

Digital Literacy for Life-Long Learning; Who Owns the Learning in Your School?

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“Adding a digital device to the classroom without a fundamental change in the culture of teaching and learning will not lead to significant improvement. *Unless clear goals across the curriculum*—such as the use of math to solve real problems—are articulated at the outset, one-to-one computing becomes ‘spray and pray.’”

Why Schools Must Move Beyond One-to-One Computing, Alan November, February 2015

- <http://novemberlearning.com/educational-resources-for-educators/teaching-and-learning-articles/why-schools-must-move-beyond-one-to-one-computing/>
- (<http://goo.gl/wM2ES>)
- [Click Here](#)

So what’s the difference between the links? (*answer below) As Alan November will say, we cannot give students tools without first teaching how to use the tool. The essence of Alan’s presentations is we (in education) are trying to teach in the 21st Century using a 19th Century approach. At *Thomas Edison Career and Technical High School*, March 2015, Mr. November asked educators to move their practice forward and to, as Steve Jobs posited grammatically incorrect, **“think different.”**

What follows, in Marshall Memo style, is a brief summary of his talk followed by two Marshall Memo entries that complement November’s ideas.

- The first five days of the school year should be dedicated to teaching students how to think and how to access learning.
- Students need to ask the “What don’t you know question?” and “What is missing?”
- Teacher assignments have not changed to reflect the presence of the Internet.

“Students do not know how to use the Internet. When I tell students that, they scoff. When I show them how, they are amazed.” ~ Alan November, March 2015

First Teach How

Here are a few key concepts that students must be taught before “aimlessly surfing the ‘Net.’”

By default, Google searches within the United States. In order for students gain the 21st Century skills of understanding the world through multiple perspectives, they need to learn how to search smarter. The first step is to change the country that Google will conduct its search in by using the two characters Country Code. For example, if students want to understand the Mexican interpretation of the U.S.-Mexican War of 1848, they need to use the correct “**Google Operator.**”

In **Google**, type in **Site: mx**

This brings us to **Mexico.**

Now search for the Mexican interpretation of the U.S.-Mexican War of 1848. *How is this search result different from the first one?*

To find a list of country codes go to, http://www.theodora.com/country_digraphs.html or click **country codes**.

Most people copy and paste very long URL into documents. A better way to present links within a document is to **shorten the link**. You can shorten the link by creating a Google URL @ <https://goo.gl/> or in your document get real fancy by highlight a long link or word, right click, and select “hyperlink” in Word. This allows you to customize the link and type in a term instead, such as Click Here or Create, format, or delete a hyperlink

Now how do we trust that site? We *should* all know that the **.edu** extension indicates an academic institution. This holds true only in North America. The rest of the world uses **.ac** so if we want Google to find **academic sites** in the United Kingdom that is teaching about Romeo and Juliet, we would set up a search as follows:

Search-Operator:countrycode subject

Site: ac.uk Romeo and Juliet

We are now searching academic institutions in the United Kingdom for Romeo and Juliet.

Just want to find a PowerPoint's on the subject, add a **filetype**:

Site:ac.uk filetype:ppt Romeo and Juliet

This gives us just 62 matches

Google does not understand English. We need to learn the language of Google and the Internet. Look at the, the dramatic differences in results in 3 Google searches:

Romeo and Juliet **29,900,000 results**

ac.uk Romeo and Juliet **468,000 results**

Site:ac.uk filetype:ppt Romeo and Juliet **62 results**

Most students would not even look past the first few entries. How do you want your students to search?

Learn more about **Search Operators**, words that can be added to searches to help narrow down the results. Don't worry about memorizing every operator, because you can also use the [Advanced Search](#) page to create these searches.

Next, Teach Questioning

“We do not ask the right questions of information. Ask: who put that on the web?” - Alan November

Recently, a teacher in Texas distributed a pamphlet on Islam to his students **not knowing** he downloaded the information from a hate site. **Students need to learn the skills of cross-referencing, questioning and analysis of sources.** Article: [NYC Students Learn a Lesson about Information Literacy](#)

The **“Whois” Database** is the first step. By entering a website into the search box, the user will find out who is responsible for the site, which at first glance, may seem perfectly legitimate.

In <https://www.whois.net/> enter www.martinlutherking.org. *Who owns this website?*

You will find the author is Don Black of the [Organization Stormfront](#) – a white supremacy organization.

