

Challenges to Teaching Credibility Assessment in Contemporary Schooling

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A Call to Arms: Teaching Credibility Assessment

Today's young people have been described as digital natives, fluent in the digital language of computers, video games, and the Internet.¹ Schools, while perhaps not keeping pace with their students' native sensibilities, are much different places than they were ten, or even five years ago. By the fall of 2003, nearly 100 percent of public schools in the United States had access to the Internet, compared with only 35 percent in 1994.²

But meaningful access to digital information resources and systems in schools is about much more than a physical connection to the Internet. Digital natives are not necessarily skilled or critical consumers of digital information. Many are still novices when it comes to searching, selecting, and assessing the meaning and value of the information they find.³

Indeed, many educators recognize the need for aggressive instructional efforts that will prepare young people to navigate effectively in today's complex media environment and assess the credibility of the information they find there. At the same time, educators face considerable challenges to teaching credibility assessment and its associated concepts. This chapter examines the nature and significance of these challenges, which are both structural and dynamic. *Structural* challenges are institutional, in the form of government regulation, as well as school policies and procedures. *Dynamic* challenges are defined here as the processes and relationships that occur as a consequence of young people's cognitive development and the inherent difficulties of navigating a complex Web environment. In tandem, these challenges limit opportunities for instructional intervention and pose a unique set of problems for educators to solve. The primary focus of this chapter is on adolescents, although much of what is covered may also apply to younger children as well as to young adults.

Background

Teaching credibility assessment is not a new idea. The field of credibility research has produced rich data sets that describe how users *determine* credibility.⁴ However, explicit reference to *teaching* credibility assessment in the various "literacies" literatures is scant. This seeming dearth of attention is due to the fact that the concept of credibility is bound up in a wide variety of existing education and library and information science endeavors and is described in the terms and vocabularies of those traditions. In each case, terminology and emphases differ, with the notion of credibility assessment assumed if not explicitly named.

In information science, for example, credibility has been considered an element of the relevance criterion, the ability of an information system to retrieve all documents that a user judges to be relevant for a specific purpose,⁵ rather than a separate criterion in its own right.⁶ The major information literacy standards documents emphasize such skills as the ability to identify appropriate information, assess relevance, select information, and integrate information, but not the ability to assess credibility per se.⁷ However, the theme of information *evaluation*, which incorporates credibility assessment, is a strong thread throughout the information literacy literature.⁸ Credibility assessment concepts saturate the textbooks, lessons, and methodologies of information literacy instruction.⁹ The education literature, most notably the work on critical thinking, has a great deal to say about concepts surrounding credibility assessment.¹⁰ Judging the credibility of a source is a central tenet of the critical thinking perspective. Credibility assessment themes are also expressed through the related fields of media literacy,¹¹ information and communication technology (ICT) literacy,¹² reading,¹³ and what is becoming known as twenty-first-century literacy.¹⁴ In these discourses, *evaluation* is often the operative term rather than *credibility assessment*, and emphasis on various facets of the process varies. The literature of critical thinking is an exception, with credibility occupying a more central focus and being defined in terms of specific criteria.¹⁵ The perspective of the library and information science community is that the concept of information literacy is broader than, and therefore inclusive of, other domains that have been described in literacy terms, such as media, digital, or technology literacy.¹⁶ Similar claims have been made in reference to media literacy.¹⁷ Tyner promotes a multiliteracies approach¹⁸ and urges researchers to study collaborative literacy models. Ultimately, each of these perspectives points to the pressing need to teach credibility assessment. However, a variety of significant factors inhibits efforts to teach credibility assessment in schools. The next section of this chapter examines some of the major institutional constraints that stand in the way of such endeavors.

Structural Challenges

Structural challenges are those that are built into the political and cultural constructs of contemporary schooling. Public institutions provide stability, continuity, and scalability in our society, but their conservative nature can inhibit growth and development. Schools, like large steamships that maneuver slowly into each turn, set course with great deliberation. Yet they are situated in the midst of a rapidly changing media environment and serve a youth culture that has embraced the new media. It is important for credibility assessment education that suitably addresses the new media to gain a foothold in today's schooling environment. Unfortunately, such a foothold is not so easy to find. External forces—both political and social—are feeding and aggravating schooling's natural tendency toward bureaucracy and inertia.

Three structural factors that present specific challenges to teaching credibility assessment in schools are identified and described in this section of the chapter. The first is the very nature of school governance in the United States, in which curricula and school requirements vary from state to state, and even from district to district within states. The second is an environment of accountability that has resulted in a proliferation of mandated high-stakes testing. The third is legislation and a culture designed to protect children that have had the unintended consequence of limiting their access to digital media—and therefore the opportunity to teach them credibility assessment.

