroom Wiki: Why We Should Pay Attention to Wikis. In Carrington, V. And Robinson, M. (2009) Digital Literacies. Social Learning and Classroom Practices. London: Sage and in Davies, J and Merchant, G (2009). Web 2.0 for schools: Learning and social participation. New York: Peter Lang

www.futurelab.org.uk/what-we-do/resources

Questions to consider

– You can find a list of 'Interesting Ways to Use a Wiki' complied by teachers on this blog page: **edte.ch/blog/interesting-ways**. Consider the thinking you have done around digital literacy in section one of this resource. How might you support your students to develop their digital literacy whilst using a wiki?

– Wikis are designed to be collaborative online spaces. What is effective collaboration? What does it look like? What does it feel like? How do you create the best conditions for effective collaboration in the classroom?

– A wiki set up in a lesson could be accessed outside of that lesson. How might this be useful?

– Wikis can be set up to be private or public. What sorts of different questions/issues might you and students need to reflect on critically depending on whether you decide your wiki should be able to be viewed by anyone or only by the class?

Other useful resources

Wikispaces
This is another website that offers free wiki set-up to teachers.
www.wikispaces.com/site/for/teachers

PrimaryPad
This tool is a free web-based word processor that allows a certain number of pupils and teachers to work together to create and edit text in a single document at the same time.
www.primarypad.com

Wallwisher
This is a tool that supports the collaborative collection of ideas on an online notice-board.
www.wallwisher.com

You can also find a list of 'Interesting Ways to Use Wallwisher' complied by teachers on this blog page: edte.ch/blog/interesting-ways. Which of the ways suggested would support you to foster students' digital literacy in your subject teaching?

2.5 Creating a website

20-30 MINS

PRINT THIS ACTIVITY

Activity

Featured tool: Weebly

⧉ **www.weebly.com**

Weebly is a free online tool that allows users to create a website and accompanying blog. It provides an easy 'drag & drop' way of creating a website, using templates. It also hosts the website for free.

What to do

- Go to **www.weebly.com** and create an account. You will need an active email address.

- Log in to your new account. This will take you to the account's homepage where you can enter the name of the website you would like to create. Choose the free option which allows you to create a weebly.com site.

- Once you have created your website you can begin editing it. You can experiment with different designs, upload photos and add text or links.

Whilst exploring Weebly, consider the questions below and record your answers on the sheet provided, along with any other critical evaluations you might have of creating websites.

Questions to consider

- What sorts of issues would you need to bear in mind if your students were building a website and what opportunities for supporting digital literacy might these issues present?

- How might creating a website support students' subject knowledge?

- How would you support students to carefully consider the content of their website?

- In uploading photos, videos and text and in creating hyperlinks, students will be exploring communicating in different formats and modes. How will you support students to reflect on what and how they are communicating via those different formats?

- Creating your own website provides an interesting opportunity to talk about the ways in which other people have designed websites. What aspects of the design of a webpage could you explore with your students? For example, many websites have advertisements that are in embedded in a way that makes them part of that site. You might want to have a discussion with your students about the underlying commercial nature of many websites.

2.6 Free Online Tools Resource Bank

PRINT THIS RESOURCE

Lists of tools for teachers and students

⬈ www.cooltoolsforschools.wikispaces.com
A wiki that contains links to lots of different digital tools that can
be used in the classroom, organised by type.

⬈ www.enquiringminds.org.uk/try_it/digital_tools
A searchable list of digital tools.

⬈ www.chickensaltash.edublogs.org/2010/11/12/ten-top-
technology-tools-for-teachers/
A list of popular tools teachers use in the classroom.

Creative tools

Google SketchUp
A simple tool for creating 3D scenes, models and drawings.
You can share creations by saving them on the SketchUp site.
⬈ www.sketchup.google.com

Microsoft Photosynth
Combine many photos taken at the same site to generate a three-
dimensional interactive tour of that site.
⬈ www.photosynth.net

Photo Story
This tool allows you to create stories, in the form of slideshows
using your digital photos. You can edit photos and then arrange them
as a story, adding special effects, soundtracks, and your own voice
narration, titles and captions. Small file sizes make it easy to send
your photo stories in an email.
⬈ www.microsoft.com/photostory

GoAnimate
This tool allows you to make your own animated characters, direct
your own cartoons and watch others' creations.
⬈ www.goanimate.com

Aviary
A free online photo editor.
⬈ www.aviary.com/home

VoiceThread
Add voice recordings to photo slideshows, share these and allow
other people to add their voice comments to your work. Similar to
Animoto (www.animoto.com) but more collaborative.
⬈ www.voicethread.com

Pixton Click-n-Drag Comics
With this tool you can create and remix your own comic characters
and storylines. There is an online community so users comment on
each others' creations.
⬈ www.pixton.com/uk/create

Music

Jamendo
Jamendo is a useful website for students to find free and legal
music downloads for their creative outputs. All the music on
Jamendo is produced under Creative Commons licenses, which
enable musicians to give their music away for free, whilst still
protecting their rights. This avoids copyright issues of students
downloading and using, for example, chart music to add to their
digital creations and presentations.
⬈ www.jamendo.com/en

JamStudio
Quickly and simply create a song from a library of instruments.
⬀ www.jamstudio.com

Songsmith
Sing into your mic and a backing track automatically plays along. (Download. Free trial version allows six hours of song recording.)
⬀ www.research.microsoft.com/en-us/um/redmond/projects/songsmith

The Freesound Project
The Freesound Project is a collaborative database which focuses only on Creative Commons licenced sound, not songs.
⬀ www.freesound.org

Collaboration

PrimaryPad
A web-based word processor designed for schools that allows pupils and teachers to work together in real-time (like Google Docs).
⬀ www.primarypad.com

Wallwisher
This is a tool that support the collaborative collection of ideas on an online notice-board.
⬀ www.wallwisher.com

Dabbleboard
A collaborative whiteboard/drawing tool which recognises shapes as you freehand draw them. Good for collaborative brain storming, flow charts, etc.
⬀ www.dabbleboard.com

Location-based/Mapping tools

Community Walk
Create interactive walks based on Google Maps – create a walk and add media to it.
⬀ www.communitywalk.com

Discussion/debate/critical thinking

Exploratree
Use a library of online thinking guides. Change or customise them using images, text and shapes - fill in and complete your project, build up a personal portfolio of useful thinking guides, send them to students, share them with others.
⬀ www.exploratree.org.uk

Wordle
A toy for generating 'word clouds' from text that you provide. The clouds give greater prominence to words that appear more frequently in the source text.
⬀ www.wordle.net

Power League
A free, versatile resource for actively engaging people with topics and positioning potentially challenging issues in a fun, easy way.
⬀ www.powerleague.org.uk

Section 3: Planning activities

The aim of the activities in this section of the resource is to support teachers to plan classroom activities that foster digital literacy across their curriculum teaching.

It begins with some quick, 'back-of-an-envelope' style planning activities designed to elicit a number of ideas which can then be worked on in further activities that support more in-depth classroom planning. The section concludes by asking teachers to design their own bespoke digital literacy planning resource.

It is recommended that you work through this section sequentially if possible.

It is also recommended that you have undertaken some of the activities in the prior sections of this resource, because these planning activities will be drawing together and building on your understanding of digital literacy from Section 1, and your critical analysis of tools to support digital literacy in Section 2.

The activities can be undertaken by a single practitioner but it is worth considering that practitioners who have undertaken these activities in workshop settings have reported gaining a great deal from being able to share ideas with each other.

3.1 Quick-fire planning

🕐 **30 MINS**

🖨 PRINT THIS ACTIVITY

Purpose
To provide teachers with the opportunity to complete some quick-fire planning of ways in which they can integrate the development of digital literacy with topics they already teach.

This activity can be done as an individual, but works particularly well in a group because it allows teachers to get suggestions and ideas from fellow practitioners.

Preparation
It would also be useful to have completed Section 1 and Section 2 of the pack so that you can:

- have your 'takeaways' to support reflection on what aspects of digital literacy you would like to include in your planning.

- use your knowledge and critical analysis of digital tools to decide which digital technologies you might make use of in the activities you plan.

Materials

- Sticky notes or small cards (approximately 10-15 per person).

Activity

- Spend two minutes writing as many of your upcoming teaching topics as you can onto the cards or sticky notes provided.

- Write one topic on each card. If you were a geography teacher, for example, you might write down 'volcanoes' or 'earthquakes'.

- If you are working with others in a group, combine each person's cards/sticky notes into one big pile.

- Shuffle all of the cards/sticky notes you or your group have written on and place them face down in the middle of the table.

- Turn over one card at a time. Working together as a group or individually, consider each topic and the sorts of learning objectives that would be associated with it and decide for those objectives whether developing students digital literacy might support and be supported by the development of subject knowledge in that topic.

- If so, do some very quick 'back-of-an-envelope', quick-fire planning by briefly brainstorming some ideas for how you might go about developing some of the components of digital literacy at the same time as teaching that particular topic. Spend about two to five minutes per card/sticky note.

- At the end of the activity review the ideas you now have for incorporating some development of digital literacy into your upcoming teaching topics, and consider which ones you might like to build upon.