Now let’s **cross-reference** this website by asking **Google** to show us every *academic site* that references this site on Dr. King. Here is what the search would look like:

link www.martinlutherking.org site:edu link www.stormfront.org

What we learn is Don Black is a White Supremacist and this is a hate site. Using another source, the [Wayback Machine](http://archive.org/web) (<http://archive.org/web>), we learn that this site was started in 1999 as this site archives web pages. Here you can link to old pages **even if the site is now defunct or changed.**

Finally, What is School About?

According to Mr. November, it is about “learning how to learn.” **This means students need to work harder than their teacher.** He explains that schools should be moving away from teaching and going to a model that puts the learning in the students’ hands; yielding deeper, more profound, and long lasting results.

Pick/Design a Better Lesson

Teacher A: After reading *Romeo and Juliet*, create a PowerPoint presentation.

Teacher B: Using the lessons from the ***First Five Days***, pick ten (10) slides from five (5) PowerPoint presentations; from across the world and **create a new presentation** on the **cultural interpretation of *Romeo and Juliet*.**

Mr. November polled the students participating in our workshop and 95% picked Teacher B’s lessons, as more interesting and more valuable. Of the students that picked Teacher A, the reason for the pick was, *“It is less work and easier.”*

In the Internet Age, assignments need to change.

Sitting in the library, the breath, depth, and scope of the material for students to access and learn from is not only limited in size but in perspective.

What if the assignment was to research the events of 9/11 from multiple perspectives?

Students need to know how to search better. Research how 9/11 was reported in 2001? Use the “Wayback Machine.”

Increase class participation by having students take advantage of their mobile devices (new city policy-3/2015) using [Polleverywhere](#); or create content or flip the learning using [Verso](#) -both free.

Let's learn it together. More powerful than answers are QUESTIONS.

Teach students how to ask the right questions by teaching them *how to question*. You can find questions in a variety of categories on the [Questioning Toolkit](#).

“The answers are on the Web” - [Stephen Wolfram](#)

Teach students to create their own questions. If you can google the answer to a question, it is a bad question

Exercise 1: Find an image on the web that best represents the United States. Then ask students to pose a question about that image. This leads to a robust discussion.

Exercise 2: Log on to Dan Meyer's [101 Questions](#) to really understand mathematics. By the time students are through questioning the images they see, the site will generate the mathematical equation that will now make much more sense than starting with it.

Exercise 3: Have students play with different equations in [Wolfram|Alpha](#) to learn how to self-assess.

“Students are more willing to work harder for a teacher/audience that they do not know, than they are for their single teacher.” - Alan November

The proof is the popularity of MOOCs or Massive Open Online Courses. Students by the thousands are learning at top universities (MIT, Harvard, Stanford, Yale, etc.) and working harder than they are in the high school or college classes. [Coursera](#) and [Edex](#) are two good sites. Want to close the gender gap in technology and engineering? Have young women learn to code. This is where a MOOC can come in handy, as you do not have to pay for it out of your school's budget. For a great article on the importance of coding for girls, click [here](#).

Social media, rather than a curse, is a gift. Young people are writing, creating, reading, and thinking far more than they are required to do in school. Kids of all ages are writing blogs, stories on sites like [FanFiction](#), tweeting, posting creative photos on Instagram, and playing Minecraft (yes, Minecraft) that demonstrate deep understanding of a plethora of topics. One nine-year old student built the entire [San Diego Mission](#) (<http://goo.gl/Bktr0Q>) on Minecraft complete with an accurate history of the area.

Finally, allow students to connect across the world. Used well, Twitter brings the world into the classroom and students into the world. Teachers will benefit by connect with educators and researchers across the world. The key is having something to say and finding an audience. The following two sites, [November Learning](#) and [Educational Hashtags](#) will help you find both.

Information Overload?



Both **Paperli** and **Flipboard** are magazine style platforms for your PC or tablet that bring all of your content into one place for easy read without the need to check each site. **Twitter** - use **bitly** to shorten your URL's in order to tweet as well as to bundle links around a theme. Bundles are a great way to curate topical collections of links. You can add, remove and rearrange the Bitlinks that you've bundled. You can also invite a friend (or a group of friends) to help curate and edit a bundle with you. If marked public, your network can comment on the bundles in the comments below the bundle. For example, you found 10 links about the lack of access to clean water around the world but do not want to send out the links separately. Too much to read, not enough time? Use **Pocket** or Reading List in Safari.

