26 Critical Thinking Tools Aligned With Bloom's Taxonomy

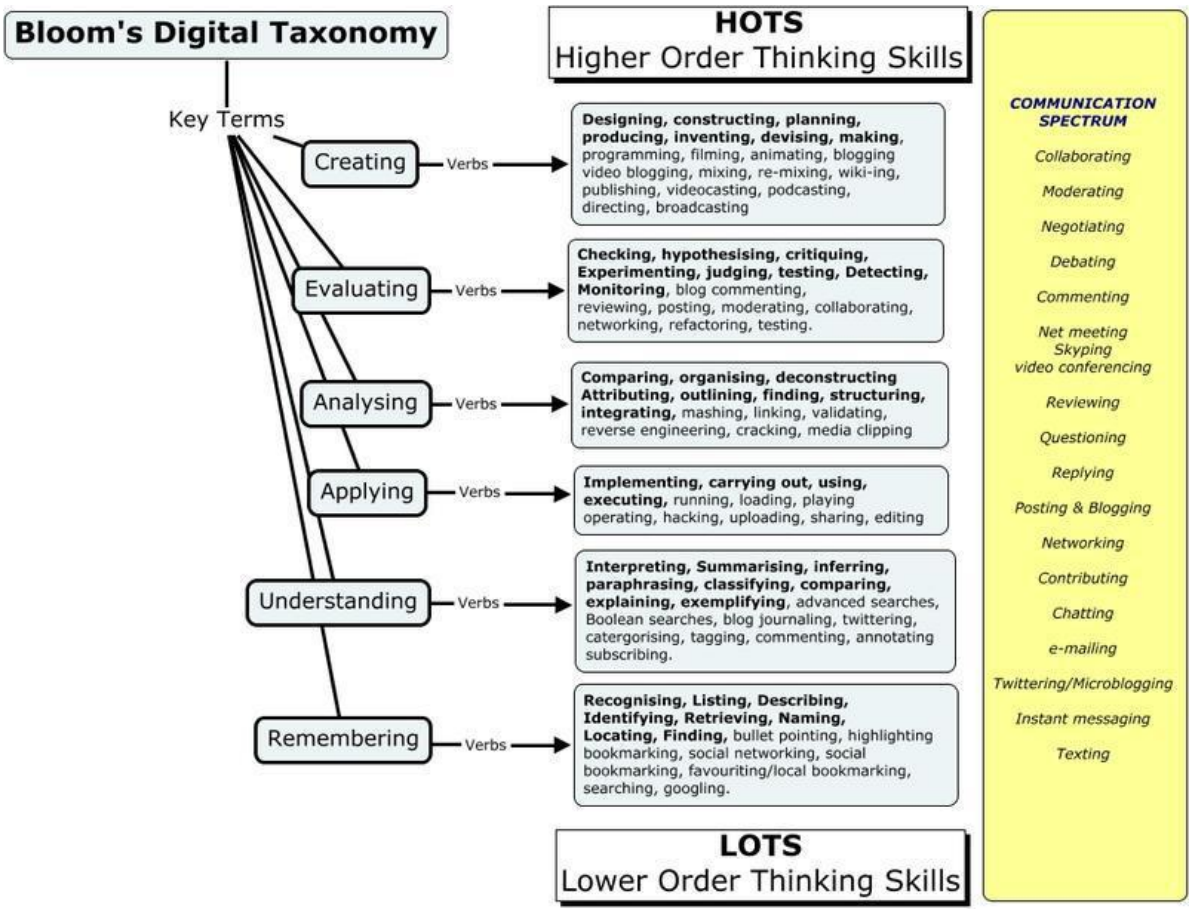
by Lee Watanabe-Crockett | Jan 8, 2018

Editor's note: This is an updated version of the original article featuring critical thinking tools aligned with the levels of Bloom's Taxonomy.

Fostering critical thinking skills is always a challenge in teaching. Educators still honor Bloom's Taxonomy as the basis of learning. With that giving way to its revised and updated interpretations, we now have critical thinking tools that can help in all of the key components of developing such skills. In a nutshell, learning encompasses a series of specific tasks, sometimes in order, but most often not.

