LEEDS BECKETT UNIVERSITY

# ENABLING YOUR STUDENTS TO DEVELOP THEIR DIGITAL LITERACY

The digital literacy attribute is defined as: "The confident and critical use of information and digital technologies to enhance academic, personal, and professional development.."

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LEEDS BECKETT UNIVERSITY

Enabling your students to develop their Graduate Attributes: Digital Literacy

# Contents

**Section One - Introduction**

**Graduate Attributes for our University: an Overview**

Our University has three interlinking graduate attributes, which have been embedded throughout the undergraduate curriculum as part of a major curriculum redesign activity: These are being enterprising, having a global outlook and being digitally literate.
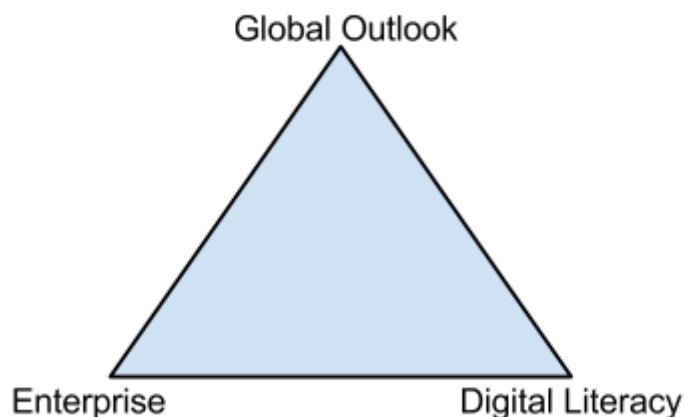


Collectively, these attributes define the distinctiveness of a Leeds Beckett graduate, and were selected for their alignment with our institutional identity and strengths, and their relevance to our students as they go on to make their way in a rapidly changing, globalising world.

Key skills and personal skills have featured in our course design, delivery, and assessment for many years. Our Graduate Attributes, collectively, encompass these and give them specific areas of focus and clear objectives with regard to their application.

Our students' futures are likely to be increasingly shaped by global employment markets, interconnectivity, border-crossing, sustainability priorities and shifting geo-political activities. The **global outlook attribute** enables our students to identify how their lives inter-relate to those of diverse others in local and global contexts, and to frame their own actions and responsibilities in the light of this; embedding matters of global social justice and environmental sustainability within all areas of study. The attribute also relates strongly to the world of work, where employers have identified a lack of global thinking as a significant weakness in graduating students (British Council/DEA 2011).

Likewise, the breadth of all **enterprising skills** (not just pure business skills) are essential to prepare students for a world where they will need to plan, be future focussed, and seek opportunities for personal growth, education and employment. Enterprise, in its broadest sense, involves creative thinking, problem solving, collaboration, communication and entrepreneurial skills. In addition, being enterprising includes understanding the responsibilities for seeking to work in ways which safeguard environmental, social and economic wellbeing for both present and future generations. (QAA, 2014). By highlighting these competencies in the delivery of your curriculum then students can be equipped to prepare for life and work.

The Government's 'Networked Nation' manifesto (Warman, 2010) aims to get every working person in the UK online by 2015 and showed that more than 90% of all new jobs require internet skills. The changing nature of workplace means that growing numbers of our graduates are employed in digital industries or professions that require them to **be digitally literate**. Often, digital literacy skills are subject and employer specific but have been summarised by the European Commission as being "the confident and critical use of ICT for work, leisure, learning and communication."

All our students should be **aware of** how our graduate attributes are shaped through their course, and need to **be able to reflect upon** and **articulate to others**, including prospective employers, how these attributes add value to their degree and to themselves as citizens of a complex, contested and globally-connected world. They should note the activities related to the attributes in their portfolios, my Hub and in associated notes they make for their CPD modules.

Our [original guidelines document](#) (Thomson, 2011) on embedding digital literacy as a graduate attribute focussed primarily on aspects of course *design* during our undergraduate curriculum refocus exercise. This second document seeks to support course and module teams in implementing the development of the digital literacy attribute, in line with their refocused course and module learning outcomes.

Different courses and modules in different contexts will find a range of ways to engage with the questions raised here, but we hope the explanations, examples and suggested areas for reflection will be helpful in furthering the student experience of all the attributes, and that this will help them recognise and articulate this dimension to their personal, disciplinary and professional development. CLT will be happy to respond to requests for support in developing this work.