Eric Mazur, *Balkanski Professor of Physics and Applied Physics and Area Dean for Applied Physics* at Harvard University, frequently speaks about the curse of knowledge- what **Steven Pinker** says is, *"The more you understand something, the harder it becomes to imagine what it's like to be a beginning learner."* You teach, he says, by questioning not telling. This leads to peer instruction which is much more powerful than teacher dominated direct instruction. Our culture values creativity and innovation, it seems, everywhere but in schools. "Creativity," according to Ken Robinson, "is putting your imagination to work, and it's produced the most extraordinary results in human culture." Article: **Twilight of the Lecture** - *The trend toward "active learning" may overthrow the style of teaching that has ruled universities for 600 years.*

Design Challenges for Schools

Alan November discusses ways students can take charge of the own learning. **Quality Review Indicator 3.4** also speaks to high expectations as being **evidence by "student ownership."** Below are descriptions of **seven design ideas to improve learning with digital content and tools** culled from the summer Alan November; **Building A Learning Community Conference** with some additions from school leaders across the city followed by two articles from the Marshall Memo that challenge teachers to create 21st Century assignments.

1. Globalizing the Curriculum

One of the most powerful and potentially highly motivating applications of the Internet is to create an authentic global connection for students.

Examples Include:

A debate with a class in England about the origins of the American Revolution

A conversation with students in Iceland about the impact of global warming

Elementary students writing a book with students in China

A podcast series of women's rights with interviews from around the world

Using Twitter hashtags to build a global conversation around an issue such as scarcity to clean water in some parts of the world

2. Students Own the Learning

Redefining the role of the learner as self-directed and interdependent can be very motivating.

- Students can design:
 - Assignments
 - Tutorials (*also see Legacy Work below*)
- Students can:
 - Use a system like Khan Academy or Wolframalpha to deepen their understanding of concepts across mathematics or science
 - Subscribe to a podcast series from one or more university professors
 - Publish to public sites (such as Wikispaces, Youtube, TED.Ed) for continuous review of their work

3. Legacy Work

Authentic & Rigorous Problem Solving: We can provide students with an opportunity to create work, either as individuals or as a team that contribute to the learning of other students. Benefits include a strong sense of purpose, accepting more responsibility for quality thus saving teachers time and design skills.

Examples include:

- Middle School History wiki (www.dgh.wikispaces.com)
- Pitot House (http://en.wikipedia.org/wiki/Pitot_House)
- Math tutorials (www.mathtrain.tv) and [Club Academia](#)
 - Jing <http://www.techsmith.com/jing.html> (FREE teacher audio and video for feedback)
 - Explain Everything - iPad App (\$2.99): allows screen casts, including internet/webpage recordings <http://www.explaineverything.com/>
 - ScreenCastO'Matic: <http://www.screencast-o-matic.com/>
 - Screenr: <http://www.screenr.com>
 - Screenchomp (free App): <http://itunes.apple.com/us/app/screenchomp/id442415881?mt=8>
 - Educreation (free app): <http://www.educreations.com/>

4. Supporting Pioneering Educators (e.g, *Flip Learning*)

Resources today, when leveraged effectively, can represent a change in pedagogy enabled by providing students with content in advance of class and turning class into a work lab with strong communication, discussion and debate between students and teacher.

Examples/Resources include:

- www.ed.ted.com
is a tool that enables teachers to build their library of content with

assessment questions. This website also links teachers around the world who want to share their lessons with others.

- iTunesU: <http://www.apple.com/education/ipad/itunes-u/> (models, assessments, assignments, videos)
- to access TASA content in iTunes U:
 - access link above
 - go to drop down menu from iTunesU tab
 - select K-12
 - scroll content for TASA link
- Poll Everywhere - ask, answer, discuss, defend

5. The Digital Learning Farm

Creating a culture of learning for every student in which they feel autonomous, masterful and purposeful. This process change leverages technology to challenge and support more active participation and to give students more ownership in the educational process.