The elements are there and online tech tools can help today's digital students to navigate through the elements collaboratively. Bloom's Digital Taxonomy outlines critical thinking skills through the lens of Digital Natives. The levels of this taxonomy are:

- Remembering
- Understanding
- Applying
- Analyzing
- Evaluating
- Creating



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The challenge is to go from traditional uses of the taxonomy to best digital practices—that is, as a Global Digital Learner. We'll list the components of Digital Taxonomy and then look at critical thinking tools for students of the digital age to develop their skills with. With so many different project ideas out there as well as apps to foster critical thinking skills, it's easy to get caught up in taking too much time to find the right tool. Hopefully, this information will help that process go smoother.

Critical Thinking Tools That Help Learners Remember

***Remembering* is:** *Recognizing, Listing, Describing, Identifying, Retrieving, Naming, Locating/Finding*

In the tech world, this looks like: *Bullet-Pointing, Highlighting, Bookmarking, Social Networking, Social Bookmarking, Favouriting/Local Bookmarking, Searching, Googling*

Tools to Try: YouTube and other "flipped learning" video sites that allow teachers to create and post their lectures online are great ways to reach learners when they're most comfortable, and when they have time. With

Remembering skills being practiced before class, your meeting time with students is reserved for higher-order thinking skills. Here's more on flipped learning from Jon Bergmann.
Any tool that can help you create great flipped lectures belongs in this list. There's PowToon, EdTED, and Clarisketch as other great examples.
~~Delicious~~ allows for students to search the web and share their finds in a repository of bookmarks, like hunting and gathering information for the community to share and discuss. Think of taking the Internet and its vast store of information and highlighting it, like we used to highlight important stuff in our old paper textbooks.

Critical Thinking Tools That Help Learners Understand

***Understanding* is:** *Interpreting, Exemplifying, Summarizing, Inferring, Paraphrasing, Classifying, Comparing, Explaining*
In the tech world, this looks like: *Advanced Searches, Boolean Searches, Blog Journalling, Tweeting, Categorizing And Tagging, Commenting, Annotating, Subscribing*
Tools to Try: Tools like Mindmaple and MindNode stand out among some of the best mind mapping tools available on the Web. If you want to explore more, check out this article on Lifehacker for their take on the best 5 tools for creating mindmaps.
Students can also get answers to their questions by making use of simple tools like forums, or by conducting Skype interviews.

Critical Thinking Tools That Help Learners Apply

***Applying* is:** *Implementing, Carrying Out, Using, Executing, Doing*
In the tech world, this looks like: *Running, Loading, Playing, Operating, Hacking, Uploading, Sharing, Editing*, *Wiki Editing*
Tools to Try: Website/blogging tools like Weebly and Edublogs are the resources you need to do this. For more suggestions, download the second book in our free tools for teachers ebook series, *Tools for Teachers: Writing, Blogging, and Websites*.
The best tools here are ones that help you plan a course of action for application. Gantt charts can give you an idea of a timeline for progression and completion. Never built one before? This article on Smartsheet has got you covered.
You may also want to dabble in organized task management applications. For this kind of process, great tools like Basecamp and Asana can help you get the job done.

Critical Thinking Tools That Help Learners Analyze

***Analyzing* is:** *Comparing, Organising, Deconstructing, Attributing, Outlining, Structuring, Integrating*
In the tech world, this looks like: *Mashing, Linking, Reverse-Engineering, Cracking, Mind-Mapping, Validating, Calculating*
Tools to Try: The tools for Apply are the same kinds of applications that work well for this stage of the Taxonomy.

Critical Thinking Tools That Help Learners Evaluate

***Evaluating* is:** *Checking, Hypothesizing Critiquing, Experimenting, Judging, Testing, Detecting, Monitoring*
In the tech World, this looks like: *Blog/Vlog Commenting, Reviewing, Posting, Moderating, Collaborating, Networking, Reflecting, Alpha/Beta Testing*
Tools to Try: The key difference between Analyzing and Evaluating is *collaboraion*. What's useful is putting your product out there for critique and beta testing.
For evaluating information, tools like Snopes and FactCheck.org are worth looking at. As you use these tools, remember to to "balance check" various news sources and information resources for patterns and connected ideas.

