## Digital capabilities: what tools do you need?

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| **ICT/digital proficiency**  | The use of ICT-based devices, applications, software and services. The confident adoption of new devices, applications, software and services and the capacity to stay up to date with ICT as it evolves. The capacity to deal with problems and failures of ICT when they occur, and to design and implement ICT solutions. | (Almost any!) Online help with any of:  
- Smartphone, tablet, laptop, printer, camera  
- Windows, Mac OS, Apple, Android, Linux etc platforms  
- Interfaces (eg keyboard, voice, touch-screen, mouse)  
- Software, apps, applications, plug-ins and updates  
- Functions, preferences, profiles and settings |

| **ICT/digital productivity**   | The use of ICT-based tools to carry out tasks effectively, productively, and with attention to quality. The capacity to choose devices, applications, software and systems relevant to different tasks, having assessed their benefits and constraints; to adopt and where necessary adapt digital tools to personal requirements such as accessibility. The capacity to work fluently across a range of tools, platforms and applications to achieve complex tasks. | MS Office (word, excel, powerpoint), Mac (pages, numbers, keynote) Google (docs, sheets, forms etc)  
- Digital calendar, task list, timetable planner, project management tools  
- Email – lists, digests, attachments  
- Institutional systems;  
- Personal apps and web services eg for note-taking, reference management, content curation and sharing, accessing content; administer personal profiles and accounts  
- Organise files, folders and applications on a desktop and/or in the cloud  
- Back up, share and transfer files as required  
- Maintain security eg using password management, privacy settings  
- Adapt settings on devices and in programs and services to meet individual needs |

| **Information literacy**       | The capacity to find, evaluate, manage, curate, organise and share digital information. The capacity to interpret digital information for academic and professional/vocational purposes, and to review, analyse and re-present digital information in different settings. A critical approach to evaluating information in terms of its provenance, relevance, value and credibility. The ability to reference digital works appropriately. | Use library search tools, catalogues and databases; use subject specialist databases and portals. Use advanced searches (eg Google Scholar, by license, using filters and operators)  
- Use reference management tools, apps and services (eg Endnote, Zotero, Mendeley, RefMe). Use Turnitin to track citations  
- Use information management tools, personal (eg OneNote, EverNote, bookmarks, files, folders, personal tagging), and shared (eg pinboards, curation sites and services, social referencing, sharing services, Storify, Tumbler, pinterest…)  
- Manage incoming information (eg using filters, folders, ‘rules’, feeds, subscriptions, advanced twitter and email tools) |

| **Data literacy**              | The capacity to collate, manage, access and use digital data in spreadsheets, databases and other formats, and to interpret data by running queries, data analyses and reports. The practices of personal data security. An understanding of how data is used in professional and public life; of legal, ethical and security guidelines in data collection and use; of the nature of algorithms; and of how personal data may be collected and used. | Use and generate data visualisations (eg charts, graphics, infographics, dynamic visualisations, maps)  
- Work with data in spreadsheets (eg using Excel, Numbers, Google sheets and forms)  
- Work with databases and data management tools  
- Work with data analysis tools, qualitative and quantitative (eg SPSS, R, NVivo, Qual)  
- Generate data reports and visualisations. Use specialised visualisation tools, functions and apps (eg WordStyf)  
- Use annotation tools (eg for video, audio); use coding tools and processes  
- Use mapping tools and other specialised data tools and services (geographical, textual, medical, musical, complex mathematical etc)  
- Use data functions, algorithms and equations |
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| **Media literacy**              | The capacity to critically receive and respond to messages in a range of digital media, text, graphical, video, animation, audio - and to curate, re-edit and repurpose media, giving due recognition to originators. A critical approach to evaluating media messages in terms of their provenance and purpose. An understanding of digital media as a social, political and educational tool, and of digital media production as a technical practice. | * Use and organise a range of digital media (eg text, graphic, animation, video, audio, multimedia) in publications, presentations and online  
* Use digital media production and editing tools (eg cameras, recorders, audio and video editors, image editors, graphic production, publishing, multimedia authoring environments, web authoring tools)  
* Use media sharing sites and services, curation and collation tools and services, bookmarking, tagging, and commenting  
* Use and understand a range of licenses  

| **Digital creation**            | The capacity to design and/or create new digital artefacts and materials such as digital writing; digital imaging; digital audio and video, digital code, apps and interfaces, web pages. An understanding of the digital production process, and basics of editing and coding. | * Design and create digital materials (eg posts, podcasts, web pages, wiki entries, digital video, digital stories, presentations, infographics – using eg WordPress, Go Animate)  
* Use design systems and software of all kinds, productivity tools, editing tools  
* Use making, coding and digital production environments  
* Use digital publishing and sharing sites  

| **Digital research and problem-solving** | The capacity to use digital evidence to solve problems and answer questions, to collect and collate new evidence, to evaluate the quality and value of evidence, and to share evidence and findings using digital methods. An understanding of digital research methods; an understanding of different data analysis tools and techniques. | * Search tools  
* Survey tools and systems eg;  
* Digital recording (eg audio, video and data recording to capture evidence)  
* Data analysis software, spreadsheets, databases  
* Quiz, survey, poll etc building apps  
* Specialised problem-solving notations and systems (eg mathematical, musical)  
* Computer models and modelling environments (eg virtual worlds, humans, physical and biological systems)  
* Data management tools and procedures (eg tagging, adding metadata, advanced searches and reports)  
* e-publishing  

| **Digital innovation**          | The capacity to adopt and develop new practices with digital technology in different settings (personal and organisational; social and work-based); to use digital technologies in developing new ideas, projects and opportunities. An understanding of innovation, enterprise and project management in digital settings. | * Any emerging technology and/or any novel uses of established technology for learning, teaching, assessment or research  