Everyone in Charge, No One in Charge

In the United States, education is locally funded and, in large part, locally controlled. Individual states set graduation requirements and local school districts design curricula to meet them. For good or ill, the United States has no national curriculum. In contrast, curricula, graduation requirements, and sometimes even course sequencing in many other parts of the world are mandated from above. Make no mistake, the U.S. government still leaves its mark on schools across the country by placing conditions on the use of critical federal funds, as will be discussed below. Ironically, however, its power to affect general curriculum design is quite limited. The federal government has no authority to mandate that instruction be given in a particular subject, whether that subject is geometry or credibility assessment of digital media. While this decentralized system of education allows schooling to be relatively responsive to local community needs, it also presents a structural challenge to teaching credibility assessment.

Instead of being subject to federal control, public schools must meet the standards of regional accrediting bodies and the subject-area standards set by state boards of education. Some states address credibility assessment topics within the framework of ICT, media literacy, or information literacy standards. For example, the Missouri “Show-Me” standards include a companion K–12 integrated technology and information literacy curriculum.¹⁹ Its “component checklist” includes such credibility markers as source of information, reliability/authority, bias/prejudice, and fact/opinion. Wisconsin has defined three stages of “Information and Inquiry” performance standards that incorporate evaluation of information and media. By fourth grade, eighth grade, and twelfth grade, students are to have achieved developmentally appropriate benchmarks in such areas as detecting authorship and authoritativeness of information, recognizing point of view or bias, and evaluating graphic images for misleading presentation and manipulated data.²⁰

Professional societies also create content-area standards that can have an impact on local curriculum adoption. Most prominent in the area of credibility assessment are the National Educational Technology Standards for Students,²¹ the national guidelines and standards for school library media programs from the American Association of School Librarians and the Association for Educational Communications Technology,²² and the information literacy competencies for higher education from the Association of College and Research Libraries.²³ Subject content standards containing information literacy elements have also been developed by a variety of disciplinary societies.²⁴ For example, Project 2061, a long-term initiative to improve literacy in science, mathematics, and technology, includes a section in its benchmarks called “critical-response skills” which incorporates credibility assessment concepts.²⁵ Standard 7 of the “Standards for the English Language Arts” notes:

Students conduct research on issues and interests by generating ideas and questions, and by posing problems. They gather, evaluate, and synthesize data from a variety of sources (e.g., print and non-print texts, artifacts, people) to communicate their discoveries in ways that suit their purpose and audience.²⁶

While it is laudable that standards documents of professional societies are beginning to include credibility-assessment elements, nothing requires school districts to adopt them. Compliance with these standards is strictly voluntary and is subject to the priorities of local school boards and the resources that may or may not be available to fund compliance.

High-Stakes Testing

As alluded to earlier, the federal government still wields tremendous influence on American education, despite its decentralized nature. One of the most visible markers of this influence can be seen in the phenomenon of high-stakes testing. Most recently, the No Child Left Behind Act (NCLB), and its attendant dependency on testing, drives curricula and classroom activity across the country.²⁷ Schools are remarkably closed to new curricula that are not specifically included on mandated tests or reflected in accreditation standards. NCLB considers only two subjects, mathematics and reading. The success or failure of a school rides on student test scores in these two areas, regardless of what students may know about American history, art, or biology, for example. Although nothing stands in the way of schools teaching other subjects, in practice, classroom teachers find themselves spending a disproportionate amount of time teaching the content that will be tested and preparing their students for the standardized testing environment.²⁸

Unfortunately, data on the success of NCLB are emerging that reveal that the legislation has not had its intended effect. Recent research reveals that the national average achievement has remained flat in reading and is growing at the same pace in math after NCLB as it was before.²⁹ High-stakes testing has also spawned a number of unintended side effects, including a tendency to inflate state test results while deflating racial and social achievement gaps, unethical test preparation practices, schools exempting more students from taking the tests, and schools not discouraging low-performing students from dropping out.³⁰ Unfortunately, children *are* still being left behind. Data from benchmark assessments are used to identify students who are close to passing, identified as “bubble kids.”³¹ Teachers are encouraged to focus on this group of students rather than help those whose scores are so low that any improvement would still not be at a passing level. High-achieving students who will pass anyway are left to their own devices. If the test scores of bubble kids do not rise, aggregated school scores do not rise and teachers are labeled as failures. In general, low teacher morale and poor retention rates permeate the high-stakes testing landscape.³²

Critics of high-stakes testing are not against all forms of standardized testing and benchmark assessments. Recommendations for improvement include attention to other subjects, use of multiple methods of assessment when making high-stakes decisions, and authentic assessment that measures critical thinking skills rather than regurgitation of facts.³³ Such improvements would pave the way for testing credibility assessment skills. In fact, the Educational Testing Service, in collaboration with a group of two- and four-year colleges and universities, has developed a scenario-based standardized test to assess ICT literacy at the college level. Among other tasks on this examination, students are required to “judge the quality, relevance, authority, point of view/bias, currency, coverage and accuracy of digital information.”³⁴ Unfortunately, an ICT literacy test that is designed for the K–12 audience is unlikely to be developed and administered without some sort of NCLB-like federal mandate.