Critical Thinking Tools That Help Learners Create

***Creating* is:** *Designing, Constructing, Planning, Producing, Inventing, Devising, Making, Building*
In the tech world, this looks like: *Programming, Filming, animating, Blogging, Video Blogging, Mixing, Remixing, Wiki-ing, Publishing, Videocasting, Podcasting, Directing/Producing*
Tools to Try: Students can build digital portfolios using Google Sites, Evernote, and VoiceThread. If they're into podcasting, get them on Audacity or Podbean.
Blogging tools include the ones mentioned in Apply, along with Wix, WordPress, and Ghost. Video tools to look at are ones such as Jahshaka, WeVideo, or Magisto. You can find more great tools in our ebook *Tools for Teachers: Media Development*.

Bloom's Taxonomy Resources

We've got two critical thinking tools of our own that are also aligned with Bloom's Taxonomy. The first is our poster of Bloom's Taxonomy verbs, and

the other is the Bloom's Periodic Table of Activities. Click on the images below to explore and share each one.

BLOOM'S DIGITAL TAXONOMY VERBS

Bloom's Digital Taxonomy (devised by Andrew Churches) is about using technology and digital tools to facilitate learning. This kind of student engagement is defined with **power verbs** that can be used for most everything from lesson planning and rubric making, to doing curriculum mapping and more.

You can use these verbs which cover the span of the taxonomy from **LOTS** (lower-order thinking skills) to **HOTS** (higher-order thinking skills). It begins with ***Remembering*** and ends with ***Creating***. Listed beneath are the power verbs that apply to each stage.

Remembering

Remembering is when memory is used to produce definitions, facts, or lists, or to recite or retrieve information.

- Bookmarking
- Bullet pointing
- Copying
- Defining
- Describing
- Duplicating
- Favouring
- Finding
- Googling
- Highlighting
- Identifying
- Labelling
- Liking
- Listening
- Listing
- Locating
- Matching
- Memorizing
- Naming
- Networking
- Numbering
- Quoting
- Recalling
- Reading
- Reciting
- Recognizing
- Recording
- Retelling
- Repeating
- Retrieving
- Searching
- Selecting
- Tabulating
- Telling

Understanding

Understanding is about constructing meaning from different types of function, be they written or graphic.

- Advanced search
- Annotating
- Associating
- Boolean search
- Categorizing
- Classifying
- Commenting
- Comparing
- Contrasting
- Converting
- Demonstrating
- Describing
- Differentiating
- Discussing
- Discovering
- Distinguishing
- Estimating
- Exemplifying
- Explaining
- Expressing
- Extending
- Gathering
- Generalizing
- Grouping
- Identifying
- Indicating
- Inferring
- Interpreting
- Journalling
- Paraphrasing
- Predicting
- Relating
- Subscribing
- Summarizing

Applying

Applying refers to situations where the learned material is used in products such as diagrams, models, interviews, simulations, and presentations.

- Acting out
- Administering
- Applying
- Articulating
- Calculating
- Carrying out
- Changing
- Charting
- Choosing
- Collecting
- Completing
- Computing
- Constructing
- Demonstrating
- Determining
- Displaying
- Examining
- Executing
- Explaining
- Implementing
- interviewing
- Judging
- Editing
- Experimenting
- Hacking
- Loading
- Operating
- Painting
- Playing
- Preparing
- Presenting
- Running
- Sharing
- Sketching

Analyzing

Analyzing is about breaking material into parts, and then determining how the parts interrelate to each other or to an overall structure or purpose.