3.2 Trialling a full digital literacy activity

1.5-2 HOURS

PRINT THIS ACTIVITY

Purpose

In this activity practitioners plan, in detail, an activity that will support the development of subject knowledge, foster students' digital literacy and result in the production of an output or resource.

The participants then carry out the activity themselves to experience what it would be like for students to undertake the activity, and in order to consider how they might best facilitate this sort of activity |in the classroom. This can be done by an individual, but teachers who undertook this activity in workshops reported that the interaction with other practitioners, being able to 'bounce ideas around' and learning from each other, was an important element of doing the task.

Preparation

It would be useful to have completed Activity 3.1: Quick-fire planning prior to beginning this one. It would also be useful to have completed Section 1 and Section 2 of the pack so that you can:

- have your 'takeaways' to support you reflect on what aspects of digital literacy you would like to include in your planning

- use your knowledge and critical analysis of digital tools to decide which digital technologies you might make use of in the activity you plan.

It is also recommended that you have:

- a copy of **Resource Sheet 4**: The components of digital literacy.

- arranged access to the digital tools and technologies you wish to use.

Activity

Part 1: Detailed planning of an activity (20 mins maximum)

- From Activity 3.1: Quick-fire planning, choose one activity that you felt supported digital literacy as well as developing subject knowledge. (If you have not completed the Quick-fire planning activity, consider your upcoming teaching topics and decide which ones you might like to focus on. Spend a few minutes thinking through each one and briefly brainstorming some ideas for activities that might foster some of the components of digital literacy at the same time as developing subject knowledge in that particular topic. Then choose one activity to focus on for this activity.)

- Spend approximately 15-20 mins planning your chosen activity in greater detail, considering how it would support your students' digital literacy as well as subject knowledge and involve them in creating an output for a particular audience.

- During your planning reflect on your 'takeaways' from the activities in Section 1 of this resource, so that you incorporate your understandings of digital literacy and your aspirations for your students into your planning.

- When considering which digital tools to make meaningful use of in the activity, consider your critical analysis of digital tools from Section 2 of this resource. You might wish to consider building in some choice around which tools students could use during your activity. In this case, also plan how you would support your students to make those sorts of choices.

- Record your planning.

Part 2: Carrying out the activity (1 hour maximum)

- List the resources you will need in order to carry out the activity you have planned and produce the associated output, then gather those resources.

- Now undertake the activity you have chosen as though you are a student, from start to finish, including the production of an output. Make sure you assign a timescale for completion of the activity and give yourself/yourselves a deadline. It is suggested you spend no more than an hour on this part of the activity.

- As you undertake the activity, reflect on how it is supporting digital literacy, contributing to students understanding of the topic/subject and how you would need to organise teaching and learning if you were carrying this activity out with your students in the classroom.

Part 3: Reflection
Once you have completed your activity and, if working in a group, shared your outputs, reflect on the experience. Bearing in mind your 'takeaways' from Section 1 and the components of digital literacy, consider/discuss the following questions.

- What worked well? What didn't work so well?

- What did you learn about developing students' digital literacy by carrying out the activity?

- Which aspects of students' digital literacy do you think you would be able to support through this activity?

- How would you know whether the activity was developing your students' digital literacy?

- If you were carrying out the activity in the classroom, in what ways might your practice and classroom interactions be different from your regular subject teaching?

3.3 Designing a planning guide

Purpose

The teachers who took part in Futurelab's Digital Participation project reported that designing and developing classroom activities that fostered digital literacy involved considering some different aspects of lesson planning to those they might usually think about, eg the sorts of space needed for collaborative working.

In this activity teachers design a template to support them to plan activities to support digital literacy in their teaching.

Activity

Is it useful to consider the final question from the previous activity:

- If you were carrying out an activity designed to support the development of students' digital literacy, in what ways might your classroom practice and interactions be different from your regular subject teaching?

Jot down your answers on a large piece of paper or sticky notes. If you are working with others, share your responses to this question.

Now look through the responses to that question.

- Are there any themes that emerge?

- For example, are there several responses related to the sorts of resources you will need? To the kind of space that would best facilitate the activity? To your role as a teacher? To the time needed?

- Once you have identified a number of themes, choose the ones that you think will be most important for you and other practitioners to consider when planning activities that foster digital literacy.

- Refer back to your collation of takeaways from Section 1 in order to reflect on your values and aspirations for your students and your subject, and your understanding of digital literacy.

- Keeping those aspirations and understandings in mind, for each of the themes you have identified and chosen to focus on, come up with two or three prompt questions that would support you to plan for developing your students' digital literacy. For example, if you have chosen 'use of space' as a theme one prompt question might be 'how will space be organised during the various stages of this activity?'

- Once you have a number of questions for each theme, design a simple planner that you or your colleagues will be able to use to plan activities to support digital literacy in subject teaching.

- You should also add to the planner a section which prompts you to consider which components/aspects of digital literacy you are aiming to support through the activity and how you can best ensure that they are supported.

- Once you have completed your planner, try it out with an activity you have been considering using in class. Make any tweaks to the planner as necessary.

A basic example planner is provided on the next page.

Example digital literacy planner[20]

Date	Class	Components/aspects of digital literacy this activity aims to support:
Activities planned		**Components**
Subject knowledge What subject knowledge should be developed? What are the lesson objectives? How will developing digital literacy support the development of subject knowledge in this activity?		**How will I ensure this component of digital literacy is supported?** (key prompt questions to use during the activity, what I need to support students to reflect on etc)
Resources What resources will be used for these activities? Who will be responsible for the organisation of the resources? Could students supply their own resources? Could students' digital practices outside of school be a useful resource for this activity?		**Space** What's the best use of space for the planned activities? How will space need to be organised during these activities? What messages will this organisation of space suggest about classroom interaction?
Time How will time be organised or divided up in the lesson? Will different groups be undertaking different tasks and if so, will the need different lengths of time to complete? How will I manage different groups finishing at different times? Can students take some responsibility for the amount of time they have for their task?		**Teacher role** During the various different parts of the lesson/activity, what will my role be? When will I be teaching directly? Are there times when will I be acting as more of a facilitator? What key questions, mini-plenaries etc do I need to build in to ensure I am actively facilitating and supporting reflection throughout?

Section 4: Activities for the classroom

This section provides some activities that can be tried out in the classroom.

At the start of each activity there is a short explanation of how it can develop students' digital literacy practices, along with the details of any preparations that teachers need to make prior to undertaking the activity in the classroom.

Each activity is designed to be adaptable so that teachers can use their professional judgement to build on it and change it in order to support their students' digital literacy and the development of knowledge in the subject/topic they are teaching.

For this reason, no specific time-frames have been given for the activities; however most will take a minimum of one to two lessons.

All of the activities included in this section are based on activities that have been designed and undertaken by practitioners in primary and secondary classrooms. Useful links to the original sources and further ideas are provided.

4.1 A subject tagline[21]

Purpose

To support students' digital literacy by allowing them to use their subject knowledge to develop their own interpretation of a statement and to choose what tool and format is most appropriate for communicating that interpretation to others.

Activity

- Give students a tagline relating to your subject, eg "DNA is the molecule of life", "The beauty and terror of our fractured Earth".

- Ask students to work in small groups to draw on what they know about that subject to create an output of their choice reflecting their interpretation of that tagline.

- Prompt students to think about which available tools would create an output that most successfully communicates their message. Which is the most appropriate tool to create an output in a format that will effectively get their thoughts and ideas across (eg podcasts and videos have different affordances in terms of communicating visual information)? This might not necessarily be a digital tool. It will help students to know who their audience is and to discuss the needs of their audience.

- You may wish to ask students to do some independent research into the subject topic (see the 'Finding and selecting information – developing effective search skills' boxed text at the end of this section for tips on supporting students to perform useful and relevant searches).

- Ask students to discuss what the success criteria should be and ask them to critically reflect, both throughout the activity and at the end, upon how successful they have been in, for example: deciding what key information to include in their output; explaining why they have used particular tools and formats to communicate information; managing the process of working collaboratively.

Extension/adaptation

1 Each small group creates three different outputs using different tools and formats (eg an audio clip, a presentation and a poster or cartoon) so that they can critically analyse different tools and their affordances. This will support them to make choices between different tools in the future.

2 Rather than giving your students a tagline, ask your students to create an output that is a teaching resource designed to support future cohorts of students gain an understanding of a particular topic. Prompt students to consider the key information to include and to use the format that they think will best support learning. This adaptation is one way to provide students with a real audience whose needs they should consider.[22]

21.
This activity is based on two activities designed by teachers Ben Cotton of St. Katharine's School and Paul Hill of St. Mary Redcliffe and Temple School who took part in Futurelab's Digital Participation project. Case studies of Ben and Paul's work with their students can be found in: Payton, S & Hague, C (2010). Digital Literacy in Practice: Case studies of primary and secondary classrooms. Futurelab. **archive.futurelab.org.uk/ projects/digital-participation**

22.
This adaptation is based on an activity designed by Emma Teasdale of Ashton Park School who took part in Futurelab's Digital Participation project. The case study of Emma's work with her students can also be found in: Payton, S & Hague, C (2010). Digital Literacy in Practice: Case studies of primary and secondary classrooms. Futurelab. **archive.futurelab. org.uk/projects/digital-participation**

NO SET TIME

PRINT THIS ACTIVITY

4.2 Collage a word in images[23]

Purpose
The idea of this activity is to give your students a camera (stills or video), give them a word and ask them to create a collage of images to represent it and communicate its meaning in the context of the subject or topic your are teaching.

