Bloom's Digital Taxonomy

Bloom's Taxonomy of learning outcomes is a well-known resource for designing courses and activities to meet a variety of learning outcomes. This 'digital' version includes simple activities at each level of the taxonomy. It is based on student responses to the question '*What digital activities really support your learning?*' (2018 Jisc Student Digital Experience 'Tracker' survey with updates from the same survey in 2020).

The first column shows the codes used to categorise student responses, organised according to Bloom's taxonomy. The second column shows tools and resources associated with each term. Students usually gave the commercial or local name, but we have used mainly generic terms so they are easier to map to your own learning environment. You can cross reference these terms with the 'technology types' resource, and/or replace with terms local to you. The third column includes example activities and quotes from students.

Many students cited activities of *preparing to learn* and *collaborating with other students*. These are not part of Bloom's cognitive outcomes taxonomy, but they have been included here for completeness.

Prepare to learn (not in Bloom's taxonomy)

Our term	Example tools and resources used	Activities (including *student quotes*)
Access	device (laptop, tablet, e-reader, smartphone, printer), screen reader, student desktop, LMS, other campus systems	Set up your personal device(s) and software to meet your access needs Log in to campus systems, course information and key services, and store passwords *Make sure the log-in and [LMS] and printers work on your mobile devices.* *Make sites personalised - only have what you need on the page.*
Organise (time and tasks)	calendar, task list, time management app, student app, schedule function in LMS	Sync calendars and task lists across devices Plan your study time around key assignment dates *Being able to automatically sync my timetable of lectures and tutorials to my google calendar* *Using a trello board to help manage tasks* *Calendar function on my phone keeps me organised, including study times*
Organise (information)	file management (hard drive, cloud drive, file store, Dropbox)	Develop a filing and/or tagging system that works for you *Creating my own folders helped my organisational skills* *Having every link/download on Blackboard that I need* *Notes accessible between phone and laptop for links and references*

Remember

Our term	Example tools and resources used	Activities (including *student quotes*)
Attend	learning resource (slides, (lecture) notes, video, web page, podcast, slidecast, lecture recording, e-journal, e-book), live presentation/webinar	Browse set readings, journal articles or e-books Practice getting information quickly from a video or podcast (e.g. run at 1.5 speed) *Studying course powerpoints through [the LMS]* *Online video lectures took us places we couldn't easily go in real life*
Record	Device (smartphone, camera, recorder, smartpen), voice-to-text, copy function, screen capture	Record a learning activity and/or feedback using digital audio or video Take snapshots of activities, screens or notes *Video camera - find it really useful to record myself when going over dance phrases*

| Review | lecture recording, lecture slides/notes, LMS, quiz, flashcard, project board (Trello, Padlet etc) | Read back through notes you have filed or curated
Use quizzes or flashcards to review material you have learned
Kahoot - useful for revision and reinforcing information
Lecture capture - it allows me to revisit and direct lectures at my own pace, helps students to cement what they have learned |

Understand

Our term	Example tools and resources used	Activities (including *student quotes*)
Engage	presentation (Powerpoint etc) quiz, poll, chat, video, live presentation/webinar, multimedia tutorial	Answer quiz questions in class Participate actively in a live lecture e.g. using chat, polls Interact with online tutorial *Kahoot - interactive, engaging, educating; team activities in general are a lovely way to learn something during lessons* *write questions and comments our lecturer could view in real time*
Annotate	Word, Powerpoint, pdf, Google Docs/Slides/Sheets, comment functions, project board, note-making app	Use a note-making app such as evernote or notability Rewrite ideas from a lecture in another medium e.g. draw a mind-map, make an audio recording Annotate a shared slideset or document *Notability is fantastic for marking, editing, drawing, notes, recording* *Adobe is the best free app I found so far… for reading, highlighting and commenting on pdfs*
Organise (concept)	mindmapping app, presentation software, graphic/drawing, flashcards	Tag or label a resource (image, video, audio, text) with keywords Create a mindmap for a topic you have just learned *Xmind for mindmapping a topic prior to writing an essay or starting a project* *I use quizlet to make flashcards of most of my lecture slides*
Organise (many concepts)	bookmarks, favourites, reference management (e.g. Endnote, Citeulike) note-making app, project board, wiki, RSS and twitter feeds	Use a sharing site to curate ideas, links, references or examples Set up a feed on a topic of interest, using keywords or key sites *Manage relevant bookmarks and sync them across my PC, Tablet and Phone* *Using MS OneNote to organise all the work for each subject* *I like using Paperphile to organise all the references I use when researching*
Research	catalogue, repository, database, Google, Google Scholar, Google Books, hashtags, reading list, video resource, browser	Find and download an open access video, podcast, tutorial or lecture Use relevant search terms to find articles in a catalogue or repository *Searching for books and journals independently* *Cross referencing different authors and sources* *Finding research studies on google scholar*
Explore	quiz, game, simulation, virtual environment, subject-specific learning resource	Find your own pathway through a virtual environment or topic map Use a simulation to investigate a problem or method in more depth *Animations to play around with to understand statistical analyses* *Coding apps that show you step by step how they made a program* *Game that helps you read and understand a historic text*