Limited Access to Digital Media

The federal government has also left its mark on schooling by attaching strings to funding for Internet access. Public and school libraries that receive “e-rate” discounts for Internet access must comply with the Children’s Internet Protection Act (CIPA), which requires the installation of Internet filtering software. Although the law was intended to protect children from pornography and other unsavory material, in practice it has spawned its own

impressive set of unintended consequences. Even state-of-the-art filtering software regularly underblocks or overblocks online information, hampering students' efforts to perform legitimate school-related research.³⁵ In addition, the software is expensive to purchase and requires sophisticated network administration skills to install and maintain. While software filters do not specifically disallow information that is not credible, the ways in which they limit access to information also limits opportunities for young people to learn credibility assessment skills under the guidance of their teachers and librarians. By implication, the task of determining credibility is left to the proprietary practices of filtering companies, who are much more likely to hire technicians and software developers than educators or child development specialists. Numerous nonprofit organizations and public policy groups, such as the American Library Association,³⁶ the Brennan Center for Justice,³⁷ and the Electronic Frontier Foundation,³⁸ have decried the inefficacy of filtering software and its restrictions on access to constitutionally protected speech.

Many schools are guilty of out-of-the-box filtering software installations, not taking advantage of the calibrating options that most software products allow.³⁹ Even though current federal legislation allows filter settings to be adjusted for specific educational uses, schools rarely take advantage of these options. Customizing, overriding, or disabling filtering settings are time-consuming processes and are generally out of the hands of teachers and librarians. They must rely on instructional technology (IT) support staff, who are often either too busy with basic technology management to spend time tweaking filters or simply do not understand or care about the consequences of leaving a student to wait three days for a site to be unblocked. Sadly, sometimes teachers and librarians are more than willing to honor this status quo, in effect abdicating their instructional responsibilities to the IT staff.

Tech-savvy young people—and even not-so-tech-savvy young people—are able to circumvent filtering software without much trouble. They are aided by activist organizations such as Peacefire (<http://www.peacefire.org/>), which routinely publishes ways to undermine filtering systems. The 2006 move to enhance CIPA with the Deleting Online Predators Act (DOPA) would have required that schools also block all commercial social networking sites. Such efforts are predicated on what *could* happen and how young people *might* use a tool rather than on the inherent nature of the tool, which is itself neither bad nor good. Ironically, free commercial social networking sites provide an inexpensive and relatively simple method for teachers to use blogging, wikis, and other read/write technology to great effect in their classrooms. However, legislation like CIPA makes it difficult for educators to use, and teach the sound use of, many information and digital learning tools.

Software filtering is only one aspect of how access to digital media in schools is compromised. Teachers themselves introduce filter-style limitations by preselecting Web sites they find credible and appropriate and restricting their students to this prescreened content for Web quests and other activities. The pedagogical goals of some lessons are well served by this type of lesson construction. But if all Internet access is structured in this way, students miss opportunities to learn important searching and evaluation skills.⁴⁰ Teachers also differ in their personal understanding of digital information and how it should be evaluated. Many compensate for deficits in their knowledge by limiting the amount of digital information students can use for assignments or, as noted, restricting student use to predetermined resources. Other teachers respond by accepting *any* digital resource that students use without regard to quality or credibility. Such variability in teacher expectations sends mixed messages to students and, in effect, compromises their understanding of credibility assessment.

Local school district Internet access policies and implementation practices also restrict student access to online information. Even as reliable high-speed Internet connections become ubiquitous in American schools, e-mail is still considered off limits in many schools, even for educational purposes. Access is also limited by generic acceptable use policies (AUP) that allow only curriculum-related use. For example, the Chicago Public Schools AUP⁴¹ specifies that the “CPS Network is strictly for educational pursuits” and that noneducational uses are prohibited. The list of prohibited uses includes, but is not limited to, such activities as games, chain letters, jokes, and religious activities. In contrast, the University of Illinois Laboratory High School Computer Usage Agreement⁴² specifies acceptable uses in order of priority, starting with academic support, followed by communications, then by general information retrieval, and finally recreation. Users engaged in lower-priority activities are to yield their computers if they are needed for a higher-priority use.