Examples Include:

- Student Scribes <http://thescribepost.pbworks.com/w/page/22148105/HallOfFame>
- Student Produced Vodcast Series <http://www.bobsprankle.com/blog/C1697218367/E630200618/>
- Student Roles in a Digital Learning Space <http://whitmer.wikis.birmingham.k12.mi.us/Wiki+Roles>
- Photography Team - documenting learning of the week; sharing learning with the world

6. Build Online Community

Improving communication & participation between home, community & school: Research shows that the blended approach to learning, face-to-face and online is more powerful than one or the other. Tools such as Edmodo, Epals, and Twitter provide teachers and students with easy to use tools that make thinking more visible and build a sense of shared responsibility for learning.

- Visit [@mrsjicaviness](#) for an example of a math teacher using twitter (see TASA Schoology Resource page for extensive list of Twitter resources)
- Visit <http://mscassidysclass.edublogs.org/> for an example of a first grade teacher's blog
- Visit <http://blogs.birmingham.k12.mi.us/whitmer/> for example of student (class) Current Events blog designed around student curiosity about *How the World Works*

7. Making Thinking Visible

Students use digital tools to make their thinking more visible, supporting more critical thinking through student questioning, debate, self-monitoring and assessment, peer feedback and more.

Examples include:

- [Prism](#) - shows patterns of thinking across a room; close/deep reading of text; analysis of work; self/peer assessment
- The Raven <http://prism.scholarslab.org/prisms/24296ef2-aea5-11e2-80bf-c82a14ffe99/visualize?locale=en>

- Algebra Matrix <http://prism.scholarslab.org/prisms/08e5cefa-8461-11e3-ad1f-825d61781bbe/visualize?locale=en>
- [Subtext](#) - shows patterns of thinking from individual students

Making Homework Meaningful for Students and Efficient for Teachers

In this [Edutopia article](#), Ben Johnson bemoans the fact that most students see homework as busywork unconnected to any important academic purpose. “This is why on the day the homework is due a group of students can typically be seen frantically huddled over the ‘smart girl’ copying her answers,” he says.

In theory, homework extends classroom learning time, gives students the chance to practice skills learned during the day, and builds self-discipline and self-monitoring vital to college success. But in reality, standard operating procedures work against those goals:

- Homework counts for only a small part of grades so students don’t take it seriously.
- Students don’t do much heavy lifting when they do (or don’t do) their homework.
- Going over homework consumes way too much classroom time.
- Homework adds add little value to classroom instruction.
- Grading homework is time-consuming and exhausting for teachers.

These conclusions led Johnson to change his approach to homework in the following ways:

- *Meaningful assignments* – As a Spanish teacher, he required students to apply classroom learning after school in a number of ways:

- Find a Spanish speaker and have a discussion using classroom vocabulary and skills;
- Teach family members how to introduce themselves in Spanish;
- Report on Spanish-language movies or TV shows;
- Find Spanish advertisements, news articles, and personal ads;
- Create Spanish menus, trip itineraries, and illustrated dictionaries;
- Create readers’ theaters, reenact historical events, game shows, detective who-done-its;
- Create a Spanish class newspaper, fashion show, sidewalk art, food bazaar, travel agency, restaurant, or department store.

- *Efficient accountability* – Johnson required students to put their homework on their desks at the beginning of class every day, and while they did a “sponge” activity, he walked around the room and in five minutes was able to write one of three possible grades in his mark book for each student: full credit for completed work, half credit for partially completed work, and no credit for homework less than half completed or not turned in. He also stamped students’ papers with a smiley face for completed work and a frowning face (the smiley face turned upside down) for the other two levels.

- *Immediate feedback and grading* – Johnson then had students turn to their elbow partners and teach them what they learned in the homework. Finally, he had students exchange papers and correct any errors as he went over the answers. Students got immediate feedback and he got a quick sense of how well students did, any items that needed more work during that class, and which students needed extra help later. And he wasn’t taking home 120 papers.

“Debunking Homework Myths” by Ben Johnson in *Edutopia*, November 14, 2014,
<http://bit.ly/15e3wh3>

Getting High-School Students into the “Historical Problem Space”

In this article in *Teachers College Record*, Abby Reisman (University of Pennsylvania) reports on her study of text-based discussions in 11th-grade history classrooms. With an eye on Common Core and college-ready expectations, Reisman observed teachers as they presented meaty historical documents, got students analyzing the texts in small groups, and then led whole-class discussions in which students were asked to back up claims in response to a central historical question. Here were some of the questions that students considered:

- Was Abraham Lincoln racist?
- Were Lewis and Clark respectful to the Native Americans they encountered?
- Did President Wilson have good reasons for entering World War I?
- Were Texans justified in declaring independence from Mexico?
- Were American soldiers required to follow orders during the Philippine War?
- Was the New Deal a success or failure?