| **Digital communication**       | The capacity to communicate effectively in digital media and spaces such as text-based forums, online video and audio, and social media; to design digital communications for different purposes and audiences; to respect others in public communications; to maintain privacy in private communications; to identify and deal with false or damaging digital communications. An understanding of the features of different digital media for communication, and of the varieties of communication norms and needs. | * Video, flash meeting, webinar environments  
* Screen and application sharing  
* Shared virtual worlds and gaming environments  
* Email and email lists  
* Discussion forums, text, chat, twitter  
* Facebook, other social media  
* Image sharing – instant and asynchronous  

| **Digital collaboration**       | The capacity to participate in digital teams and working groups; to collaborate effectively using shared digital tools and media; to produce shared materials; to use shared productivity tools; to work effectively across cultural, social and linguistic boundaries. An understanding of the features of different digital tools for collaboration, and of the varieties of cultural and other norms for working together. | * Use shared productivity tools (eg Google suite, shared calendars, task lists)  
* Shared files, folders, drives  
* Open and closed media sharing sites and services (eg YouTube, Instagram, slide share)  
* Project management tools and apps  
* Wikis, shared blogs and web sites, shared authoring/drawing environments  
* Digital communication tools (as above) when used for collaborative purposes (eg Facebook groups – with shared resources)  


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<td>Digital participation</td>
<td>The capacity to participate in, facilitate and build digital networks; to participate in social and cultural life using digital media and services; to create positive connections and build contacts; to share and amplify messages across networks; to behave safely and ethically in networked environments. An understanding of how digital media and networks influence social behaviour.</td>
<td>Use the same tools as above, but for one-to-many and many-to-many communication. Address books, contact databases and other ways of monitoring contacts. Social media and other digital networks.</td>
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<td>Digital learning</td>
<td>The capacity to participate in and benefit from digital learning opportunities; to identify and use digital learning resources; to participate in learning dialogues via digital media; to use learning apps and services (personal or organisational); to use digital tools to organise, plan and reflect on learning; to record learning events/data and use them for self-analysis, reflection and showcasing of achievement; to monitor own progress: to participate in digital assessment and receive digital feedback; to manage own time and tasks, attention and motivation to learn in digital settings. An understanding of the opportunities and challenges involved in learning online; an understanding of own needs and preferences as a digital learner (eg access, media, platform, pedagogy).</td>
<td>Participate in digital learning live (eg via polling, group mind mapping, attending to digital presentations, accessing and sharing resources in class, live online tasks, live quizzes and learning games). Access and make use of digital learning opportunities such as online courses, podcasts, tweetfests, discussion threads and forums, webinars. Identify, choose and use digital learning resources (eg recorded lectures, notes, quizzes, online tutorials, problems and practice sheets, drills, simulations, games, AR and VR systems). Use dedicated learning environments such as... (VLE, webinar etc) to take part in learning. Prepare and submit assignments digitally (eg using e-assessment systems, plagiarism detection (Turnitin) etc). Receive, organise and make use of digital feedback eg comments, audio files, grades, data from learning systems (dashboard?). Record feedback for later review. Other digital study habits, eg: Use mind-mapping, note-taking, digital capture and content curation apps to create and organise personal learning materials. Read and re-produce subject specific content in a variety of digital media. Use digital tools and techniques specific to the subject area of study. Use an e-portfolio, digital CV or learning blog to organise and showcase personal learning outcomes. Use quizzes, e-assessments and digital diagnostic tools to assess own learning. Use digital communications devices, systems and media to connect with other learners and with tutors, learning professionals, experts etc.</td>
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<td>Digital teaching</td>
<td>The capacity to support and develop others in digitally-rich settings, to teach, to work in a teaching or curriculum team, to design learning opportunities, to support and facilitate learning, to be pro-active in peer learning, all while making effective use of the available digital tools and resources. An understanding of the educational value of different media for teaching, learning and assessment, an understanding of different educational approaches and their application in digitally-rich settings.</td>
<td>Lead digital learning live (eg with digital presentations, polling, feedback, group activities). Design, edit, adapt and deliver digital learning materials as above; produce digital presentations, polls and learning materials. Facilitate learning in online environments (eg forums, tweetfests, discussion lists, webinars, skype, zoom calls etc). Devise and support learning activities eg: (Note, the tools, resources and environments are the same as digital learning above, just that the role is a different one – designer, leader, facilitator etc.)</td>
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| Digital identity management | The capacity to develop and project a positive digital identity or identities and to manage digital reputation (personal or organisational) across a range of platforms; to build and maintain digital profiles and other identity assets such as records of achievement; to review the impact of online activity; to collate and curate personal materials across digital networks. An understanding of the reputational benefits and risks involved in digital participation. | » Personal profiles on a range of digital media and services  
» Tools and functions for monitoring media impact  
» Personal and professional networks and services eg LinkedIn, Academia.edu, specialist professional networks  
» e-Portfolio eg Mahara, blog authoring platforms eg WordPress, Twitter |
| Digital wellbeing     | The capacity to look after personal health, safety, relationships and work-life balance in digital settings; to use digital tools in pursuit of personal goals (eg health and fitness) and to participate in social and community activities; to act safely and responsibly in digital environments; to negotiate and resolve conflict; to manage digital workload, overload and distraction; to act with concern for the human and natural environment when using digital tools. An understanding of the benefits and risks of digital participation in relation to health and wellbeing outcomes. | » All personal monitoring technologies and apps  
» Time and task management technologies as at digital productivity  
» Information and web sites relating to digital health and wellbeing |