Apply and Analyse

Our term	Example tools and resources used	Activities (including *student quotes*)
Practice	subject-specialist software. simulation, virtual world, game, virtual lab, case study, language app, GPS, video, coding	Practice using subject-specialist software e.g. for design, analysis Use a simulation to practice a skill before using it in the lab or workplace *Simulation scenarios keep me up to date on my resuss skills* *A virtual laboratory simulation was helpful for learning lab skills without having to wait hours between processes*
Analyse	subject specialist software, Excel, SPSS, NVivo, database, graphing	Sort, filter, tag, apply formulae and use equations in a spreadsheet Take part in an authentic research project of your subject *Producing visual graphs for data analysis* *Interpret data from survey monkey and produce results in chart form*

	or charting, infographic, simulation, survey tool	*Transcription software for conversation analysis*
Solve	subject specialist software, Excel, SPSS, calculator, video, graphing and coding software, mental agility apps	Review other students' answers or share in a discussion group Try different ways of visualising a dataset or solution *Use excel to solve complex mathematical problems* *Calculate means, standard deviations and gradient graphs* *Drug calculation app | Frog puzzle to help with our thinking skills*
Answer	quiz, test, poll, project board, chat, audio, flashcards, e-assessment system	Answer a question in class using padlet or polling Look for practice tests to check what you have learned *Website tested me on the question I input which helped me learn some topics I struggled with* *Students from one tutorial can see each other's answers which opens up different areas of the text*
Explain	video, animation, design tool, presentation, writing tool, infographic, LMS (co-teaching)	Produce an infographic summarising a problem or solution *Created a vlog [video log] to explain a new use of technology* *We all vote for which theory seems most plausible, really makes you think* *Exploring different ways we can use iPads to teach others*

Evaluate

Our term	Example tools and resources used	Activities (including *student quotes*)
Evaluate	virtual case study simulation, survey tools Nvivo, SPSS, presentation, writing	Argue a case in a blog post, with key points linked to evidence Present recommendations with associated reasoning as an interactive resource *Simulation game during business decision-making module*
Reflect	(digital) diary, log, portfolio, blog, impact log, analytics	Create a blog (it can be a private one) to record and reflect on what you are learning *The learning journal [is] very helpful to reflect on my work.* *Online blog that the tutor can access and give feedback* *Creating a visual diary that displays progress visually* *One-note personal journey which the lecturer can see and discuss with you*
Improve	learning app, progress log, audio feedback, digital feedback, annotation, portfolio	Record and review your feedback, and identify what you need to improve Try a learning app to help you progress faster *I liked getting audio feedback from lecturers* *Individually quizzing with a progression tracker* *Bluesky to log my progress and evidence my development*

Create

Our term	Example tools and resources used	Activities (including *student quotes*)
Write	Word, Pages, Google Docs, blog, wiki, web authoring, project board, dictionary, grammar checker, Google Translate, referencingt	Try out a number of referencing apps to find the one that suits you best Use a grammar checker or plagiarism report to improve an assignment *Hemingway app helps to identify possible problems in my writing* *Writing notes on topics on powerpoint; posting and comparing exam questions on padlet* *Mendeley, for automatically arranging references in the correct format* *CeltX has really helped with my script writing | Grammarly is a very helpful app*
Present	Powerpoint**,** Keynote**,** animation, app maker, Adobe suite, image bank, screen capture, web authoring, graphics software, editing tool	Present a topic for revision in the form of a single infographic or mind map Create a how-to video or animation *Making your own revision packs using the internet and class notes* *make a video of ourselves while doing a presentation - and upload on youtube* *Creating films to present a piece of work | Graphpad software for data presentation* *Learning how to use spark video as a different tool to present work* *produced a digital timeline and a website which was very useful*

Make	subject specialist software, CAD/CAM graphing and sketching app, Adobe suite, animation apps app maker, 3D printer, coding, editing software	Use a simple app-builder to make an app relevant to any topic on your course Ask if you can submit an assignment in a digital format and let your creativity shine *Producing concept designs for my media class using Adobe Photoshop and Illustrator* *Coding and using assembly programs	coding an entire app from scratch* *Music coding, mixing and mastering, recording, score writing* *Using photopeach to create a poem |* *Using adobe photoshop to produce digital fashion illustrations* *Working with the Wacom tablet and creating digital paintings*
Showcase	e-portfolio, Pebblepad, blog, social media (e.g. linked-in), web authoring	Create a profile on a professional network and link to recent work Blog your thoughts on a contemporary issue *really useful to work on developing a professional portfolio while improving my writing.* *A blog documenting my art-making practice* *Publishing our stories on [a public online newspaper]*

Learn with others (not in Bloom's taxonomy)

Our term	Example tools and resources used	Activities (including *student quotes*)
Discuss	Social media (WhatsApp, Facebook, chat, Slack), messaging, LMS forum, discussion board, live webinar	Use social media to share an assignment question and collate the best ideas Use threaded discussions to pursue different questions in the same topic area *Contributing to online discussion. I was apprehensive initially but found it really helpful to read other comments and opinions.* *A massive discussion board / post-it platform where people were writing their ideas and they were being discussed in real time* *Our course facebook page – a great way to all comment and communicate, show off our work and ask questions*
Collaborate	Google Docs, Slides, MS project, Slack, project board, Dropbox, , LMS (forum), wiki, social media, design canvas (e.g. Miro, Mural)	Create and deliver a digital presentation collaboratively Use a wiki or sharing site to curate resources on different aspects of a topic *Use of titanpad/onenote forums during tutorials allows for more collaborative work* *Using outlook to arrange meetings and share calendars* *Creating presentations about different aspects of a topic so as a class we have a wide breadth of detailed knowledge* *Group compilation of 'dictionary definitions' of industry words to create a mini dictionary for the course*
Co-teach	LMS, (live) video, project board, LMS (forum), discussion board	Comment on other students' work online, and read their comments on your own Moderate a discussion, collate the key points, and present back to the group *I had to apply a rubric to grade others' written assignments and got feedback from peers on my assignments* *A Google+ community where we share and critique each other's work* *Using the wikis meant it was easier to peer-evaluate*