Throughout the activity you can support the children and young people you teach to draw on their subject knowledge, to work collaboratively to communicate it in an alternative format and to reflect on the existing cultural and social understandings they have drawn on in order to create an output. It also supports them to consider the idea that the meaning of a word is very much dependent the context in which it is being used and the narrative it is part of.

Preparation
You will need to choose the word/s you are going to give your student in advance or perhaps you could involve your students in choosing the words.

It is worth spending some time considering which word/s you are going to choose. You might for example choose a word that is linked to your subject, such as 'evaporation' in Science. What could be more interesting is to give your students a more general, everyday word and ask them to link it to your subject through their collage, eg you might give them 'colour' or 'disaster' or 'joy'.

You may wish to refer back to the Section 2 of this resource and use some of the digital tools suggested for your students to edit their films/photos.

Activity

- Divide your class into groups of three or four students. If your students are not used to working in small groups it might be worth spending some time with them discussing effective collaboration and asking them to come up with some collaborative-working guidelines for their group.

- Give the whole class a word or each group a different word and provide each group with a camera.

- If each group is being given a different word you might decide to ask the students to keep their group's word a secret from the other groups (see last bullet point).

- Explain to the class that their task is to create a short film/produce a set of photographic images that conveys the meaning of that word within the context of the subject topic they are currently studying. You may wish to give them some examples.

- You should decide, with your students, a limit for the length of the film/number of images taken, the length of time available for production of the output and the tools available for editing the films/images.

- Support students to discuss, either in their groups or as a whole class, some of their initial ideas for the films they might create/images they might photograph.

- It is also useful to build in regular discussions throughout this activity in which you can begin to make explicit the sorts of cultural and social understandings and prior knowledge your students are going to be building on in producing their outputs by asking questions such as:

  - Where are they getting their ideas about camera angles?

  - What has led them to link that image with the word they have been given, what cultural signposts are they drawing on?

  - What will the audience of their film need to know in order to understand the meaning they are conveying?

  - What subject knowledge are they drawing on?

- Once all the groups of students have produced their films/sets of images, share the outputs as a class and encourage the students to comment on each others' work.

- Again build in time for reflection and discussion on how the various different meanings in the film/sets of images have been created and what the students, as the audience this time, are drawing on in order to understand the films/set of images they are seeing.

  - Is everyone interpreting the outputs in the same way?

  - What do students need to know in order to understand the meaning conveyed to them by the outputs?

- Are there any elements of the films/sets of images students don't understand? Is this because they are not 'getting' the cultural references or perhaps do not fully understand that part of the subject knowledge?

- What are the advantages and disadvantages of communicating subject knowledge in this way?

- What elements of the task did students find easy? Which were more challenging?

- If you have given each group a different word and asked them to keep it a secret from other groups it can be really interesting to ask students to guess the word being communicated in each output and importantly to ask them why they think it is that particular word.

4.3 Animating stories[24]

NO SET TIME

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Purpose

In this activity students take a piece of narrative they have previously created and turn it into animation for a new audience. Through the activity students are supported to reflect on how stories can be told in different ways and how the communication of a narrative in different formats involves taking different issues into account.

The students will work collaboratively to develop their subject knowledge by thinking carefully about which key pieces of information need to be included in their animation. They can also be supported to make explicit the prior knowledge and social and cultural understandings they are drawing on to create their animations.

Preparation

Students will need to have written a narrative about some aspect of subject knowledge in advance of this activity. They might for example have written a story set in Egyptian times in history, or based on a novel they have been studying in English, or about a festival they have been studying in RE.

You will need to consider what tools your students will need to use in order to animate their stories. For example they might create stop motion animations by taking photographs of plasticine figures, they might use a computer drawing program such as Microsoft Windows' Paint and then import their drawings to a sequence of PowerPoint slides within a presentation which can then be set to change quickly from slide to slide, or they might make use of one of the online animation tools listed in Section 2, such as **www.doink.com**.

You might also wish to prepare some questions about the types and history of animation to facilitate your students' research in the first part of the activity. It will help your students if you suggest one or two websites that they should limit their search to.

Activity

There are two parts to this activity. The first part involves exploring what animation is, the second part is about creating the animation.

Part 1: Exploring animations

– Divide your class in groups of three or four students and tell each group that they are going to create an animation/cartoon based on the story one of them has previously written.

> YouTube (**www.youtube.com**) is a useful source of short clips that can be used in the classroom to start conversations. If YouTube is blocked by your school's firewall consider contacting your technicians in advance of the lesson and asking for it to be unblocked on your computer for the duration of that session.

Before they create their animations, explore with your students what they already know about animation.

– Start by having a class brainstorm of all the animations they know of.

– You could show them some clips of animations, both old and new, perhaps some you enjoyed when you were their age and some of their recent favourites. It's worth considering that many young people play computer games and that these are often computer-generated interactive animations.

– Ask your students what they know or what questions they have about how animations are made?

– Discuss the different ways in which animations are produced and the conventions and features of animations.

– Then ask your student to research either a little more about the different types of animation or something about the history of animation or the (see the 'Finding and selecting information – developing effective search skills' boxed text at the end of this section for tips on supporting students to perform useful and relevant searches).

Part 2: Creating animations
Your students will then create their animations.

– Decide with your students who their audience will be for their animations. It would be useful if this was a real audience, eg another class, or perhaps the animations will be uploaded to a website/blog.

– Support them to choose which/who's story they will use. This choice should be based around the story they think will best translate to animation.

– Discuss with students which tools are available for them to make their animation, perhaps giving them a choice of tools and supporting them to decide which one they will use.

– Support your students to plan their animation:

  – It is likely their animation will not have voice-over so they will be communicating with images only. What will they need to bear in mind?

  – What are the key points of the narrative that they are going to animate? Support them to decide on between five and ten key points in the story that will become chapters in their animation.

  – What are the key aspects of the subject knowledge contained in the story that they need to communicate via their animation? How can that knowledge be communicated in images?

Once your students have created plans for their animation they can begin creating it.

– During this part of the session, create regular mini-plenaries in which students can reflect on how well the process is going, for example: how well are they collaborating, are they considering their audience? It is also useful to ask them to reflect on what existing knowledge, understandings and sources they are drawing on in the creative process.

– Once all the animations have been produced, share them with the audience. Invite the audience to feedback their understandings of the animations and students to comment on each others' work.

4.4 Using computer games in the classroom

Purpose

Digital games are a significant part of the digital media industry and have a strong presence in many young people's lives.

Helping young people to ask questions about how games are produced, how they are structured, why and how people engage with them and the sorts of views and ideologies they portray can support the development of digital literacy by supporting critical thinking and making explicit the cultural and social understandings that are being drawn upon in order to design, understand and play games.

Research literature on digital games also identifies that they can be an effective way to support collaborative problem-solving and the development of subject knowledge and subject specific skills.

Preparation

The suggestions for classroom activities below are divided into two parts. The first encourages students to reflect on and critique a game they are familiar with and the second asks them to consider the construction of games and to author their own. For the first part of the activity it is recommended that you use a game that your students are familiar with.

In a session prior to the first part of the activity detailed below, you could ask your students to suggest a game/some games that they might want to look at in class, and if you don't have a copy of the game, trailers or videos of people playing them can be easily found online (eg from YouTube: **www.youtube.com**).

Alternatively students could research the current most popular games (see the 'Finding and selecting information – developing effective search skills' boxed text at the end of this section for suggestions for supporting your students to search effectively online for this sort of information).

You might also wish to consider how knowledge related to your subject/current topic is represented in the game you have chosen to study. See boxed text for examples of subject knowledge in games.

Examples of subject knowledge in games

Literacy - Games require a narrative and exploring this narrative can support creative writing, character development and storyboarding.

ICT - There are many software packages that allow students to create their own games (see the next page for links) and while most require little or no programming knowledge they can be an engaging way to introduce and develop students' interest in the area of computer programming.

Art - Students can explore and discuss a game's visual design and experiment developing their own visuals.

Maths - Games are inherently ruled based environments. They can provide an engaging context for students to consider applying maths models in. For example, how they generate the AI (artificial intelligence) of NPCs (non-player characters) in games. The generation of random events in games is also based on probability. The game authoring software Kodu (see link below) is based on logical sequences so students see how they are creating game actions.

Physics - To effectively create a game environment requires knowledge of physics so it can simulate the real world, for example games like Little Big Planet (**www.littlebigplanet.com**) and World of Goo (**www.worldofgoo.com**) are based on playing with principles of physics.

RE/PSHE - Many games regularly played by young people present opportunities for discussing issues related to self and society, for example the sorts of values embodied in certain games, how gender and violence are represented in games and how much freedom of expression games creators should have in creating games.