Acceptable use policies codify a prevailing philosophy in contemporary school culture that defines digital media in terms of appropriateness. “Appropriate” content is generally characterized as “educational”—not educational in the broad sense, but educational as the content relates to the specific curriculum a student is studying. Students are commonly directed to preselected and vetted sites, or to recommender sites, where the recommenders are specifically defined. The definition of “inappropriate” includes obvious headline-attracting categories such as pornography. But “inappropriate” may also include social networking sites, blogging sites, and any site accessed for *recreational* purposes. School libraries, however, have long provided recreational material, most notably in their fiction and magazine collections. The availability of such material is considered essential to the promotion of literacy, independent reading, and social and cognitive development. Yet, although high school students are encouraged to read *Seventeen* magazine and *Sports Illustrated* in the school library, they are often not allowed to use the library’s computers to read the same articles on the *Seventeen* and *Sports Illustrated* Web sites.

Structural challenges like high-stakes testing and filtered Internet access create false impressions in the public mind. The No Child Left Behind Act leads to a false sense that progress is being made in the improvement of schools. Internet filtering software leads to a false sense that children are safe while online at school. Both initiatives are palliative efforts that help us feel as though we are doing something about difficult and threatening societal problems. Unfortunately, the results are neither substantive nor meaningful. And, as will be discussed in further detail below, they have a detrimental impact on the ability to teach credibility assessment.

Dynamic Challenges

In addition to externally imposed structural challenges, young people engaging in credibility assessment of digital media face dynamic challenges that consist of processes and relationships. These challenges become apparent when young people, with their varying rates of cognitive, social, and emotional development, confront the complex and shifting nature of digital media.

Young people are not “small adults,” but an entirely different user population with their own culture, norms, interests, abilities, and information needs.⁴³ In particular, adolescence is a period of life marked by the need to develop a sense of independence and autonomy.⁴⁴ Most parents struggle with this phenomenon, as their formerly affectionate and obedient children begin to prefer peers to family and resent parental attempts at protection and control.

Teenage rebellion can be particularly problematic when juxtaposed with the structural constraints of schooling. The inclination to defy authority is exacerbated when teenagers perceive signs of hypocrisy, double standards, or rules invoked for reasons they deem unfair or lacking in substance. Adolescents easily find evidence of these deficiencies in their schools' technological controls, such as filtering software, or the rule-based controls that prohibit the use of certain digital tools. They observe their teachers' lack of familiarity with digital media and the resulting inconsistent expectations regarding the definition, selection, and use of credible information. Many teens have little compunction about working around systems and rules to gain access to the information and tools they feel are theirs by right. In other words, if teenagers encounter structural barriers, they often will break those barriers.

Adolescent development is one aspect of the dynamic challenges that influence credibility assessment of digital media. The other major piece of this complex picture is the variable nature of information seeking and of information itself in today's constantly evolving digital environment. As young people wrestle with their own development, what happens during the information-seeking process? How do factors like motivation affect their seeking and evaluation skills? Are they able to analyze and deconstruct the credibility cues that populate the new media environment?

Young People and Information Seeking

Despite their reputation as digital natives and Internet gurus,⁴⁵ young people's skills in effective navigation of today's information landscape are actually somewhat limited.⁴⁶ They always find *something* when searching for information, just not always the *best* thing. A number of factors contribute to these deficits. Although their skills progressively improve with cognitive growth, education, and experience, young people are at a developmental disadvantage when it comes to evaluating digital media.⁴⁷ Younger children have difficulty recalling site content when presented with multiple peripheral information objects such as advertising and dynamic features.⁴⁸ Older youths may not have the knowledge base to contextualize the digital (or print) information they encounter. They often lack the analytical strategies, such as source corroboration, required to make meaningful assessments of conflicting information sources.⁴⁹ To compensate for these deficits, young people tend to employ different evaluation criteria than adults. They are more likely to simplify Web site evaluation tasks and make credibility judgments that rely heavily on design and presentation features rather than content.⁵⁰

Most research on information-seeking behavior starts with the search itself and does not consider the origin and motivation for it.⁵¹ But origin and motivation become very important in the context of credibility assessment. Therefore, it is useful to consider the search task types undertaken by young people through the lens of persuasion theory, such as the Elaboration Likelihood Model (ELM),⁵² in which motivation is key. From the ELM perspective, young people evaluate content in a depth equal to their levels of motivation and ability. The more personally important the search task is, the more likely users are to employ a more systematic and effortful "central route" of evaluation of the information. For a task that is perceived as less essential or personally meaningful, young people are more likely to employ a "peripheral route" in their analyses, relying on heuristic judgments that primarily note the superficial or surface characteristics of digital media.⁵³