- Advertising
- Appraising
- Attributing
- Breaking down
- Calculating
- Categorizing
- Classifying
- Comparing
- Concluding
- Contrasting
- Correlating
- Deconstructing
- Deducing
- Differentiating
- Discriminating
- Dividing
- Distinguishing
- Estimating
- Explaining
- Illustrating
- Inferring
- Integrating
- Linking
- Mashing
- Mind mapping
- Ordering
- Organizing
- Outlining
- Planning
- Pointing out
- Prioritizing
- Questioning
- Separating
- Structuring

Evaluating

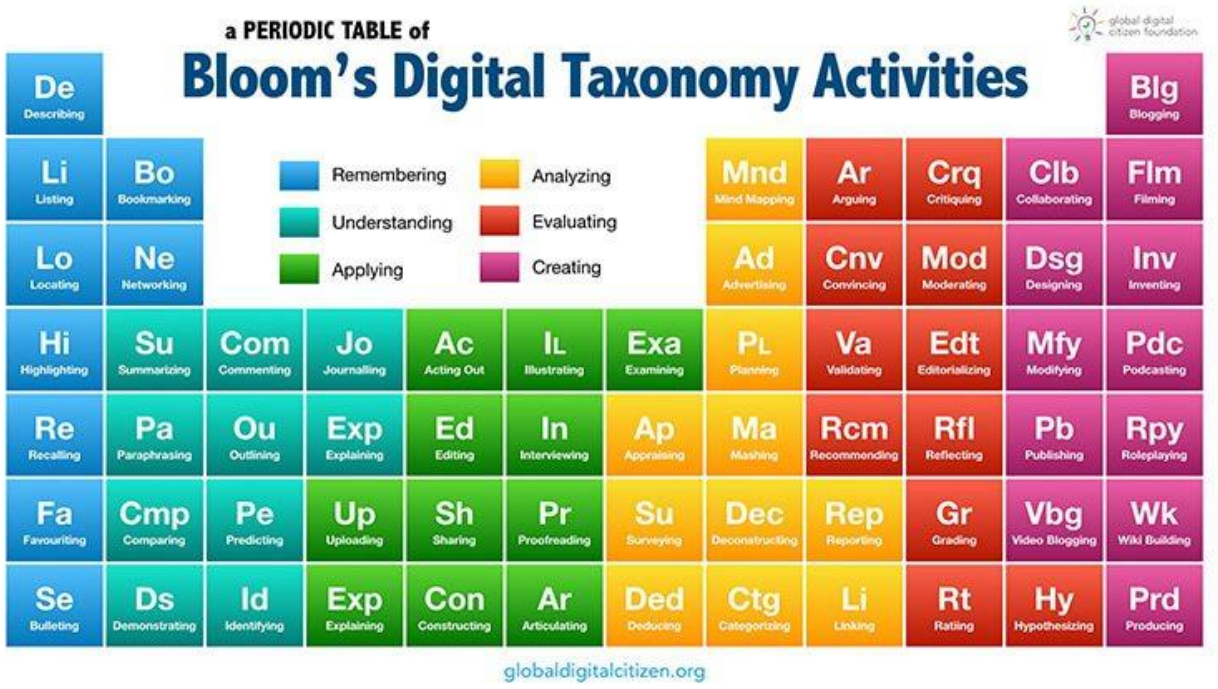
Evaluating is about making judgements based on criteria and standards through checking and critiquing.

- Arguing
- Assessing
- Checking
- Criticizing
- Commenting
- Concluding
- Considering
- Convincing
- Critiquing
- Debating
- Defending
- Detecting
- Editorializing
- Experimenting
- Grading
- Hypothesizing
- Judging
- Justifying
- Measuring
- Moderating
- Monitoring
- Networking
- Persuading
- Posting
- Predicting
- Rating
- Recommending
- Reflecting
- Reframing
- Reviewing
- Revising
- Scoring
- Supporting
- Testing

Creating

Creating is about putting elements together to form a functional whole, and reorganizing elements into a new structure or pattern by planning or producing.

- Adapting
- Animating
- Blogging
- Building
- Collaborating
- Composing
- Constructing
- Designing
- Developing
- Devising
- Directing
- Facilitating
- Filming
- Formulating
- Integrating
- Inventing
- Leading
- Making
- Managing
- Mixing/remixing
- Modifying
- Negotiating
- Originating
- Orating
- Planning
- Podcasting
- Producing
- Programming
- Publishing
- Roleplaying
- Simulating
- Solving
- Structuring
- Video blogging



Additional Reading

- These Bloom's Analysis Tools are Perfect for Higher-Order Thinking
- 20 Creative Bloom's Taxonomy Infographics Everybody Loves Using
- A Creative 3D Bloom's Taxonomy Model For Every Educator