



## Developing Digital Capability Bloom's Digital Taxonomy

| Bloom's (revised) taxonomy | Digital literacies pyramid | Example learning tasks with a digital literacy component                              | Relevant digital tools, applications and services ( <i>examples only</i> )                                                                                                                                                                                                                                                                          |
|----------------------------|----------------------------|---------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Create</b>              | identity/ attributes       | Develop teaching/revision materials on a topic                                        | Web design/authoring software<br>Animation building apps and tools<br>Presentation tools e.g. powerpoint, keynotes, prez<br>e-publishing, e-book building sites<br>wiki – including wikipedia (go on, write!)<br>online quiz generator or institutional question & test software (write access)<br>Authoring software e.g. xerte (used by students) |
|                            |                            | Design an artefact using dedicated design software                                    | Computer aided design software e.g. google sketchup<br>Graphic design software e.g. Adobe system                                                                                                                                                                                                                                                    |
|                            |                            | Design a research project and outline how technology can support the different phases | Project management tools/services e.g. basecamp, launchpad, MSproject,<br>Reference management tools/services e.g. Mendeley, zotero, endnote<br>Open and public data sets                                                                                                                                                                           |
|                            |                            | Write an app or develop some code relevant to your topic                              | App building web sites/services<br>Code and scripting tools e.g. for editing html, perl, PHP, SQL...                                                                                                                                                                                                                                                |
|                            |                            | Make a film/podcast/presentation about your topic                                     | Digital video camera<br>Presentation tools e.g. powerpoint, keynotes, prez                                                                                                                                                                                                                                                                          |



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|                 |  |                                                                                                                   |                                                                                                                                                                                                                                                |
|-----------------|--|-------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                 |  |                                                                                                                   | <p>Audio capture device</p> <p>Video and/or audio editing software</p> <p>Screen capture software e.g. camtasia, jing, screencast</p> <p>Online video/slide distribution service e.g. vimeo, slideshare, youtube</p>                           |
|                 |  | Build or develop an online community and engage others                                                            | <p>Community building sites e.g. ning, elgg</p> <p>Social networks and media sharing sites</p> <p>Online conferences and discussion forums/noticeboards</p>                                                                                    |
|                 |  | Explore a new way of using digital technology to support your research or studies, and demonstrate this to others | Any                                                                                                                                                                                                                                            |
|                 |  | Develop an online profile or produce a digital story of your learning journey                                     | <p>Professional networking sites e.g. academia.edu, LinkedIn, GooglePlus</p> <p>Digital video camera or audio recording device and relevant editing software</p> <p>Website and web authoring software</p> <p>Personal blog e.g. wordpress</p> |
| <b>Evaluate</b> |  | Share solutions to a problem online: review and comment on other people's contributions                           | <p>Commenting function in googledocs (private)</p> <p>Review or comment function in social media sites (private)</p> <p>Annotation of pdfs</p>                                                                                                 |



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|  |  |                                                                                                                                                      |                                                                                                                                                                                                                                                               |
|--|--|------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |  | Explore the implications of using a particular technology, or using digital technology to address a particular research, study or professional issue | Any                                                                                                                                                                                                                                                           |
|  |  | Evaluate a range of online resources and produce a summary of the topic with links to validated sources                                              | Google, google scholar and other search engines<br>Scholarly databases and catalogues with search facilities<br>Open repositories and data archives with search facilities<br>Wiki post or other digital medium for reporting findings                        |
|  |  | Moderate a discussion                                                                                                                                | Text based conferencing<br>Video conferencing<br>Collaboration environment e.g. collaborate                                                                                                                                                                   |
|  |  | Draw conclusions linked to evidence                                                                                                                  | Blog post or wiki page with links (internal or external)<br>Spreadsheet or database application with graphical outputs used as evidence                                                                                                                       |
|  |  | Edit a presentation/article from a range of contributions                                                                                            | Wikispaces or wiki site<br>Presentation software<br>Collaborative authoring software e.g. googledocs, buzzword<br>Storify, pearltrees or other collation/storification software<br>Social referencing tool e.g. mendeley or shared bookmarking e.g. delicious |
|  |  | Describe and apply a method for reaching a decision, including criteria used                                                                         | Decision-analysis software<br>Mapping software                                                                                                                                                                                                                |



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|                |           |                                                     |                                                                                                                                                                                     |
|----------------|-----------|-----------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Analyse</b> | practices | Identify patterns in data/evidence                  | Dedicated data analysis software with features such as sort, filter, formula and equations<br>Visualisation apps e.g. wordle<br>Geotagging and mapping<br>Open and public data sets |
|                |           | Argue, defend, with links to evidence               | Blog post or wiki page with links (internal or external)<br>Spreadsheet or database application with graphical outputs used as evidence<br>Open and public data                     |
|                |           | Collect and analyse questionnaire data              | Googleforms, surveymonkey, Bristol Online Surveys (etc)<br>Statistical analysis software e.g. SPSS                                                                                  |
|                |           | Collect and analyse interview data                  | Video camera<br>Audio capture device<br>Qualitative data analysis software e.g. nVivo, hyperresearch                                                                                |
|                |           | Predict and explain what will happen in a situation | Simulation<br>Game-based environment<br>Virtual world/virtual reality environment                                                                                                   |
|                |           | Produce a map of a given topic or problem space     | Reference management software<br>Mind mapping software<br>Process analytics<br>Geotagging and geomapping                                                                            |