In general, young people engage in two overarching types of information searches—searches that have been imposed on them by others, or imposed queries, and searches

they initiate themselves, or self-generated queries.⁵⁴ No value judgment is applied to imposed queries—they are not “bad” simply because they are imposed. But the fact of their imposition means that these queries may be approached differently by information seekers, as may be the manner in which credibility is assessed. A student who is assigned to write a report about the dynasties of ancient Egypt, when she has no intrinsic interest in the topic or the report, is likely to take the peripheral route to credibility assessment. Even within the category of imposed queries, not all are created equal. Some imposed queries are “double” imposed queries, as when a teacher (the imposer) gives a child (the agent) an assignment and the child takes it to a parent (now also an agent) to help resolve. Parents, friends, and others often become agents and collaborators in the information-seeking process, which complicates information transactions. Gross also points out the phenomenon of “gift queries,”⁵⁵ similar to Twidale, Nichols, and Paice’s notion of “serendipitous altruism,”⁵⁶ in which individuals *voluntarily* take on the role of agents. In these cases, young people, parents, teachers, or colleagues share information simply because someone they know is interested in it. A “gift agent” is likely to take the central route to credibility assessment, feeling a heightened sense of responsibility for evaluating information credibility precisely because the use of the information will affect someone else.⁵⁷ Because most research on information-seeking behavior starts with the search itself, it tends to neglect the category of self-generated querying or everyday-life information seeking.⁵⁸ Everyday-life information seeking (ELIS) is an incidental form of information behavior, a discovery process that often occurs within the context of other activity. It is characterized as a social process rather than a cognitive one that occurs as a purposeful, self-conscious activity.⁵⁹ What we do know about everyday-life information seeking and young people suggests that they prefer to seek answers from friends and family rather than libraries.⁶⁰ Although very little is known about the ways in which young people assess credibility in these circumstances, it may be safe to assume that motivation is high due to the self-generated nature of the queries.

Information seekers often incorporate a strategy called “satisficing,” a decision-making construct that combines the need to both satisfy and suffice.⁶¹ When it is neither reasonable nor practical to consider all existing outcomes and possibilities, people will satisfice rather than optimize, terminating the decision-making process when a goal has been achieved “well enough.” In an information-seeking context, particularly when imposed queries are involved, time constraints and information overload are factors that determine individual tolerance for continuing the search and evaluation process. Young people do not necessarily abandon consciousness of credibility assessment and other evaluation criteria, but, in many cases, they are willing to settle for information that is “good enough” in order to complete a task. Satisficing differs from the principle of least effort,⁶² which assumes no process at all.

The Web Environment

The complexity of the Web environment produces special challenges for young people as they attempt to determine the credibility of information. Although the need to teach young people to critically appraise information has long been a part of the formal education landscape, the core skills and issues being essentially the same as they were prior to the current rise in digital technologies, the technologies do present new challenges.⁶³ Burbules argues that the Web does not lend itself to conventional methods of credibility assessment due to its complex features and structure, lack of standard frames of reference, and its role as both an information archive and a social network.⁶⁴ The usual markers of institutional credibility

and authority (e.g., publication in a prominent refereed journal, a standard encyclopedia) may not be present, replaced by more distributed credibility markers like hyperlinks, recommender and open authorship opportunities, and other self-referencing schemes. For purposes of credibility assessment, the Web's very strengths are also its weaknesses—its rapid rate of change, the level playing field it provides for all types of information, the hypertextual format that blurs distinctions among documents, and its very size and scope.⁶⁵

The open Web presents many examples of conflicting cues that are difficult for users to identify and analyze. Levine observes that while every Web site looks the same on a list of Google results, a telephone directory at least categorizes listings by type.⁶⁶ He goes on to note that a clinic, hospital, or medical lab generally look quite different from a store that sells herbal remedies. But a hospital Web site may not look any different from the herbal remedy store's Web site—or from an accomplished teenager's hobby page. Levine concludes that the Web creates substantial new interpretive burdens even as it provides the opportunity to explore a wider range of ideas. The challenge to educators is to help learners develop strategies for managing and overcoming those interpretive burdens.

For young people, certain visual or contextual cues are particularly problematic:⁶⁷ the Web supplies no context for content. It has no fiction section, no nonfiction section, and no biography section. A student looking for information on baseball may stumble on a fantasy baseball team Web site that is populated with real names, places, and events, along with names of the amateurs who created the site and are also named as players. Search engine results do not always link to a site's equivalent of a title page, linking to internal pages instead. So a search on "birth control" may link to information within a church Web site, a political Web site, or a medical Web site. In general, authorship (and the meaning of authorship) can be difficult to determine, particularly as collaboratively developed content proliferates. Wikipedia (<http://en.wikipedia.org>), the online encyclopedia that anyone can write for or edit, provides many examples of the confusing consequences of distributed authorship. Volunteer editors with competing interests wrestle over individual entries, often "reverting" one another's contributions until the entry is locked or labeled with Wikipedia's disclaimer that the "neutrality" of the entry has been challenged. At any given point in time, what is a young person to make of the content? The teaching challenge here is to engage young people in evaluating source credibility when the source and its intent are elusive.⁶⁸