## Learning Outcomes

In our Guidelines Documents (Thomson, S. 2011, Smith, S. 2011, Killick, D. 2011) for embedding our graduate attributes in course design, significant attention was given to providing examples of learning outcomes which embedded each attribute. Several examples were given which demonstrated how small modifications to existing learning outcomes could retain the subject focus while introducing aspects of the attributes.

Where learning outcomes have successfully, and progressively embedded an attribute, the next step, and the main focus of this document, is ensuring that students are supported in developing the appropriate aspects of each attribute through their learning experience, and are appropriately assessed on that development.

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**Suggestion for reminding yourselves how each graduate attribute features in course design:**
Before thinking about the delivery and assessment of the graduate attributes, course and/or module teams might find it helpful to remind themselves how each attribute is represented in learning outcomes *across* the course, and to discuss how students might experience learning and assessment activities related to those outcomes.

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## Constructive Alignment

The process of constructive alignment - through which assessment tasks and learning activities should reflect and enable students to develop and demonstrate their capabilities to perform the learning outcomes - bring the module learning outcomes alive in assessment tasks and related assessment criteria, and in learning activities. Therefore, where a graduate attribute is embedded within a learning outcome, it should be **visible**, and **traceable** through the student experience, and should become something which students can identify with and relate to within the contexts of their studies.

This is explored in depth in our refocus support documentation for the graduate attributes and in your course design, learning outcomes develop over the levels of study.  (This can be further expanded by making reference to Bloom's (1956) and Anderson & Krathwohl's revised (2001) taxonomies, the Biggs and Collins (1982) SOLO taxonomy, or the Leeds Beckett taxonomy of assessment domains). For example, developing students' abilities from being able to *identify*, then *evaluate* and later *critically analyse* as they progress through levels of study.

This development also needs, therefore, to be reflected in all aspects of the learning experience, including course and module documentation, induction activities, subject resources, learning activities, and in assessment tasks and criteria which relate to the global outlook dimension of any learning outcomes. Each of these is considered briefly below, with some suggested questions for course and module team discussions and developments.

This extract from the Oxford Centre for Staff and Learning Development (OCSLD) demonstrates how constructive alignment is achieved in course design:
'A model of course design can be described in the following three stages:
Stage 1: Decide on the intended learning outcomes. What should the students be able to do on completion of the course, and what underpinning knowledge and understanding will they need in order to do it, that they could not do when they started? (This obviously poses the questions: what have they done before and what prior ability and knowledge can you expect?) These learning outcomes should each be described in terms of what the student will be able to do, using behavioural verbs, and described as specifically as possible. (Verbs like 'know' and 'understand' are not helpful because they are so general. Ask yourself, "What could the student do to show me that they know or understand?") You may find it useful to group your outcomes under the following four headings: skills (disciplinary), skills (general), values and attitudes, underpinning knowledge and understanding.
Stage 2: Devise the assessment task/s. If you have written precise learning outcomes this should be easy because the assessment should be whether or not they can satisfactorily demonstrate achievement of the outcomes.
Stage 3: Devise the learning activities necessary (including formative assessment tasks) to enable the students to satisfactorily undertake the assessment task/s. These stages should be conducted iteratively, thereby informing each stage by the others and ensuring coherence.'
(http://www.brookes.ac.uk/services/ocsd/2_learntch/assessment/purposes.html)

## Ideas on Enhancing Employability

Employers might reasonably expect a student to be able to articulate the attributes we claim they have.

**Suggestions for utilising our graduate attributes to enhance student employability:**

- **For ALL the attributes:** If your course includes a specific CPD module or employability-associated learning outcomes, check how all the attributes are made explicit there and if  the assessments specifically ask students to articulate their activities, skills and thinking for the identified attribute.
- Invite inspiring speakers (who can articulate the graduate attributes and how they are applied in the workplace) to contribute to your course.
- Encourage work related learning experience and work placements as part of your course. Use real world projects co-devised and co assessed by local employers to keep your students up to date with issues they will face in the work place.

**Specifically:**

- **Digital Literacy:** Use current links with employers to identify the digital literacy needs, uses and expectations in relation to your subject area. Invite them to talk to your students about their expectations regarding digitally literate graduates.
- Support and guide students in managing their digital identify, encourage them to connect with companies and professionals in online spaces.
- Invite students to make use of skills for learning workshops and Microsoft certification offers.