Activity Suggestion

Part 1: Digital Games as subject and media texts
Using the example game or games you have already chosen with your students in advance of the session, explore with your students:

- in what ways your subject/current topic of study are represented in the game

- the sorts of views and values are embodied in the game. What sorts of ideologies are represented? Whose ideologies are they? Who may/may not subscribe to the views represented? Who is the game aimed at?

You may at this point wish to hold a class debate about the sorts of views expressed in the game/s. Students could present their argument through verbal debate or through written work, either individually or using collaborative software, or they could present a multimedia argument using online tools (see Section 2: Digital Tools).

Or you might ask your students to begin a piece of subject/topic based work based on the game you are studying (see boxed text for examples of subject knowledge in games).

Part 2: Games Authoring
Ask your students to consider how games are created.

- What makes a good game?

- What features of a game are engaging?

- How do game makers ensure that people keep playing their game?

Aim towards building a class resource bank, either online using collaborative software or on paper, of your students' views on what the ingredients are for a good game. You might wish to create a 'recipe for a good game'.

Divide your class into pair or small groups and ask them to collaboratively come up with an idea for a simple game. Refer them back to the class ingredients of a good game and perhaps ask then to demonstrate their subject knowledge through the game they create.

You could take this part of the activity as far as you wished to. Students could design their own game in detail including creating storyboards and visuals over a number of lessons or they could simply come up with ideas for games in one session. Either way, students should share their ideas and creations and give each other feedback.

Games can be designed online or offline but it is recommended that you and your students explore some free games authoring software which will allow you to create your own game (albeit within the parameters set by the software). See below for examples of simple, free, games authoring software.

Example games authoring tools (all free)

Scratch from MIT
scratch.mit.edu

Kodu
fuse.microsoft.com/project/kodu.aspx

Game Maker
www.yoyogames.com

Platform, mission and shooter game makers
www.sploder.com/free-game-creator.php

Further resources on using games in the classroom

Futurelab's Games and Learning project
NB. Futurelab will be publishing a new games handbook in Spring 2011.
www.futurelab.org.uk/projects/games-and-learning

The impact of console games in the classroom:
Evidence from schools in Scotland
www.futurelab.org.uk/resources/console-games

Learning and Teaching Scotland
www.ltscotland.org.uk/usingglowandict/gamesbasedlearning/consolarium.asp
www.ltscotland.org.uk/usingglowandict/gamesbasedlearning

4.5 Digital photographs and meaning-making

Using photographs in the classroom as part of subject teaching can develop students' understanding of how meanings are created through images and the sorts of social and cultural understandings they draw on in order to comprehend those meanings.

Flickr is an online photo sharing space that allows users to upload, organise and 'tag' their photos with relevant categories. Flickr has a social community in which people comment on each others' work, join special interest groups or upload photos to groups that have been started around a particular theme.

Images are uploaded by people around the world and are searchable by anyone.

This provides several interesting opportunities for Flickr to be used in the classroom to support digital literacy. Below are just a few suggestions.[25]

Cross-cultural comparisons
Use Flickr's search function to find images that have been tagged with an aspect of life you would like to compare across cultures, eg wedding, school, holiday, birthday cake. Use the images to prompt class discussion around cultural differences.

Title interpretations
Ask students to collect images that relate to words or concepts to do with your subject, eg 'erosion' for geography or 'gravity' for science. Explore the images in the class collection and consider the various interpretations of the word's meaning.

Images convey meanings, and it is in part our implicit social and cultural understandings that allow us to interpret these meanings. Giving titles to images, as many people do on Flickr, can alter meaning, challenging or confirming assumptions. Exploring images can prompt class discussions around how we understand and make meanings. Students could also experiment with changing the titles of images. How does this change the image's meaning? What cultural references are they drawing on now? Can they challenge some of their assumptions?

Representing meaning
Different cultural and social understandings affect how people present meaning. Using digital cameras, either provided by the school or on their mobile phones, ask students to take images related to a particular theme. Ask students to experiment with how a certain approach/camera angle can change what they are trying to convey. For example you might ask students to take pictures of spaces around the school to reflect how they feel in those spaces. Or you might ask them to take self-portraits. The students can then upload their images to a communal Flickr account and explore together how different approaches and social contexts can affect the meaning conveyed by an image.

All of these activities can be related to students' wider experiences of digital media, supporting them to understand that all modes of communicating information are infused with social and cultural meanings.

25.
All of these, and further ideas for using Flickr in the classroom can be found in an account of how people use and learn with Flickr: Davies, J (2009). A space for play: crossing boundaries and learning online in Carrington, V & Robinson, M (Eds), (2009). Digital literacies: Social learning and classroom practices. London: Sage.

Finding and selecting information – developing effective search skills

Throughout many of these activities and in your day-to-day subject teaching you might ask your students to undertake some internet research. However, teachers (and students themselves) report that students do not have effective search skills and often end up finding irrelevant, inappropriate or unreliable content.

How can teachers support students to effectively find and select information on the internet? Here are some ideas for you to try.

- Give students information about how to construct their web search so that they are more likely to find relevant information. Encourage them to be as specific as they can and to include several key words rather than just one when creating search terms.

- Students can also be taught to use Boolean terms such as AND, OR or AND NOT. For example, using AND in a search term (eg "critical thinking" AND "digital literacy") will ensure that search results include both phrases included in the search term. Putting their search term in quotation marks will ensure that results contain the complete and exact phrase they are looking for. Using the word 'define' followed by a colon and a search term (eg DEFINE: critical thinking) will return definitions of a particular word.

- Help students negotiate the large amount of information available on the internet by encouraging them to think about the purpose of their research and to select the information they need by engaging with the content of the material they are finding. They should be considering what information is relevant, suitable and helpful for their task.

- Students should also consider whether the information they find is reliable. Many teachers suggest that students check the information they are citing on at least three independent sites.

- Discuss the concept of plagiarism with your students and encourage them to cite their sources.

- Finally students will need to think carefully about how they are going to use the information they find on the internet. How can it be repurposed and re-contextualised so that it fits their particular purpose?

- Once your students have begun developing their research skills, consider working with them to produce an 'effective internet research guide.'

Further resources

If you have one, consider contacting your school librarian who could be an excellent source of advice. He or she might have already produced some materials around effective search skills or may be willing to run a search skills session with your students.

The All About Explorers website was developed by a group of teachers as a teaching tool for educating students about research and the internet. It provides lesson plans and handouts that teachers may find helpful when designing activities to support students' ability to find and select information.
⤢ www.allaboutexplorers.com/teachers

Netskills provides some useful materials on explaining plagiarism to students: "Plagiarism, the web and schools" presentation.
⤢ www.netskills.ac.uk/content/projects/eduserv-info-lit/
plagiarism-materials.html

Section 5: Ideas for next steps

Having completed some or all of this Digital
Literacy Professional Development resource
pack, how will you use your new knowledge and
understanding and your new ideas in your
teaching practice?

The following activities are suggestions of how
you might begin to take your professional
development further.
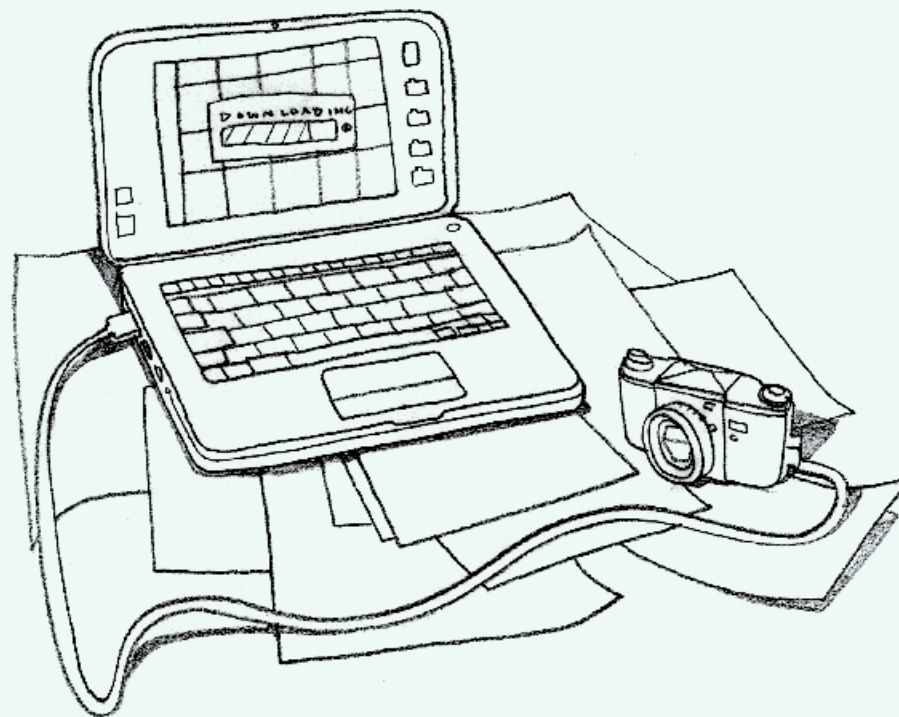
NO SET TIME

PRINT THIS ACTIVITY

1 Create your own digital literacy vision
Reflect once more on your collation of takeaways from Section 1 of this resource, the ideas you've had about how to foster digital literacy in your subject teaching, the activities you've designed and your classroom experience of developing digital literacy alongside subject knowledge to date.