Relevancy ranking can be another misleading cue. For example, a Google search on "Martin Luther King" currently produces a high-ranked placement for a site operated by a white supremacist organization. This is a "cloaked" Web site, one that disguises its underlying message of racial supremacy through the sophisticated use of domain name registration, graphical design, and text.⁶⁹ Its high ranking, derived in large part from numbers of links into the site from other high-ranking sites, implies credibility, as does the ".org" domain in the URL. Ironically, many of the links to this hate site are generated by well-meaning librarians whose Web site evaluation lessons use the King site as an example. Open discussion of ranking algorithms can help demystify the process and perhaps overcome young people's assumptions about the omniscience of search engine relevancy ranking.

Digital content can be intellectually challenging. When students in my classes compare the World Trade Organization Web site (<http://www.wto.org>) with a spoof site (<http://www.gatt.org>), they eventually identify the imposter because it currently contains links that lead outside the site or redirect to an e-mail client. But they have great difficulty comprehending the rationale behind the spoof site because they do not understand the satiric

context, nor do they have sufficient background knowledge to make sense of the political content. They recognize the errant navigational cues but cannot decode the intellectual cues.

Finally, search engines tell only part of the story. Though used as the default entry point to the Web, they cannot retrieve information from the vast “invisible Web,” which lies hidden behind firewalls and databases. As a result, academic subscription databases made available through schools and libraries are often underutilized or poorly understood by students—particularly as sources of credible, vetted information.⁷⁰ Other valuable resources are retrievable only by those who already know how to find them. One must know to go to the Library of Congress Web site in order to search the millions of images, song files, maps, texts, and other free resources of the American Memory collections (<http://memory.loc.gov>). Practically speaking, most young people generally do not find or use the resources of the invisible Web without some sort of formal pedagogical intervention initiated by librarians or teachers.

An Unfortunate Combination

The dynamic challenges just outlined are inextricably confounded with structural challenges. In combination, these two forces have the potential to seriously compromise young people’s ability to learn to assess the credibility of digital media. Both types of information seeking—imposed querying and everyday-life information seeking—are affected. In the context of schoolwork, filtering software blocks legitimate information that students need for their assignments. High-stakes testing shrinks the curriculum and leaves less time for teaching process skills like information literacy, which could prepare students to decode the complex cues that permeate the Web environment. Prohibitions against read/write social network technologies like blogs, wikis, instant messaging, social bookmarking sites, and even e-mail, stymie students’ collaborative work styles, their potential to communicate with experts, and even their ability to download or exchange information from reputable sources like subscription databases.

In fairness, schools serve many masters. Imagine the potential discomfort of a school administrator leading a group of board members on a tour through a computer lab filled with students browsing eBay, checking sports scores, or downloading music to their MP3 players. But from the student point of view, highly restrictive access policies lump nonacademic Web sites in with the truly odious—the pornographic, the violent, and the hate-filled—hardly a fine-tuned model for credibility assessment.

Structural and dynamic constraints have an even more profound impact on everyday-life information seeking. An argument could be made that school is not the place to solve personal problems or pursue individual interests. Again, the nature of traditional school library collections belies this position. If school is not a place to develop social and emotional skills as well as academic ones, then why do school libraries carry recreational magazines, self-help books, and fiction titles that are not “classics” or assigned reading? Somehow, the education community’s shared ethos that the availability of noncurricular print materials promotes literacy and lifelong learning has not transferred to digital media, which is still judged by the “scale of appropriateness” described earlier. The resulting prohibition against using noncurricular online resources at school means that young people are forced to take their self-generated queries to familiar personal sources, often peers, and away from vetted information systems and services.

It may be that schools are reluctant to open the floodgates of Web access because, despite the presence of filtering software, dangerous material may still be only a click away. No trained librarian stands behind collection development on the Web. At a minimum, creating a more open access environment at school would require that credibility assessment instruction be ramped up and recalibrated, as will be discussed below. But in this era of high-stakes testing, school administrators are loathe to add content that does not appear to contribute directly to improving test scores.

Finally, just because teenagers, being teenagers, may ignore or sabotage structural constraints does not mean that such constraints have no place in schools. In cases where rules and security measures have been minimized in favor of an emphasis on education and personal responsibility, schools have run the risk of losing the integrity of their technology systems.⁷¹ Instead, schools are wise to balance three strategies in their implementation of technology—regulatory, technological, and pedagogical.⁷² The next section focuses on the pedagogical perspective, with a critique of past models of credibility assessment instruction and a look at how best practices can shape the future of this curriculum.