## Section Two - Enabling students to recognise, experience and develop their digital literacy through their learning and assessment experiences

### The Digital Literacy Attribute

The objective of the digital literacy attribute is defined as: "The confident and critical use of information and digital technologies to enhance academic, personal, and professional development."

This overarching definition has been broken down into 7 sub categories:

- **Computer literacy:** the ability to identify, adopt and use digital devices, applications and services in the fulfilment of activities and tasks whether study, employment or leisure related.
- **Information literacy:** the ability to find, access, evaluate, manipulate, re-use, synthesise and record information whilst understanding issues of authority, reliability, provenance, citation and relevance in digitised resources.
- **Media literacy**: including for example visual literacy, multimedia literacy: the ability to critically read and creatively produce professional communications in the most appropriate media.
- **Communication and collaboration:** the ability to develop and engage in digital networks appropriate to the needs of the participants and context, using a range of digital communications tools and showing awareness of identity and reputation management.
- **Digital scholarship:** the ability to participate in academic and professional practices that depend on digital systems, including the use of virtual learning environments, open access repositories, resource discovery tools and emergent technologies whilst demonstrating an awareness of the issues around content discovery, authority, reliability, provenance, licence restrictions, adaptation and re purposing of sources.
- **Academic practice:** the ability to study and learn effectively in formal and informal technology-rich environments, including: use of digital tools to support critical thinking, academic writing, note taking, reference management, time and task management; being assessed and attending to feedback in digital/digitised formats; independent study using digital resources and learning materials.
- **Professional development planning:** the ability to make informed decisions and achieve goals, through the effective use of digital tools and media, which may include e-portfolios, professional online communication and collaboration tools and networking facilities, demonstrating an awareness of identity and reputation management.

These 7 areas allow course teams to consider which aspects of digital literacy they feel are appropriate to their course and with reference to sustainable literacy, particularly where we use technology to communicate or provide information. In our first guide on Digital Literacy we

focussed on embedding the graduate attribute into our curriculum, more specifically into the learning outcomes of the course and modules.

In this guide we are seeking to raise the visibility of digital literacy so that our students are able to discuss their digital literacy development with their peers, their tutors and potential employers.

## Digital Literacy at different levels of study

By the end of their course students will be expected to be able to demonstrate that they are competent with respect to digital literacy, but not all students will demonstrate this attribute to the same level or at the same time. This will depend on the subject being studied and the type and level of programme students are undertaking.

Some disciplines may place greater emphasis on particular learning outcomes at certain points. These outcomes would therefore receive greater weight than others at certain levels. Many aspects are likely to be performed recursively, in that the reflective and evaluative aspects will require returning to an earlier point in the process, revising this and repeating the steps. There is not therefore a 'one size fits all' standard linear approach to developing the attribute of digital literacy during the course of a programme of study.

These are just some examples of possible conversational areas that you might expect to see from students at different levels of study:

**At Level 4, students will be able to identify and discuss:**
- the impact the development of digital literacy has on their discipline.
- the digital literacy skills appropriate to their discipline area.
- the required digital literacy skills for their potential employment.
- recognising that digital literacy choices might impact on future access.

**At Level 5, students will be able to evaluate and demonstrate:**
- the impact of diverse contexts where they have shown digital literacy skills.
- how their digital literacy skills have influenced the outcome of the specific practice of their discipline and their career aspirations.
- how they have made decisions around the choice of digital tools when completing activities and any potential longer term access to any resources developed.

**At Level 6, students will be able to apply a critically reflective approach to:**
- their individual digital literacy skills and practice and how they impact on others.
- their individual attitudes, values and skill set for being digitally literate on their course, in the workplace and in the wider world.
- how their subject, work-based and generic life skills have been influenced by developing specific digital literacy skills.
- their own digital literacy skills and how they can help to shape and influence their future

career and lifelong learning beyond the University.
- the digital literacy skills they can bring as a graduate to the workplace.
- their use of new media literacy and the recognition of their choices to impact sustainable development.

## Learning Outcomes

In our guidelines document for embedding a digital literacy in course design, significant attention was given to providing examples of learning outcomes which embedded the attribute. Several examples were given which demonstrated how small modifications to existing learning outcomes could retain the subject focus while introducing aspects of the 7 digital literacy areas.

Where learning outcomes have successfully, and progressively embedded the digital literacy attribute, the next step, and the main focus of this document, is ensuring that students are supported in being able to understand and communicate these attributes in a meaningful way.