What is your vision for digital literacy? This might be for your own personal teaching, for your department or your school.

Once you have defined your vision, consider what steps need to be put in place in order to make your vision a reality and use **Resource Sheet 7:** Backcasting template to record these steps.

2 Run a digital literacy professional development session for your colleagues
Some of the practitioners who came to our Digital Literacy Professional Workshops decided to run a CPD workshop for colleagues at their school.

– What are the key activities from this resource that you might include in your workshop?

– How could you support colleagues to continue developing their practice after your workshop?

– What would support you to continue to develop your students' digital literacy through your classroom teaching?

3 Undertake a small action research project
If you still have some questions or issues that would like to explore further, why not undertake a small research project into a particular aspect of digital literacy that interests you the most? You could do this alone or with a group of colleagues.

You would need to decide a research question and then carry out some research in your classroom, with your students.

You could even involve your students as researchers (see Digital Participation Project, students as researchers: **www.futurelab.org. uk/resources/digital-participation-young-people%E2%80%99s-research-group**).

If you are studying for a Masters currently, then perhaps digital literacy, and its relation to subject knowledge, is a topic you would like to explore further as part of your study.

Resource Sheets
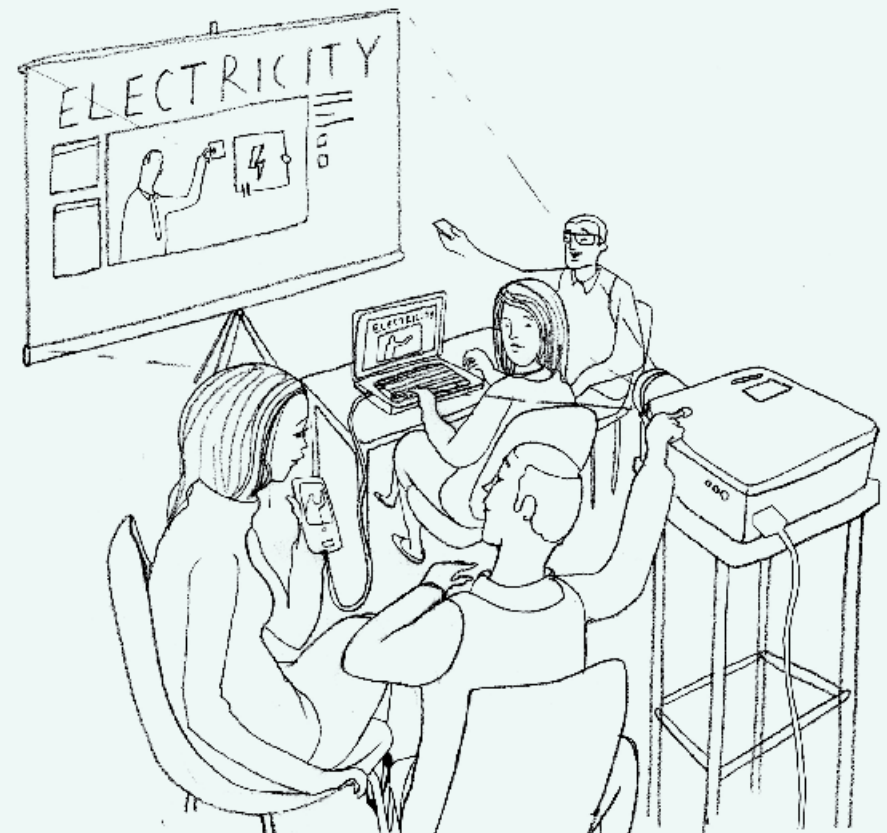
Resource Sheet 1: Collation of takeaways

PRINT THIS
RESOURCE SHEET

1 Contexts
– What are the key points about the context you work in, your students and the aspirations you have for them that you would like to keep in mind to anchor your thoughts throughout the other digital literacy professional development activities?

– What aspects of the way your subject is presented to students in the curriculum do you think should change? What do you think should remain the same?

– What case would you make for your subject's place in the National Curriculum in the 21st century?

2 School subjects and changing knowledge practices
– In an ideal world how would you like to see the subject discipline you have chosen respond to the challenges and opportunities created by an increasingly digital world?

– Your manifesto for your chosen subject discipline in the 21st century:

Resource Sheet 1:   Collation of takeaways (cont.)

3 Changing literacies

− What do students need to know, and what practices do they need to develop in order to flourish in a world in which they will need to communicate in multiple ways with different technologies and media and in different formats?

− How can you support students of all ages to be active in and reflect on the process of making sense of a world in which digital technologies provide an increasing range of resources for meaning-making?

− How do schools help students make sense of the world? How can digital technologies and media support this?

4 Definitions

− In what ways has your thinking changed about what digital literacy is?

− Your definition of digital literacy:

− Your questions about how digital literacy relates to your practice:

Resource Sheet 1:   Collation of takeaways (cont.)

5 The components of digital literacy
- How do the components of digital literacy support students to make sense of the contemporary world?

- How might this help students to meet their own aspirations and the aspirations of their teachers?

- Even if a teacher doesn't have in-depth knowledge about technology or well-developed functional skills, what can they offer to support students' digital literacy practices?

- How might the components of digital literacy support students to develop their subject knowledge?

6 Students' digital practices
- How could students' out-of-school digital practices be extended and developed to support curriculum subject teaching?
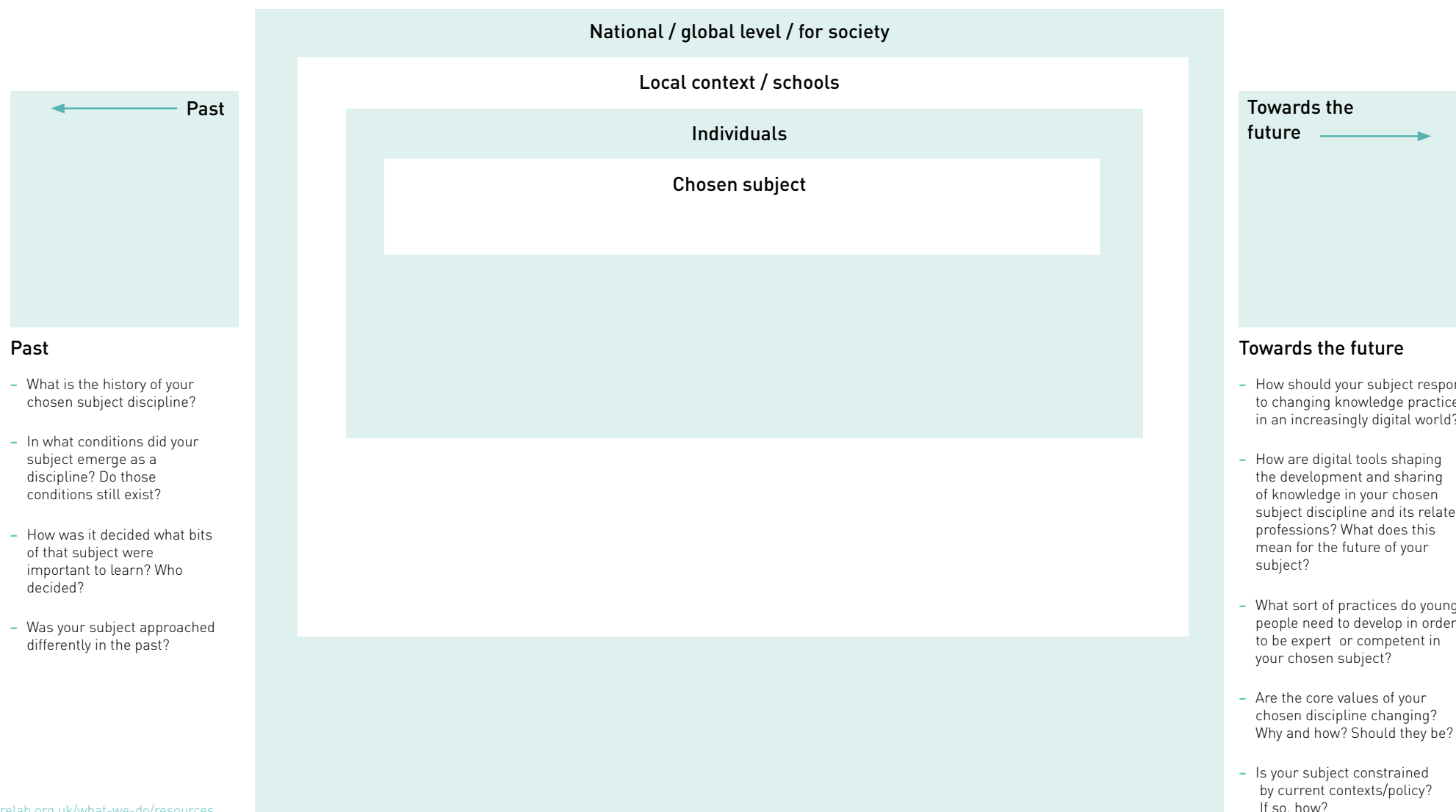
Resource Sheet 2: Thinking Boxes: School subjects and changing knowledge practices

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RESOURCE SHEET

What continues to make your chosen subject's perspective or approach relevant in today's world?
For individuals? In your local context/school? On a national/gobal level/for society?