After six months of classroom observations and careful analysis of videotapes of 100 lessons, Reisman concluded that, despite the fact the teachers were experienced and enthusiastic and were working with authentic documents on engaging topics, “disciplinary discussion was surprisingly rare, and discussion that promoted historical understanding even rarer.” In the 7,000 minutes of discussions she videotaped, Reisman found only 132 minutes that met her basic criteria:

- The teacher posed the lesson’s central historical question.
- Students read at least two documents prior to the discussion.
- There were at least three distinct student “turns” responding to the central question.
- The discussion lasted four minutes or longer.

Again and again, teachers missed opportunities to get students engaged in thoughtful, extended discussions. All too often, the classes reverted to the time-honored pattern of recitation, lecture, and IRE (initiate, respond, evaluate).

Reisman believes that what she observed is quite common in American high schools. Why is teaching with historical documents so difficult? Adolescents, after years of textbook-driven instruction, tend to view texts as “receptacles for decontextualized historical information” and, as they get older, “as pieces of testimony that should either be accepted as truth or discarded.” The teacher’s challenge is getting students into what she calls the “historical problem space” where they can look skeptically at several texts, appreciate why people in the past acted as they did, and truly understand historical events.

When studying history, says Reisman, “the strangeness of the past butts up against the human desire to render it familiar. When the desire for familiarity pulls too strongly, one runs the risk of presentism, or the application of anachronistic, present-day standards, values, or worldviews to the past... Using the present day as a standard, students initially judge historical actors as stupid or morally deficient, and they impute motivations

without regard for contextual circumstances. Limited subject matter knowledge and a political (and classroom) culture of intransigent debate also militate against student entry into the historical problem space.” Discussions are of little value when texts become “a trampoline for one’s own creative leaps or political demands” (LaCapra, 1980).

Of course students shouldn’t entirely lose historical perspective. As Sam Wineburg put it, “Trying to shed what we know in order to glimpse the ‘real’ past is like trying to examine microbes with the naked eye: The instruments we abandon are the ones that enable us to see” (2001). The middle ground, which students reach only when they are guided through close reading of well-chosen documents, is *contextual historical empathy* (Ashby & Lee, 1987) – they begin to understand what shaped the behaviors and worldviews of those who lived in another era. When a classroom discussion reaches this level, says Reisman, students strain “to understand the foreignness and complexity of the past.” There’s “puzzlement, wonder, and a reluctance to rush to judgment” and students’ claims “reflect the tentative nature of historical knowledge.”

Reisman was discouraged at how rarely students reached this level. In one discussion on Abraham Lincoln’s racism, the teacher prompted students to quote evidence from the texts, but they never moved past their initial judgments (he’s a racist) and never came to grips with the “strangeness” of the past and the complexity of the issue – specifically, the hidden meaning of Lincoln’s 1858 statement (in a response to Stephen Douglas) that “perhaps” the Negro is not his equal in moral or intellectual endowment. “How can we begin to understand a world in which the mere suggestion that slaves were morally and intellectual equal would make a white politician a ‘progressive’?” asks Reisman. “A world where many accepted as given the notion that God made one race to serve another? How can we fathom a society where the buying and selling of human beings was part of the market economy? Had students entered the historical problem space, they would have had to pause and ask whether Lincoln’s words sounded as irreconcilable to his audience in 1858 as they sound to us today.”

Reisman concludes that there are three reasons it’s an uphill battle for teachers to get students into genuine historical discussions, even with well-chosen documents:

- *The quote sandwich* – In this widely used writing scaffold, textual evidence is the meat and the slices of bread are the claim and analysis. “While arguably useful as a structural support during the writing process,” says Reisman, “the quote sandwich, when used as a blueprint for student text-based claims during historical discussion, inverts the inductive process of historical reading. Rather than prompting students to derive their claims from careful, collective analysis of text, the quote sandwich model of discussion prompts students first to stake a claim, and then to find a textual warrant to support it, even one that happens to be decontextualized.” Reisman is critical of the Common Core standards for not making a distinction between the kind of argumentation appropriate in different content areas: “How one reads in order to argue whether or not Lewis and Clark were respectful differs from how one might read to argue whether or not a particular species of bird should be considered endangered, and both differ from how one might read to argue for or against school uniforms.”