> **Suggestion:** Before thinking about the delivery and assessment of digital literacy, course and/or module teams might find it helpful to remind themselves how digital literacy is represented in learning outcomes *across* the course, and to discuss how students might experience learning and assessment activities related to those outcomes.

By way of illustration of how a digital literacy was successfully embedded through the course refocus process, these learning outcomes are extracted from course and module documentation in a variety of subject areas:

| Level | Subject area | Learning outcome<br><br>Students will be able to: |
|-------|-------------|---------------------------------------------------|
| Course | Events Management | Critique and apply relevant frameworks and models associated with the operational and strategic management of human, financial, technological and physical resources within the global events industry. |
| Course | Music Performance & Production | Engage artistically with a range of production techniques involved in creating, performing and recording music by demonstrating practical skills and competence with appropriate technological procedures. |
| 6 | Media, Communications and Culture | Critically assess the implications new media technologies have for the material and symbolic cityscape. |
| 6 | Marketing | Critically reference the interactive nature of Web 2.0, particularly social media and consumer generated media |

| | | within the marketing mix. |
|---|---|---|
| 5 | Bio Medical Science | To quantify the actions of drugs in the laboratory and from scientific literature. |
| 5 | Journalism | Critically analyse and evaluate the relationship between culture, leadership, employee engagement and internal communication. |
| 4 | Physical Education | Collect and interpret research data using basic qualitative and quantitative research methodologies, identify and explain selected paradigms and processes of research |
| 4 | Animation | Create animation content with digital applications. |

## Your Course documentation

In the guidance on embedding digital literacy in course design, it was suggested that a statement on each attribute might appear in Course Handbooks.

All CATS contain graduate attribute statements for the course which might be adopted or adapted to form part of course level documentation.

Increasing the visibility of the graduate attributes within course documentation will ensure that students are fully aware of the way in which they have been integrated into the course design.

A course statement can then be used as the basis for statements in each **Module Handbook** which show the part they play in developing (and assessing where appropriate) the attribute - linking in to the learning outcomes.

A module might talk about a digital literacy in a number of ways such as:

> *The course sets out to help you develop your digital literacy by enabling you to access and evaluate information and activities from a variety of sources and perspectives. In this module you will use a range of digital tools and systems to research, collate and present a significant assessed portfolio.*

It may also benefit students to examine and explore with them how digital literacy enhances their employment prospects, framing the digital literacy needs against their potential career aspirations. Beyond the employability aspects it is also important to emphasise the importance of being digitally literate in personal and social contexts.

**Your Course Induction & Introductions to Modules**

A significant function of student induction is to establish and communicate a sense of course identity, and what it means to be a student on *this* course at *this* university. This is an important time to help students understand how a digital literacy features as part of course identity, and how it adds value to their capabilities as a graduate.

The introduction to graduate attributes can initially be made during induction activities. It is also a potential opportunity to get students to self assess their own digital literacy capabilities and perhaps discuss their own experiences and understanding of digital literacy with reference to the definition.

The introduction to each module needs to make clear how (if) digital literacy features within the module learning outcomes, assessments, and learning activities. Is digital literacy developed, if so how? Is it assessed? Making these transparent as part of the assessment design helps students to identify how digital literacy is integrated into their curriculum.

> **Suggestion:** When discussing the assessment activities with the students ask them to identify where their digital literacy skills are being developed and/or assessed. The more students become self aware of their own digital literacy development the greater the likelihood of them being able to explain it to others.

**Your Learning Resources**

The selection of, and the ways in which students engage with course-related, learning resources can have a significant impact upon how they develop their digital literacy skills.

In selecting planning activities, considering learning resources and framing how students are to engage with those resources, some things to consider would be:

- Does your reading and resources lists include a variety of digital media? (e.g. video & audio resources, ebooks, electronic journals & databases).

- To what extent does accessing resources develop digital literacy capability?

- To what extent/in what ways do course resources encourage students to consider the ethical and moral implications of digital content, copyright and licensing?

- Are students provided with opportunities to search for, collate and share their own digital resources?

- How are discipline-specific digital literacy terms identified and how do these terms relate to potential career progression?

- To what extent/in what ways could you support students in the complexity of managing their "digital identify" and "digital footprint". Are there considerations around data management and data protection?

- How can the use of social media be integrated into the course experience? How does the discipline area use social media in a professional context?