← Past

National / global level / for society

Local context / schools

Individuals

Chosen subject

Towards the future →

Past

– What is the history of your chosen subject discipline?

– In what conditions did your subject emerge as a discipline? Do those conditions still exist?

– How was it decided what bits of that subject were important to learn? Who decided?

– Was your subject approached differently in the past?

Towards the future

– How should your subject respond to changing knowledge practices in an increasingly digital world?

– How are digital tools shaping the development and sharing of knowledge in your chosen subject discipline and its related professions? What does this mean for the future of your subject?

– What sort of practices do young people need to develop in order to be expert or competent in your chosen subject?

– Are the core values of your chosen discipline changing? Why and how? Should they be?

– Is your subject constrained by current contexts/policy? If so, how?

Resource Sheet 3:

Compare and contrast definitions of digital literacy

Choose two of the definitions provided, the one you are most drawn to and the one which you feel you would like to explore some more.

Using the template below compare and contrast the two definitions.
- How are they different in the way they approach the concept of digital literacy?
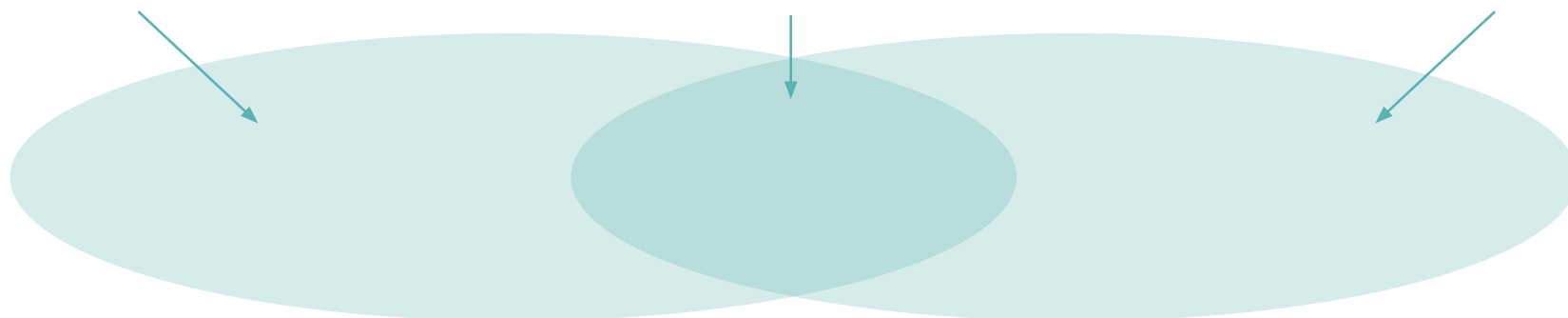- What elements of them are the same?

Definition one: **Definition two:**

What is different about this?   What is similar about them?   What is different about this?

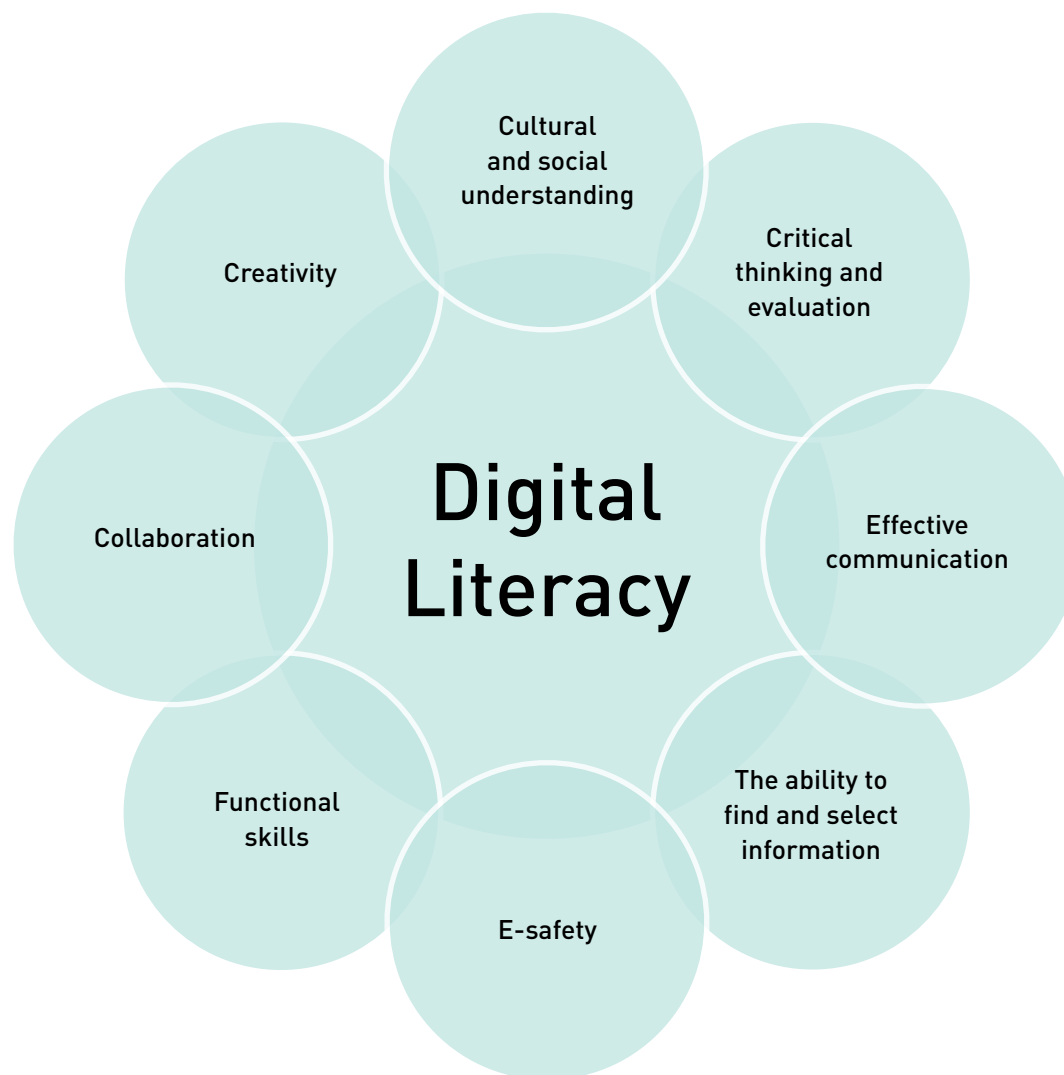Take the parts of each definition that make most sense to you and write your own definition of digital literacy.

My definition of digital literacy:

Resource Sheet 4:   The components of digital literacy

The various practices that comprise digital literacy can be understood as being made up of a number of overlapping components. This resource sheet provides a short description of each component.

Cultural
and social
understanding

Critical
thinking and
evaluation

Creativity

Effective
communication

Digital
Literacy

Collaboration

The ability to
find and select
information

Functional
skills

E-safety

Resource Sheet 4: The components of digital literacy (cont.)

Creativity
Becoming digitally literate involves being active in creating digital media and in using technology to create meaning as well as understanding that the digital and media texts you encounter are themselves created.

Creativity in this sense is to think imaginatively about how to make effective use of the myriad of opportunities that digital technologies provide for creating outputs that represent and communicate knowledge and meaning in different formats and modes for different purposes (such as animations, podcasts, interactive posters etc). Through this process learners can be supported to understand that the digital media they engage with is also created for certain purposes and for certain audiences and is presenting knowledge in a certain way.

Critical thinking
Critical thinking involves transforming, analysing or processing given information, data or ideas, being reflective and interpreting meaning in order to develop insight into, for example, the underlying assumptions that support the process of making informed sense of the world.

As a component of digital literacy it involves being able to use reasoning skills to engage with digital media and its content, to question, analyse, scrutinise and evaluate it and to formulate and support arguments about it, the way it is created and how it is used. This means being able to critically engage with digital tools, to ask questions of them, to think about their implications for communicating meaning and to go beyond the obvious.

Cultural and social understanding
Our multiple interactions with others and with meanings created by others are intimately and deeply affected by the cultures and societies in which we exist and contexts in which those interactions take place. Developing cultural and social understanding supports the ability to recognise that each act of literacy, digital or otherwise, is imbued with social, cultural and historical influences that shape the creation of content and our understanding of the meaning conveyed through it. Being digitally literate involves being aware of the social and cultural contexts in which digital media is created and used.

Collaboration
Learning involves dialogue, discussion and building on each others' ideas to create shared understandings. The ability to collaborate is to work successfully with others to co-create meaning and knowledge. Supporting young people's digital literacy involves developing their understanding of how meanings are collaboratively created using digital technologies and how digital technologies (for example shared documents such as wikis) can effectively support collaborative processes within the classroom and with wider world.