Beyond the Challenges: Teaching Credibility Assessment

It is clear, despite the many challenges described earlier in this chapter, that credibility assessment of digital media is a skill students (and teachers!) need to learn. However, is credibility assessment being taught in schools? The answer is not simple. Students are certainly learning how to use digital *tools* at school. Tyner distinguishes between “tool literacies”—computer, network, and technology literacies—and “literacies of representation”—information, visual, and media literacies.⁷³ Tool literacies are concerned with teaching learners to master new technology tools. Literacies of representation build on already-familiar reading and writing literacy foundations in schooling and emphasize the process skills that are needed to analyze information and understand how meaning is created. Often, however, information and communication technology (ICT) skills are taught only as tool literacies, where the technology itself is the object of instruction. This practice has its roots in the traditional business curriculum, in which students are taught the computer applications they need to succeed in the marketplace.⁷⁴ In these cases, students are given lessons on such topics as productivity software, Web design software, and audio and video production, but not on “slippery” topics like the ethical use of ICTs or the evaluation of digital media and information.

Perhaps teachers assume that with filtering in place, students do not have access to information that is not credible when they are at school. The fallacy of this assumption is that filtering software is designed to block only certain categories of objectionable content, and does not, indeed cannot, consider content that may “only” lack credibility. The pedagogical argument for teaching the “slippery” topics is that unless educators incorporate purposeful and guided exposure to fallacious online information *during school*, their students may not have the skills to distinguish credible content from that which is not credible when they are *not at school*. Credibility assessment issues rise rapidly to the top of the school radar when public concern demands attention to Web safety. Unfortunately, this particular focus considers credibility assessment only at the gross level of child endangerment. Weingarten describes how a good deal of Internet instruction is cast in the mold of protecting young people from misinformation and online dangers.⁷⁵ The emphasis is not on improving critical thinking abilities at a more nuanced and analytical level.

When credibility assessment education does take place in school, who takes responsibility for it? Web site evaluation, which generally includes credibility assessment, is typically taught by the school librarian as part of information literacy instruction. Credibility assessment of broadcast media is covered within the context of media literacy instruction and may be taught by English, reading, speech communications, or journalism teachers. Credibility assessment may or may not be included as a component in computer technology curricula. Finally and ideally, credibility assessment instruction is embedded in content areas of the curriculum, from social studies to science and mathematics. However, it must be emphasized that schools are not generally required to teach “process skills” like information or media literacy that might include credibility assessment components.

What does credibility assessment instruction look like? The predominant method is the checklist model, which focuses on criteria including accuracy, authority, objectivity, currency, and coverage.⁷⁶ Students examine Web sites with such checklists in hand, looking for evidence of each element. Some teachers assign checklists as worksheets, requiring students to complete them before proceeding to the next stage of research. The checklist model would be well suited to most types of academic research and imposed query situations—if students employed it when working independently. In practice, users—including young people—rely on other criteria, most notably design and presentation elements.⁷⁷ Furthermore, even when Internet users who are skeptical of Web-Based information know they should verify the information they get online, they often fail to do so.⁷⁸

Checklist criteria, when used alone, can result in superficial or even false analyses. Non-credible or quasi-credible sites can meet the technical requirements of a checklist. In addition, the reductive nature of many checklists forces students into “yes” or “no” responses, when “yes, but . . .” or “not unless . . .” responses might be more appropriate. Another limitation of the checklist model is that it is not well suited to everyday-life information-seeking needs. Typical academically oriented checklists are ineffective in everyday-life information-seeking contexts because the criteria that would be relevant are not included. The usual checklist-style admonishment to restrict oneself to traditionally defined “authoritative” sources has no meaning for the young person who is looking for relationship advice or music suggestions. Web sites devoted to such topics *do* differ in levels of credibility, and those differences should also be subject to articulation and evaluation. Ultimately, checklists are problematic because the evaluation of information is subjective, relative, and situational rather than objective, absolute, and universally recognizable.⁷⁹

The Millennial Generation

We are teaching a generation of students who have a special relationship with technology and the Internet. In 2005, fully 87 percent of teenagers reported using the Internet, as compared to 66 percent of adults.⁸⁰ These students are format agnostic, mixing and matching the communication and information technology functions of their tools to suit their own ends.⁸¹ Eighty-four percent report owning at least one personal media device, including mobile technologies like cell phones and personal digital assistants.⁸² This mobility means that students are frequently on their own when it comes time to evaluate credibility. They often start research projects by browsing online, pausing to ping their social network for advice and guidance.⁸³ They find corroboration in alternative locales—blogs, recommender sites, even within World of Warcraft games.