Many of these questions will require course teams to agree approaches and to engage in new ways with technology. The Centre for Learning & Teaching can support you in the development of these approaches and provide guidance related to the integration and visibility of Digital Literacy within your course.

## Your Learning activities

As part of the process of designing your curriculum delivery you will have already considered how to engage students in activities that develop their digital literacy capability.  Supporting and guiding students to become confident and critical users of digital tools and services as well as assisting them in being able to access, record and evaluate information and data in appropriate ways is a key academic skill.

Beyond the academic skills associated with digital literacy there will be specific employability skills that are related to digital literacy activity. You will have already identified these as part of your work in refocusing your curriculum, but it is important to make these skills visible to students so that they are able to articulate them to employers. These skills may be around the use of specific software, hardware, tools and facilities. It may also be in the way a specific professional area accesses and manages data.

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**Suggestions for embedding a digital literacy in learning activities:**

- Explicitly refer to the tools and techniques the students are **developing** in meeting the academic aims of the course. Be sure to reference the digital literacy tools/skills you are introducing students to.
- Invite your students to **identify** the digital literacy skills they would require in their chosen career. How is the course supporting them in the development of these skills?
- Refer to the role that digital literacy plays in supporting sustainable development
- If you provide opportunities for visiting speakers, what potential is there for them to **reference** the digital literacy skills required in their profession?

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- Provide opportunities for students to develop skills in using **digital tools** provided by our University such as the VLE, e-portfolio system and library discovery system. Don't assume that students will learn these systems for themselves – you can call on your academic librarian and/or learning technologist to support you.
- When providing **feedback** to students during activities can you provide opportunities to comment on their digital literacy skills. This may include comments on their use of specific tools or software as well as their use/presentation of data.
- Provide opportunities for and actively encourage students to use a **variety** of digital tools. For example if students are required to make a presentation they could be encouraged to use an alternative to Powerpoint.
- Design activities which allow students to lead digital literacy activities. You could use our University digital literacy definition as a way to generate discussion or ideas for activities:
  https://www.leedsbeckett.ac.uk/partners/files/UG_Digital_Literacy_Definition.pdf

**Where to get additional support.**

- Use skills for learning resources to complement your own resources or ask students to access them as extra curriculums activity.
  **http://skillsforlearning.leedsbeckett.ac.uk/local/graduate_attributes/digital_literacy.shtml**
- Contact the Skills for Learning team to arrange sessions with student cohorts.
- Work with your academic librarian to design learning activities to develop digital literacy skills related to information literacy.
- Work with your Faculty learning technologist(s) to develop activities to enhance staff and student digital literacy skills related to digital tools and platforms.

**Your Assessments**

Assessment tasks need to reflect learning outcomes, and **where the digital literacy attribute is embedded in the outcome, it needs also to be embedded in the assessment task** - and **feature explicitly in the marking schemes/assessment criteria**. In some cases, a critical evaluation of assessment tasks and associated marking criteria may reveal the extent to which they can be passed with little more than the reproduction of information, rather than the more complex capabilities expressed within the learning outcomes.

**Criteria** for communicating appropriately in a piece of assessment can be written to reward students who communicate with an informed understanding of their digital literacy competencies. - e.g. when a student produces a presentation document could the student submit in a format of their choosing with a rationale behind their choice of tool? Similarly, other

aspects of a digital literacy, as appropriate to the module learning outcomes, can be given greater prominence and made more clearly explicit to students if they feature as a component/components within the assessment criteria.

**Mark schemes** - mark schemes or rubrics can be devised which accommodate (or even reward) work where the student has made choices around their approaches to using digital tools and their use of digital data systems. This might be simply with regards to the way in which they presented their work, but could also be more complex, such as the way in which they managed their own data collection and analysis (what tools and processes were applied and why?).

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**Suggestions for reviewing how a digital literacy features in assessment criteria:**

Module teams could undertake a critical analysis of any marking criteria/rubrics which have been developed alongside the learning outcomes and assessment tasks for the module:

- To what degree is the digital literacy attribute of a learning outcome made explicit within the assessment criteria?

- To what degree do the assessment task and associated criteria require students to evidence digital literacy in order to pass or achieve a good grade in the assessment task?

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In addition to ensuring marking criteria and rubrics/mark schemes clearly articulate the digital literacy attribute, we can help our students identify, reflect upon, and articulate how they are developing their digital literacy by **making documents available to students**. This is considered to be good practice in general, since it enables self-assessment, critical review of their work, and helps them to be able to articulate not only their graduate attributes, but also how they are developing their subject knowledge and competencies.