Finding and selecting information
This includes the abilities to define what sort of information is needed to support a particular activity, task or argument, to know how best to find that information, to evaluate it, assess its reliability and relevance and to critically engage with the sources of that information. It also includes being aware of issues relating to copyright and plagiarism.

Resource Sheet 4: The components of digital literacy (cont.)

Effective communication

Communication is central to our day to day lives as humans: it is the ability and desire to share thoughts, ideas and understanding. Being digitally literate means communicating effectively in a world in which much communication is mediated by digital technology.

Effective communication is being able to clearly express ideas and feelings so that others can understand them. Digital literacy involves an understanding of how digital technologies can support and affect communication and a critical awareness of the different modes (visual, audio, textual etc) in which meaning can be represented and how these can be best used for particular audiences.

E-safety

The e-safety component of digital literacy concerns the development of safe practices when using digital technologies such as the internet and mobile phones. It involves developing understandings of what constitutes appropriate use of digital technologies and the development of a critical reflection about the sort of content that is being made public.

Supporting students' digital literacy enables them to become competent, discerning users of technology who critically question their own and others' technology use and who make considered choices that will keep them safe when exploring, communicating, creating and collaborating with digital technologies.

Functional skills

Functional skills are the ability and technical competence needed to operate a range of digital tools proficiently. An important part of developing functional skills is being able to adapt these skills to learn how to use new technologies. Instead of finding ways to use technology in schools just so that functional skills can be developed, the focus is on what can be usefully done with digital tools and what needs to be understood in order to use them effectively.

The notion of digital literacy involves a shift in the way we think about technology in schools. It moves us away from focusing solely on functional skills or on digital technologies as tools for simply motivating learners to engage with existing curricula, and towards the notion of a curricular entitlement that explicitly addresses the multiple ways that we now have available to represent and communicate meaning and the contemporary means by which we participate in society.

It is important to point out that all of these components overlap and interact to comprise digital literacy.

There is also no hierarchy of components suggested in this list. It is often assumed that functional skills are a pre-requisite for 'higher order' cognitive skills. For example, a teacher may argue that a child cannot communicate effectively with digital technology until she has learned to 'double click' a mouse.

However even very young children often arrive at school with a number of existing digital practices, for example being able to take digital photographs or play online games. They can be supported to develop their digital literacy through talking and thinking about digital technologies and developing and reflecting on their practices despite not having the fine motor skills needed to operate some digital tools.

Digital Literacy Professional
Development Resource

Contents › Resource Sheet 5: What connections can be made between our in and out-of-school digital practices?

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Resource Sheet 5:

PRINT THIS
RESOURCE SHEET

What connections can be made between our in- and out-of-school digital practices?

Choose one thing you use digital technology for both in-school and out-of-school.
- Use the overlapping circles below to record the differences and similarities in this particular practice when undertaken in-school and out-of-school.

What you do in-school?

Use of digital technology
What you do both in-school and out-of-school

What you do out-of-school?
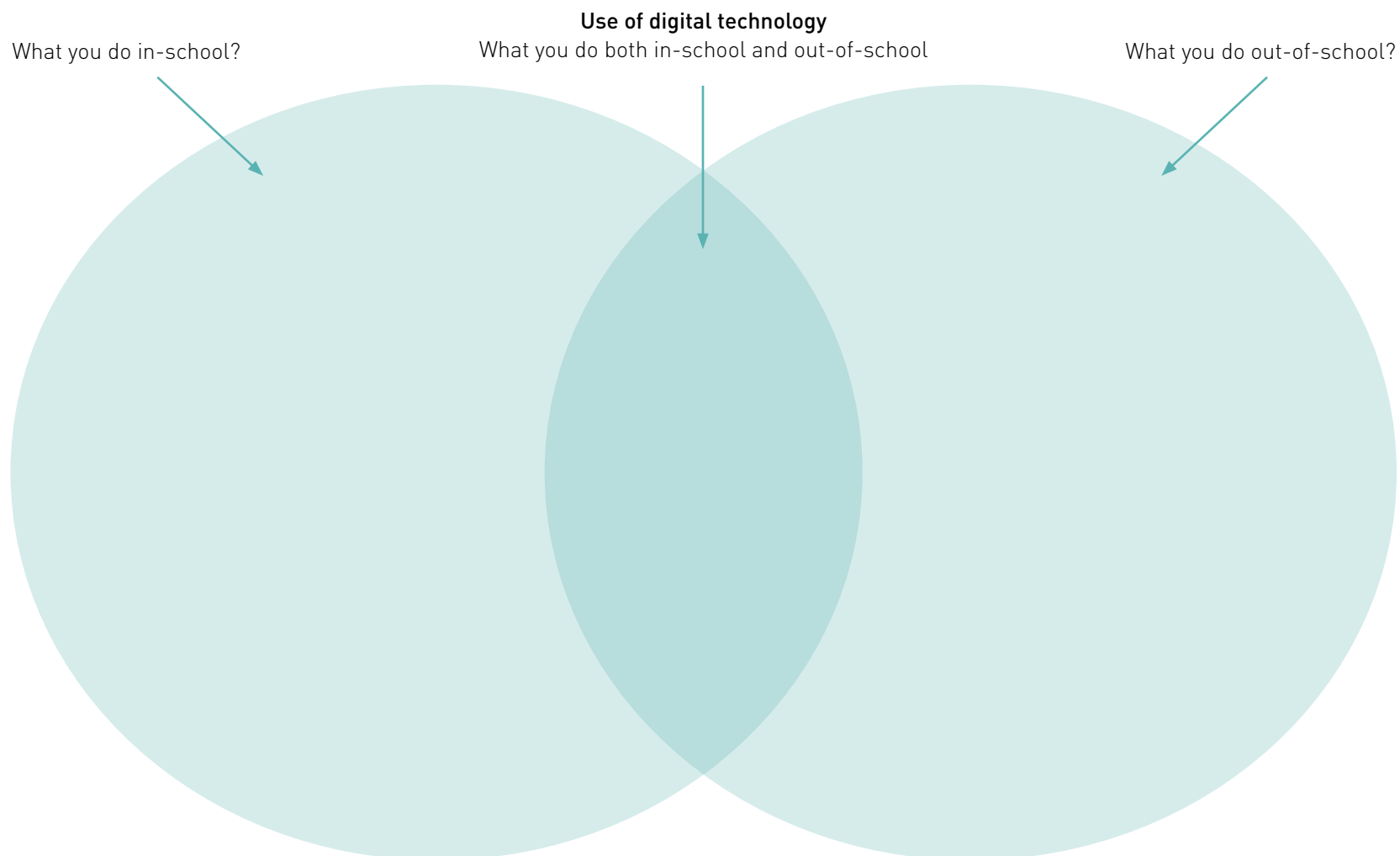
Resource Sheet 6: How to use Audacity

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RESOURCE SHEET

The Basics

1 Download and install Audacity and then open the software. The main controls you will need are in the top left of the screen (see below). The most commonly used features are labelled below.
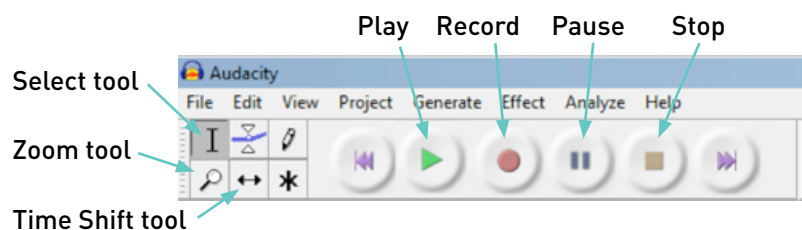
2 To begin recording straight away, simply plug in your microphone (the microphone socket is often on the back or side of your PC or laptop, near the headphone jack) and press the red record button. It may be that your laptop or PC has an in-built microphone, in which case you won't need to plug anything in.

3 When you've finished recording, press the yellow stop button.

4 You will see that as you are recording, Audacity automatically creates a 'track' which appears in the main window. If your microphone is functioning properly then the sound will appear as blue squiggles (see below). If the display remains as a thin blue line, this indicates that your microphone is not connected properly.
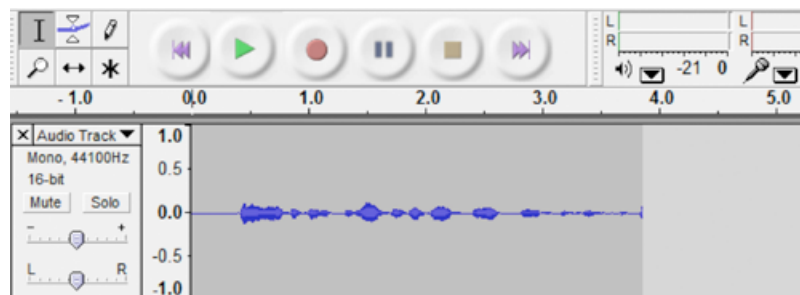

5 To listen to your recording, press the green play button. If you are not happy with your recording, click the [x] button at the top left of the track to delete it.

