

## Digital literacies development framework

The horizontal axis of the framework shows three **types of capability** relevant to digital literacy: CT capabilities, information and media capabilities, and academic/learning capabilities. Following a review of competence frameworks currently in use in the UK and Europe<sup>1</sup> we concluded that the diversity of competences could best be managed in this way. We have not included 'employability' or 'citizenship' as separate categories, though several competence frameworks address these, as they are generally expressed in ways that better fit with the 'identities and attributes' part of the table i.e. as cutting across the three types of capability, or as lenses through which those capabilities can be viewed.

**ICT capabilities** can be seen as relatively fast-changing in response to drivers such as the market in consumer technologies, and social practices of the internet. They relate to technical skills and the practices which are built on them, e.g. the capacity to be selective about technology, and eventually to appropriate it for personal goals and to express aspects of personal identity.

**Academic/learning capabilities** can be seen as relatively slow-changing, necessarily so as they embody the cultural values enshrined in institutions and their knowledge practices. However, we see evidence that these practices themselves are changing in response to digital innovations, e.g. research and scholarship are carried out in very different ways since the advent of networked information. Many professional and vocational practices around knowledge and learning have been similarly transformed.

**Information and media capabilities** can arguably be situated at the intersection of academic and ICT capabilities, as they are concerned with the forms – technical as well as cultural – in which academic meaning is communicated. For this reason they are often the location of difficulty and miscommunication between learners and staff. Plagiarism and problems with referencing, for example, can be seen as a clash of academic and more informal knowledge cultures. This is also the area where much exciting work is being done within and across the curriculum, for example by (subject) librarians.

The vertical axis of the table shows four **stages of development** towards digital literacy. This model was developed<sup>2</sup> following a JISC-funded programme of work on learners' experiences of e-learning<sup>3</sup>. At the base of the pyramid is the requirement for **access** to technologies, services, resources and spaces for learning: these are preconditions for participation. Building on their access, learners can start to develop **skills** relevant to particular applications, devices and services; or more general academic skills such as note-taking, referencing, constructing an argument, analysing data, all of which can be supported by technology in diverse ways.

When learners begin to apply those skills to authentic tasks and problems, particularly in subject-specific contexts, they are developing **practices** and strategies. At this stage learners are qualifying their generic skills, becoming apprenticed to particular ways of thinking which are valued in their chosen topic, discipline, profession or vocation. Finally as learners become proficient and fluent, they appropriate their practices to their ongoing **identity**. They no longer focus on what they are doing and how well they are doing it, but how they express their personal goals, values and meanings.

Five versions of the framework are provided, for different uses.

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1 See LLiDA: <http://www.caledonianacademy.net/spaces/LLiDA/index.php?n=Main.CompetenceFrameworks>

2 Sharpe, R. and Beetham, H. (2010) Understanding students' use of technology for learning: towards creative appropriation, in Sharpe, R., Beetham, H. and de Freitas, S. (eds) *Rethinking Learning for a Digital Age*, Routledge.