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**Suggestions for utilising assessment criteria to help students engage with the digital literacy attribute:**

Module teams could consider how students are enabled to engage with, reflect upon, and apply assessment criteria and rubrics/mark schemes to further their understanding of their learning:
- Do students receive copies of assessment criteria and any rubrics/mark schemes you use in advance of submission?

- Are students encouraged/scheduled to engage in any self or peer-assessment utilising the assessment criteria and rubrics in advance of submission?

- To what extent do these processes enhance your students' awareness of how digital literacy is developed in this module?

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- The digital literacy definition can be used as a guide to writing marking schemes with reference to digital literacy criteria.
  https://www.leedsbeckett.ac.uk/partners/files/UG_Digital_Literacy_Definition.pdf

- The digital literacy definition can be shared with students.

## Your Feedback

Being **seen to value** student experiences and perspectives is an important motivational tool generally.

**Suggestions for showing how you value digital literacy through feedback:**

Within your module(s), do you/could you?:

- Specifically make reference to their use of digital tools (software/hardware).
- Make positive reference in both formal and informal feedback to students with regards to their relevance of digital literacy to their chosen careers.
- Use feedback to recognise when a student's work demonstrates their ability to make appropriate choices in digital scholarship (e.g. accessing, retrieving and managing data).

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http://www.telegraph.co.uk/technology/internet/7884842/Everyone-of-working-age-online-by-2015-says-Martha-Lane-Fox.html [Accessed 12 September 2011].

## Links to additional resources related to Digital Literacy

http://www.jisc.ac.uk/whatwedo/programmes/elearning/developingdigitalliteracies.aspx

http://www.jisc.ac.uk/guides/developing-students-digital-literacy

http://jiscdesignstudio.pbworks.com/w/page/46740204/Digital%20literacy%20framework

http://jiscdesignstudio.pbworks.com/w/page/54539610/DL%20resources%20index

http://www.open.ac.uk/libraryservices/subsites/dilframework/

http://arts.brighton.ac.uk/stibbe-handbook-of-sustainability/chapters/new-media-literacy

## Collated suggestions for embedding Digital Literacy

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**Specifically:**

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uses and expectations in relation to your subject area. Invite them to talk to your students about their expectations regarding digitally literate graduates.
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- Invite your students to **identify** the digital literacy skills they would require in their chosen career. How is the course supporting them in the development of these skills?
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- Provide opportunities for students to develop skills in using **digital tools** provided by our University such as the VLE, e-portfolio system and library discovery system. Don't assume that students will learn these systems for themselves – you can call on your academic librarian and/or learning technologist to support you.
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**Suggestions for reviewing how a digital literacy features in assessment criteria:**

Module teams could undertake a critical analysis of any marking criteria/rubrics which have been developed alongside the learning outcomes and assessment tasks for the module:

- To what degree is the digital literacy attribute of a learning outcome made explicit within the assessment criteria?

- To what degree do the assessment task and associated criteria require students to evidence digital literacy in order to pass or achieve a good grade in the assessment task?

**Suggestions for utilising assessment criteria to help students engage with the digital literacy attribute:**

Module teams could consider how students are enabled to engage with, reflect upon, and apply assessment criteria and rubrics/mark schemes to further their understanding of their learning:

- Do students receive copies of assessment criteria and any rubrics/mark schemes you use in advance of submission?

- Are students encouraged/scheduled to engage in any self or peer-assessment utilising the assessment criteria and rubrics in advance of submission?

- To what extent do these processes enhance your students' awareness of how digital literacy is developed in this module?

The digital literacy definition can be used as a guide to writing marking schemes with reference to digital literacy criteria.
https://www.leedsbeckett.ac.uk/partners/files/UG_Digital_Literacy_Definition.pdf

**Suggestions for showing how you value digital literacy through feedback:**

Within your module(s), do you/could you:

- Specifically make reference to their use of digital tools (software/hardware).
- Make positive reference in both formal and informal feedback to students with regards to their relevance to their chosen careers.
- Use feedback to recognise when a student's work demonstrates their ability to make appropriate choices in digital scholarship (e.g. accessing, retrieving and managing data).

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http://www.leedsbeckett.ac.uk/partners/graduate-attributes.htm