- *The human tendency toward presentism* – “We all struggle to see ourselves historically, to recognize that our beliefs, our institutions, our values – our very reality – do not belong to some timeless, universal truth,

but rather, to a particular socio-historical moment,” says Reisman. “To assume an agnostic or impartial orientation toward a past filled with grave and unconscionable injustice may seem unacceptable to social studies teachers, many of whom entered the profession because of their commitment to social justice. Yet, to bring students into the historical problem space, the teacher need not sacrifice the moral lessons that tie the past to our lived experiences and contribute to the betterment of humanity. The teacher need only commit to helping students appreciate the complexity of the past, and to allow the actual texts to paint a picture of a textured and foreign historical context.”

• *Contemporary student-centered norms* – As Reisman observed lessons and analyzed videotapes of these teachers in action, she was struck by how important it was for teachers to take charge and actively facilitate discussions – in other words, to be more directive than is customary in many schools. She found that the following teacher “moves” were helpful in getting students into the historical problem space:

- *Modeling* – The teacher shows how to use text to support a historical claim or how to agree or disagree with a classmate’s interpretation of evidence (“When you disagree, I want you to say, ‘I disagree with so-and-so’s interpretation of Document C’”).
- *Re-voicing* – The teacher reformulates or refines a student’s text-based claim in order to highlight or clarify the relationship between the claim and the warrant (“So you’re arguing that the New Deal was a success because more people were employed?”).
- *Uptake* – The teacher follows up students’ textual references with a question (“What do people think of Suzanne’s interpretation of Lincoln’s speech?”).
- *Marking text* – The teacher directs student attention to a particular document and asks an interpretative question about it.
- *Textual press* – The teacher asks students to substantiate a claim with textual evidence.
- *Stabilize content* – The teacher authoritatively reviews content knowledge relevant to the discussion at hand (“What did the Missouri Compromise say?”).
- *Presentist question* – The teacher poses a question that is ahistorical or that prompts students to turn from the documents and bring contemporary worldviews to bear on the topic (“If an officer tells you to shoot a civilian, what could you do?”).

“Such a teacher-centered, didactic intervention is often frowned upon in teacher-education programs,” says Reisman; “it is viewed as heavy-handed, squelching the child’s agency. Yet it is precisely these moves that pave the way to substantive historical discussion... Collectively, these moves increased the probability that students would enter the historical problem space and engage in disciplinary discussion that would prepare them not only to enter the college classroom, but also to succeed.”

Beyond high-school and college classrooms, Reisman concludes, “There is moral value in slowing one’s judgment and stretching one’s understanding to grasp the unfamiliar. To engage in the historical problem space is not to fetishize esoteric historical trivia. Rather, it is a deliberative stance that cultivates the habit of pausing to ask: What more do I need to know before I label this person and dispense with his or her views? Such habits foster humility in the face of the unknown and serve as a check on the certainty and arrogance of the present. It

behooves us to consider the value of such a disposition as we race to legislate and quantify ‘college and career readiness.’ Such a capacity to understand lies at the core of our humanity.”

“Entering the Historical Problem Space: Whole-Class Text-Based Discussion in History Class” by Abby Reisman in *Teachers College Record*, February 2015 (Vol. 117, #2, p. 1-44), <http://www.tcrecord.org/Content.asp?ContentId=17783>; Reisman can be reached at areisman@gse.upenn.edu.

Useful Links

To search more effectively, use Google Operators

http://www.googleguide.com/advanced_operators_reference.html

To change the country Google searches, use the two country code after the operator, *site*:

http://www.theodora.com/country_digraphs.html

To take an online course or access free educational content

<https://www.edx.org/>

<https://www.coursera.org/>

iTunes University

Take a course in Using Google

<http://www.powersearchingwithgoogle.com/course/aps>

To build a personal library in the cloud of links, articles, tweets, etc.

<https://www.diigo.com/about>

To teach students to verify credibility of online information

<http://www.csub.edu/~jross/projects/infocomp/toolbox/WebEvl/WebCredExAns.html>

To search the archived Internet

<http://archive.org/web/>

How to use symbols in Google to search better

<https://support.google.com/websearch/answer/2466433?hl=en>

For a “global access to everything”

<http://eol.org/>

To teach students the value of questioning

<http://www.101qs.com/>