3 See Learners' Experiences of e-Learning: <https://mw.brookes.ac.uk/display/JISCle2/About>

# 1. Example competences, capabilities and personal attributes for a digital age, mapped to stages of development



## 2. Questions for curriculum teams

<p>How and where in the curriculum might learners be encouraged to:</p> <ul style="list-style-type: none"> <li>• participate in hybrid (digital/f2f, learning/professional/academic) networks, including managing their identity and reputation online?</li> <li>• engage with authentic tasks and problems in a digital or hybrid environment?</li> <li>• have input to the design of their personal or group learning situation, including choice of technologies used?</li> <li>• express themselves creatively, professionally, and/or academically in a range of media</li> <li>• demonstrate a critical stance in relation to different media including awareness of audience, purpose, genres, means of production?</li> <li>• review the affordances of different technologies and make appropriate choices?</li> <li>• exercise judgement in relation to digital resources, environments, networks and opportunities?</li> <li>• use technology to learn across boundaries e.g. social, geographical, ethnic, opinion-groups, disciplines, professions, sectors?</li> <li>• show awareness of digital rights and responsibilities; understand how digital practices produce new ethical issues?</li> <li>• show awareness of safety online; assess threats to personal and environmental well-being, created/remediated by digital technologies?</li> <li>• use technology to record their long-term learning journey and/or showcase their lifelong learning achievements?</li> </ul>		
<p><b>ICT capability</b></p>	<p><b>Information/media capability</b></p>	<p><b>Learning/thinking capability</b></p>
<p>Are learners introduced to uses of technology which are typical in the discipline/profession after graduation? Are tutors up to date with practice? Are learners given choices about the technologies they use and/or encouraged to critique the available technologies? Are learners encouraged to explore and personalise technologies? Are learners' existing ICT practices recognised and valued? Are learners using technology to bridge formal/informal, on/off-campus learning?</p>	<p>Are learners actively encouraged to share information where appropriate? Do learners practice choosing and using a variety of media for academic discourse? Are learners encouraged to aggregate, repurpose, remix, re-edit content? To comment on and review others' work? Do learners understand the different rules of knowledge in different contexts e.g. authority, plagiarism, referencing?</p>	<p>Are learners participating in a range of learning networks and groups, e.g. research, professional, peer group? How is technology being used to support this? Are learners using technology to engage with complex problems in their subject? Are learners using technology to support reflection, goal-setting, planning, CPD? Are learners using technology to record and evidence their learning?</p>
<p>Are ICT skills explicitly diagnosed, supported and progressed in this curriculum? If not, when, where and how does this happen? What skills are learners expected to have prior to study? Are these expectations explicit? How are they remediated to support wider access? Do tutors have the requisite ICT skills?</p>	<p>How are learners' information/media skills supported and progressed in this curriculum? Who is responsible for supporting and assessing them? How well integrated is this support with curriculum tasks and assessments?</p>	<p>How are learning skills supported and progressed in this curriculum? When, where and with whom do learners have opportunities to address their general learning skills and academic progress? Are these opportunities being supported by appropriate technologies?</p>
<p>What access are learners expected to have to their own devices, networks, software and services? Are these expectations transparent and explicit? Are they fair to all? What access/facilities are provided by the institution or programme? What ICT choices do learners have? Do tutors have? What are the constraints?</p>	<p>What access will learners have to information sources and services? To learning content in a range of media? Do learners have a social context in which academic subject knowledge is valued and shared? How can the programme provide/support this?</p>	<p>What access will learners have to places for learning, incl. virtual and hybrid spaces? What access will they have to experts, tutors, and others, incl. virtual access? What are learners' constraints wrt time, space and access, and how are technologies being used to remediate this?</p>