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|       |  |                                                                                |                                                                                                                                                                                                                                                               |
|-------|--|--------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Apply |  | Demonstrate a complex method, practice or technique                            | Any discipline-specific device<br>Audio or screen capture technology e.g. camtasia, screencast, audacity<br>Digital video to capture a performance<br>Illustration software e.g. Adobe suite<br>Presentation software e.g. powerpoint, prezi<br>Virtual world |
|       |  | Explore a case study or situation through a simulation                         | Simulation environment, simulation elements<br>Game-based environment<br>Virtual world e.g. secondlife<br>Open simulations/representations e.g. virtual human project, google earth, worldofmolecules etc                                                     |
|       |  | Carry out a procedure or apply a method using specialised hardware or software | Any subject/profession specific hardware/software                                                                                                                                                                                                             |
|       |  | Aggregate, curate or organise materials                                        | Storify<br>Collaborative filing e.g. via dropbox<br>Social bookmarking e.g. delicious<br>Aggregation services e.g. pearltrees, tumblr, pinterest, evernote<br>Digital writing e.g. word processing, wiki post, blog post                                      |
|       |  | Re-use, repurpose materials                                                    | Access to materials for repurposing/re-use<br>Editing and/or aggregating software as above                                                                                                                                                                    |



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|                   |        |                                                                        |                                                                                                                                                                                                                                                              |
|-------------------|--------|------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                   |        |                                                                        | Digital writing e.g. word processing, wiki post, blog post                                                                                                                                                                                                   |
| <b>Understand</b> | skills | Mind map a topic                                                       | Mindmapping software e.g. Cmap, mindjet, Mindmeister, xmind<br>Graphical features of presentation and writing software e.g. prezi<br>Aggregation services e.g. pearltrees, tumblr, pinterest                                                                 |
|                   |        | Reproduce ideas from one medium in another                             | Any digital production medium e.g. video, audio, photographs, drawing, animation, or multimedia e.g. web, blog pos                                                                                                                                           |
|                   |        | Select search terms to locate relevant materials                       | Google, google scholar and other search engines<br>Scholarly databases and catalogues with search facilities<br>Open repositories e.g. of learning resources<br>Search by keyword and hashtag e.g. on twitter, blogs, online discussions, file sharing sites |
|                   |        | Organise relevant materials through tagging, filtering or categorising | Keyword tagging in media sharing sites e.g. youtube, slideshare<br>Tagging on blogs and wikis<br>Hash tagging on e.g. twitter, MOOCs, online discussions<br>Online file management sites e.g. evernote, dropbox, scrapbook<br>Collating/file managing apps   |
|                   |        | Take a quiz or poll to test understanding                              | Electronic voting devices (with suitable questions and feedback)<br>Online quiz generated by e.g. institutional question and test software or online quiz generator such as hot potatoes                                                                     |



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|                 |  |                                                                 |                                                                                                                                                                                                                                       |
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|                 |  |                                                                 | Feedback in a range of media e.g. electronic, audio                                                                                                                                                                                   |
|                 |  | Practice writing in an academic style/voice for different media | Any: twitter, blog, web page, briefing, voice-over<br><i>You may want to give guidance on writing for the web or other specific media as well as criteria for academic writing.</i>                                                   |
|                 |  | Gather examples or illustrations of a concept                   | Wiki page with links<br>Bookmarking site e.g. delicious, reddit, digg, stumbleupon<br>Archive building application e.g. omeka<br>Twitterfeed<br>Subscription sites/aggregators e.g. RSS feeds, bloglines, blogger, firefox extensions |
|                 |  | Explore pathways through a topic                                | Interactive learning resource or virtual tutorial<br>Open learning resource or repository of resources<br>Mindmap or graphical presentation (read mode)                                                                               |
| <b>Remember</b> |  | Label a diagram                                                 | Online whiteboard, collaborative writing/drawing apps<br><i>Diagrams to be labelled can be created in e.g. Adobe Flash, xerte, hot potatoes, some question and test software</i>                                                      |
|                 |  | Make a recording                                                | Digital audio device<br>Digital video or stills camera<br>Media sharing site e.g. flickr, vimeo, instagram<br>Media repository or personal file space                                                                                 |



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|--|--|-----------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |  | Take a quiz or poll to answer factual questions                                                                       | Electronic voting devices (with suitable questions and feedback)<br>Online quiz generated by e.g. institutional question and test software or online quiz generator                                                                   |
|  |  | Identify and download a video, podcast, online tutorial or lecture relevant to a topic – remembering to take notes!   | Open learning repository e.g. OCW, OpenSpires, OpenLearn, FutureLearn<br>iTunesU, TED talks, other online educational sites<br>institutional VLE with podcasts/lecturecasts available<br>Note-taking or simple authoring app/software |
|  |  | Locate online resources using given terms/criteria or from a known source                                             | Google, google scholar and other search engines<br>Scholarly databases and catalogues<br>Open repositories e.g. of learning resources                                                                                                 |
|  |  | Practice a basic skill or process in a simulated environment, e.g. to prepare using it in the field, lab or workplace | Simulation<br>Virtual world<br>Games-based environment<br>Haptic environment                                                                                                                                                          |