6 If you need to edit your recording (for example if you want to remove fumbling microphone sounds at the beginning or end), then simply ensure you are using the Selection tool, select the portion of the track you wish to

delete using your mouse, it will appear to be highlighted in blue (see opposite), and press the delete key on your keyboard.
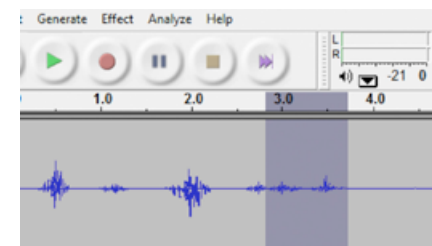
7 If you want to add more than one audio track, for example you want to add some more recorded speech, simply press record again. Each time you start a new recording, Audacity will automatically create a new track, and each new track will be listed in the main window (see below).
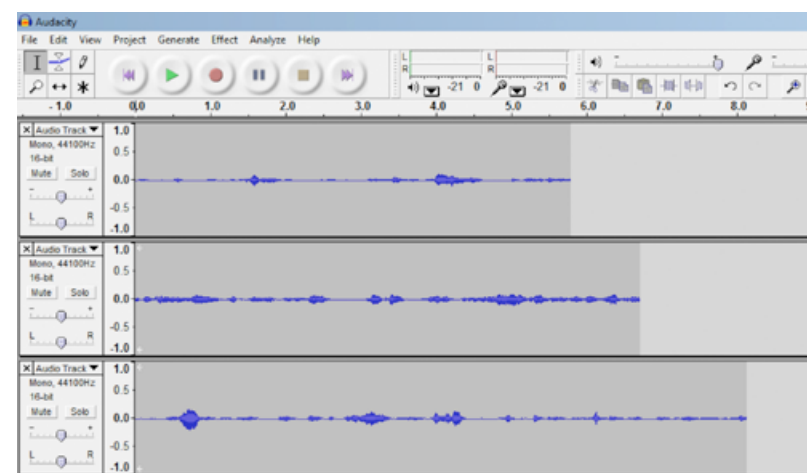
Resource Sheet 6:

How to use Audacity (cont.)

8 In the view above, if you were to click play, all three tracks would play at the same time, one on top of the other. This is good if you want to layer your sounds, for example if you have speech, music and sound effects all happening concurrently.

9 However, if you want to edit your podcast so that the tracks run in sequence, you can use the Time Shift Tool. This can be found in the top left hand corner of the program. Once you click this button, you can easily drag your tracks along, so that at the end of Track 1, Track 2 begins (see below).
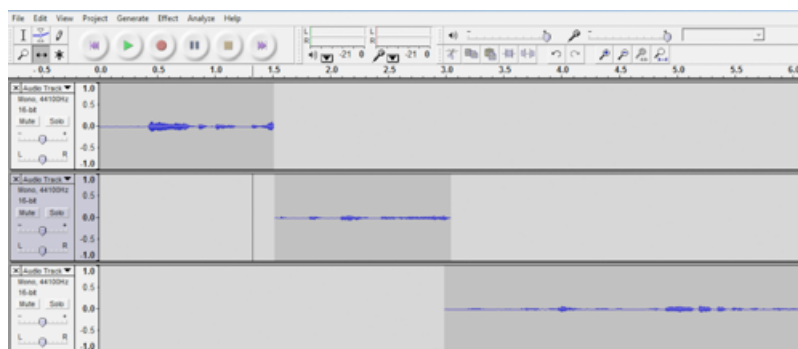

10 If your tracks are quite long, you might want to use the zoom tool to help you visualise your recording more easily. This can be found in the top left corner (see diagram in instruction 1). Left click to zoom in, and right click to zoom out.

11 Using the above tools, you will be able to easily select and move recorded sounds and create a basic podcast.

Inserting existing audio files

12 You are also able to insert existing audio files, such as music or sound effects, to embellish your podcast. To do this, click on 'Project' and then 'Import Audio'. This will allow you to select any files from your computer's library and add them as a separate track on your podcast.
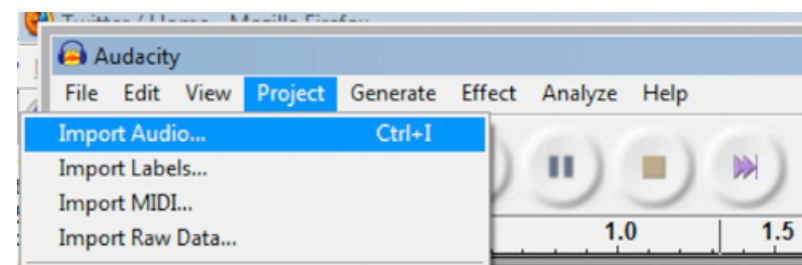

Once inserted, you will use the same skills of moving and selecting as you did in working with your spoken audio files.

13 Once you are happy with how your tracks are laid out, you can adjust the volume level of each track individually – for example, if you would like to make your music quieter compared to the level of the spoken file. You will see volume controls in the panel at the far left of each track.

Resource Sheet 6: # How to use Audacity (cont.)

14 As well as simple volume controls, there is also the option to add a variety of effects. Using the select tool, as in instruction 6, select a portion of a track and click on 'Effect'. Here you will find a variety of effects. The most useful are likely to be 'Fade in' or 'Fade out', but there are several which you can play around with. If you don't like an effect, you can always click on 'Edit' and 'Undo' to reverse your changes.
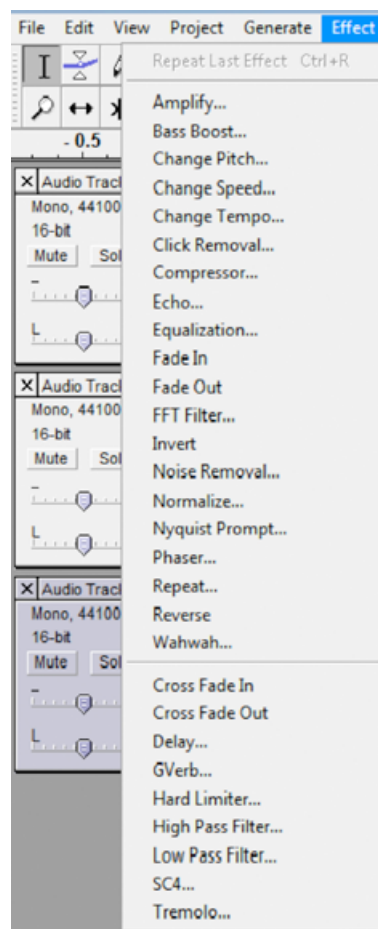
Exporting your finished podcast
15 When you have finished making your podcast, ensuring that you save your file as you go along, you can export it as an MP3 file. Click 'File' then 'Export as MP3'. You will see the warning "Your tracks will be mixed down to a single mono channel in the exported file." This simply means that once it is saved into an MP3, it will not be possible to edit individual tracks, so make sure you are happy with it. You will then be given the option to select where to save your completed file.

Resource Sheet 7: Backcasting template[26]

Achieving your vision for digital literacy
Use it to work backwards (from the right box to the left box) from an imagined perfect future to a feasible and present.

4 Now step back to what might be possible now	3 Now step back to how this could be realistically achieved	2 Now describe that perfect future using fictional examples. What does it look like?	1 Envision a perfect future - your vision for digital literacy

About Futurelab

Futurelab is an independent not-for-profit organisation that is dedicated to transforming teaching and learning, making it more relevant and engaging to 21st century learners through the use of innovative practice and technology.

We have a long track record of researching and demonstrating innovative uses of technology and aim to support systemic change in education – and we are uniquely placed to bring together those with an interest in improving education from the policy, industry, research and practice communities to do this. Futurelab cannot do this work on its own.

We rely on funding and partners from across the education community – policy, practice, local government, research and industry - to realise the full potential of our ideas, and so continue to create systemic change in education to benefit all learners.

We encourage the use and circulation of the text content of these publications, which are available to download from the Futurelab website – **www.futurelab.org.uk/resources**. For full details of our open access policy, go to **www.futurelab.org.uk/policies.**

If you have printed this document, please recycle after use.

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Key to Themes

Futurelab understands that you may have specific areas of interest and so, in order to help you to determine the relevance of each project or publication to you, we have developed a series of themes (illustrated by icons). These themes are not intended to cover every aspect of innovation and education and, as such, you should not base your decision on whether or not to read this publication on the themes alone. The themes that relate to this publication appear on the front cover, but a key to all of the current themes that we are using can be found below.

 Digital Inclusion – How the design and use of digital technologies can promote educational equality

 Teachers and Innovations – Innovative practices and resources that enhance learning and teaching

 Learning Spaces – Creating transformed physical and virtual environments

 Mobile Learning – Learning on the move, with or without handheld technology

 Learner Voice – Listening and acting upon the voices of learners

 Games and Learning – Using games for learning, with or without gaming technology

 Informal Learning – Learning that occurs when, how and where the learner chooses, supported by digital technologies

 Learning in Families – Children, parents and the extended family learning with and from one another