### 3. Questions for institutions

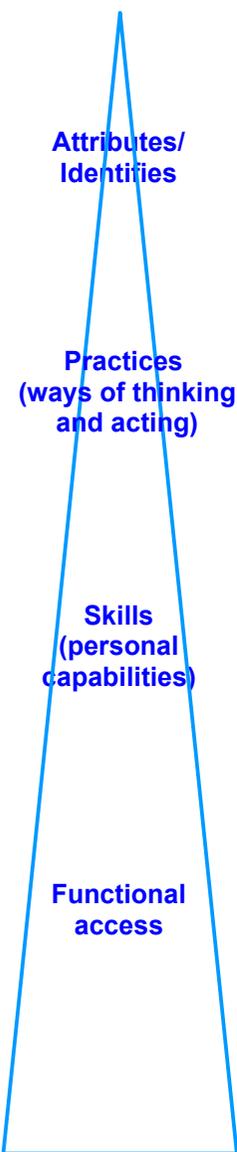
<p><b>Attributes/Identifies</b></p>	<p>How does our institutional mission recognise the importance of digital capability?                  What C21st graduate attributes do we make it our mission to develop, promote and support in our learners?                  What part do digital technologies play in the learning experience at our institution? How are learners involved in decisions about ICT?                  How are we helping learners to thrive in a networked social context, where boundaries of public and private are being eroded?</p>		
<p><b>Practices (ways of thinking and acting)</b></p>	<p><b>ICT capability</b></p> <p>How are learners rewarded for sharing ICT skills and practices with others (e.g. thru mentoring)?</p>	<p><b>Information/media capability</b></p> <p>How are learners rewarded for developing critical judgement and creative expression in relation to online media (e.g. assessment design, special awards)?                  How is learning content being managed to maximise learning within and beyond the institution?</p>	<p><b>Learning/thinking capability</b></p> <p>How are learners rewarded for effective learning/study practices involving ICT (e.g. assessment design, graduate award)                  How do learners record, reflect on, and showcase learning across the curriculum, and how is ICT used to support this (e.g. e-portfolio, e-CPD)?</p>
<p><b>Skills (personal capabilities)</b></p>	<p>Who in the institution is responsible for assessing, supporting and progressing individual learners' ICT skills?                  How do learners access support? Is support timely, fair, friendly, personal, ongoing?                  How is ICT support integrated into the demands of the curriculum e.g. within modules when new ICT is introduced? What role do support staff have in relation to curriculum staff?</p>	<p>Who in the institution is responsible for assessing, supporting and progressing individual learners' information literacies?                  How do learners access support? Is support timely, fair, friendly, personal, ongoing?                  How is information literacy integrated into the demands of the curriculum e.g. within modules? What role do support staff have in relation to curriculum staff?</p>	<p>Who in the institution is responsible for assessing, supporting and progressing individual learners' academic development?                  How do learners access support? Is support timely, fair, friendly, personal, ongoing?                  How is academic development integrated into the demands of the curriculum e.g. within modules? What role do support staff have in relation to curriculum staff?</p>
<p><b>Functional access</b></p>	<p>What access to technologies and devices do we expect learners to have? How are we making these expectations explicit and fair?                  What devices, networks and services do we provide as an entitlement to learners? Are they equally and fairly accessible to all?                  How are we addressing digital inclusion?                  How are we using technology to support widening participation in other ways e.g. outreach, accessibility, induction?</p>	<p>What access does the institution guarantee to information sources and services?                  How do learners access learning content from within and outside the institution (e.g. open educational resources)? How does the institution manage content for learning?                  Do learners have access to digital media capture/production/editing/publishing technologies, within and outside of the curriculum?</p>	<p>How have spaces for learning been designed or adapted to allow use of digital technologies by learners?                  What are learners' constraints wrt time, space and access, and how are technologies being used to remediate this?</p>

How is staff development and reward managed to ensure all staff involved with learners have appropriate digital literacies?

How do we quality enhance our programmes to meet changing demands for high level digital capabilities, in diverse graduate roles?

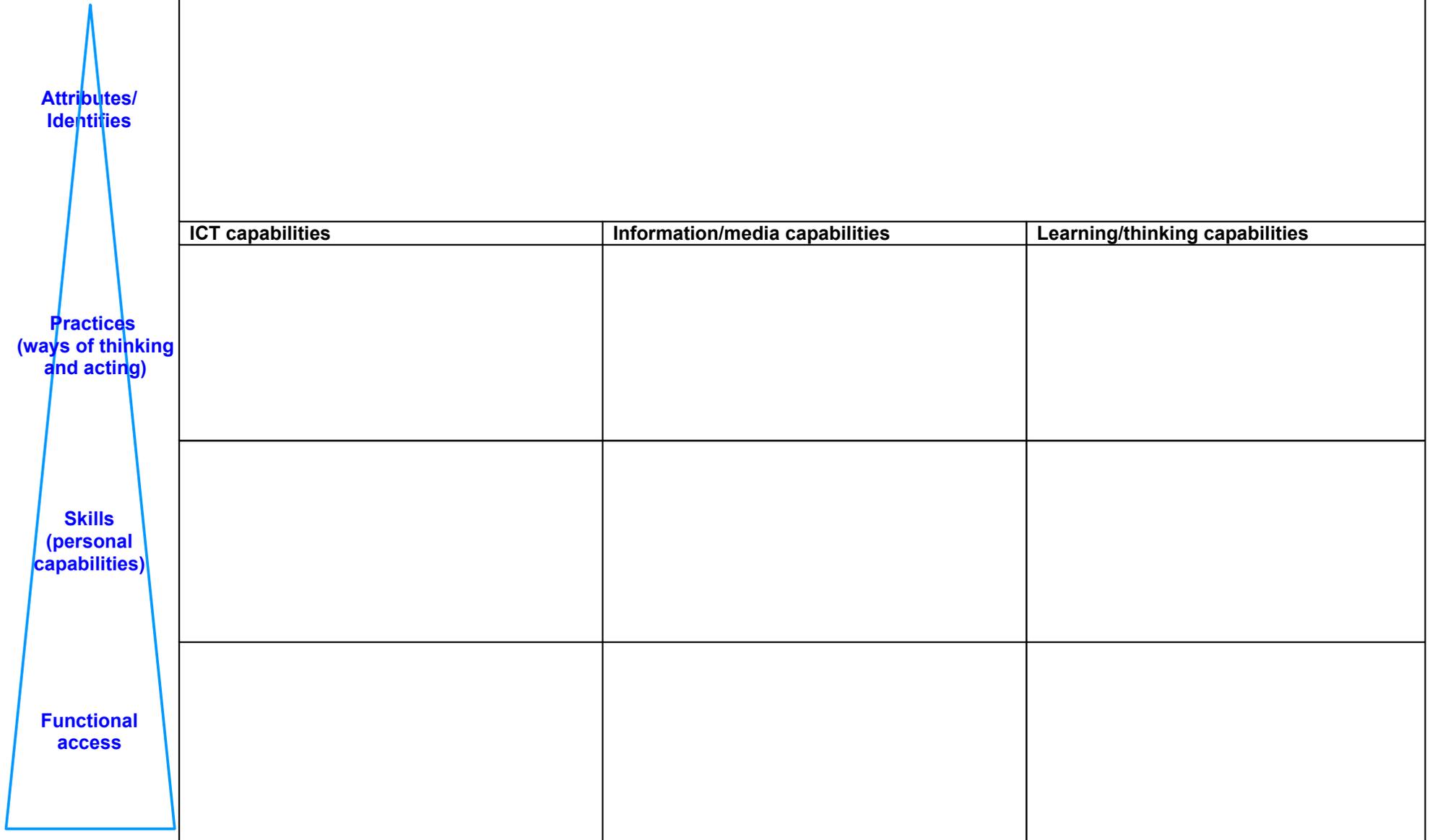
How do we help learning professionals (learning developers, ICT support, librarians, careers, outreach and WP etc) to enhance and share their digital expertise?

## 4. The Learner Perspective



<p><b>I create</b> a learning environment that suits me, with an awareness of my needs and preferences including ICT preferences  <b>I plan</b> my own learning journey, using technology to access opportunity, showcase achievements, and reflect on the outcomes  <b>I design</b> original projects, problems and questions that are meaningful to me and others  <b>I am</b> a critical reader of messages in different media, and a critical user of different technologies  <b>I judge</b> digital resources, environments, networks and opportunities for their value to me and others  <b>I behave</b> ethically in contexts where the digital is blurring boundaries, and with an awareness of digital rights and safety</p>		
<p><b>ICT capabilities</b></p> <p><b>I choose</b>, use and blend technologies to suit my needs  <b>I explore</b> the capabilities of technology  <b>I personalise</b> technologies and services</p>	<p><b>Information/media capabilities</b></p> <p><b>I share</b> ideas and express myself in a variety of media  <b>I choose</b>, use and blend media for communicating ideas  <b>I repurpose</b>, adapt and re-edit content for a variety of audiences</p>	<p><b>Learning/thinking capabilities</b></p> <p><b>I study</b> under my own initiative and in the ways that suit me  <b>I participate</b> in learning communities and groups  <b>I build</b> knowledge collaboratively  <b>I solve</b> complex problems using appropriate ICT tools</p>
<p><b>I can:</b>  use search engines, online services, data, analysis tools  use a range of media-capture devices  use a range of editing applications  use communication and presentation tools  use professional and academic (subject-specific) tools</p>	<p><b>I can:</b>  locate and access information  compare, evaluate and select information  organise and manage information  apply information to problems and questions  analyse and synthesise information  communicate information</p>	<p><b>I can:</b>  take notes  complete and submit assignments  construct arguments  solve problems  manage my time and tasks  evidence, cite and reference appropriately  read and write academic content  use number appropriately</p>
<p><b>I have access to:</b>  networked device + range of apps  robust networks  media devices e.g. camera, phone  specialist hardware or software for my course  assistive technology that I need</p>	<p><b>I have access to:</b>  information sources and services  learning content  my preferred media</p>	<p><b>I have access to:</b>  learning opportunities  learning resources  peers and learning groups  teachers, mentors and experts  a space for learning  the time to learn</p>

5. Blank for alternative uses!



Attributes/  
Identities

Practices  
(ways of thinking  
and acting)

Skills  
(personal  
capabilities)

Functional  
access