Although teen use of the Internet at school has increased by 45 percent since 2000,⁸⁴ young people perceive a substantial disconnect between how they use the Internet on their

own for educational purposes and how they use it during the school day and under teacher direction.⁸⁵ Students cite a number of roadblocks that compromise Internet use at school, among them the wide variation in teachers' Internet policies and practices, heavy-handed Web filtering, and uninspired assignments that do not take advantage of the Internet's attributes. It is against this backdrop that educators must examine their attempts to teach credibility assessment. On the one hand, we have an education system that narrowly prescribes how information is to be accessed and what information is considered appropriate, if not credible. On the other hand, we have a generation of learners that has taken matters into its own hands because of access to digital content tools outside of school. However, access to the *technology* tools does not provide them with access to the *intellectual* tools they need. But is it possible to teach students to evaluate digital information when they only see preselected or filtered slices of it? Are we, as educators, credible facilitators or do students perceive us as being hypocritical, or worse, clueless? Indeed, young people may not see most adults as being credible at all when it comes to matters of technology, and that the only real authorities in the digital world are themselves.

Best Practices

Despite the sometimes overwhelming challenges to teaching credibility assessment in today's schooling environment, many teachers and school librarians are finding ways to do so. As intractable as some of the institutional and structural barriers can be, the dynamic challenges are more open to creative pedagogical efforts. Educators are finding ways to accommodate student developmental levels as they design credibility assessment instruction, scaffolding productive explication of the cues that populate a complex media environment. The ultimate goal is to help students develop robust internal heuristics, a personal suite of decision-making strategies that are available for automatic recall during information searching and selection processes.⁸⁶

The development of effective heuristics is more likely to occur during instances of contextual or situated learning. Research in cognitive and educational psychology suggests that knowledge is not an objective artifact but is an entity that is developed and learned within a social context that itself affects or shapes cognition.⁸⁷ Therefore, some of the best practices in credibility assessment instruction are those that occur over time, in the context of application, and, in the best cases, provide collaborative and apprenticeship-like opportunities. The various literacy movements concur with this perspective, advocating that such process instruction be integrated across the curriculum and applied in the context of real classroom assignments. For example, the Center for Media Literacy notes that integrating media literacy across the curriculum connects it to national, state, or district educational standards and assessment rubrics.⁸⁸ The perspective of Partnership for 21st Century Skills is that integrating 21st century skills into core academic subjects should be the "design specs" for creating effective high schools.⁸⁹ And information literacy researchers have long promoted curriculum integration rather than standalone "library skills" instruction.⁹⁰

In addition to recognizing the wisdom of situating credibility assessment activities within broader learning experiences, alternative models of teaching specific credibility assessment skills are now appearing. Meola has developed a contextual model of Web site evaluation that prescribes both steering students to peer and editorially reviewed online resources and having students compare and corroborate information found on one Web site to other Web sites or to print sources.⁹¹ The compare-and-corroborate strategy is a way of triggering the bandwagon heuristic—"if others think this is good information, then I should think so too."⁹² Directing students to credible information is reflected in recent thought in exemplary

school library Web site design: that subscription databases and librarian-developed research guides be given prominent placement rather than direct links to Google and other search sites that students already access on their own.⁹³

Metzger suggests a “sliding scale” approach that is more sensitive to motivation and purpose in information seeking.⁹⁴ It allows for a variety of approaches to credibility assessment to accommodate specific search tasks in the context of different situations. In such a model, young people would be taught the checklist and contextual models when their information tasks require high-quality, traditionally defined credible sources. Users who are not very motivated or who are operating under less academically rigorous circumstances could be taught some simple heuristics that would still enable them to assess credibility and, just as important, that they would be likely to use. Part of the educational effort would be to teach students when to use each method.

Another type of checklist model is also emerging, one that adopts a more open-ended and expansive format instead of maneuvering students into yes-and-no checkbox choices. For example, the 21st Century Information Fluency Project offers an online “evaluation wizard” tool.⁹⁵ Although strongly oriented to academic information-seeking tasks, it asks the “who, what, where, and why” questions that provoke deeper thinking. The evaluation wizard and its sister tools (which include games and simulations) build on preliminary research findings that suggest students tend to do a better job determining both relevance and reliability if they search for and select information themselves.⁹⁶ When Web sites are provided by teachers (as they frequently are), students assume credibility and tend not to employ evaluation heuristics. The teacher endorsement triggers an “authority heuristic”—if an expert (the teacher) believes the information is credible, then it must be.⁹⁷ On the other hand, the cognitive effort required by effective searching appears to trigger more effortful credibility assessment heuristics.

Cognitive Flexibility

I have developed a teaching technique that is designed to provoke cognitive dissonance. This approach is influenced by cognitive flexibility theory,⁹⁸ which was developed to help people learn important but difficult subject matter. It accomplishes this goal by not oversimplifying complex phenomena, but instead by presenting the material in manageable units through multiple exposures. Ultimately, learners are better equipped to independently navigate ill-structured domains such as the Web. My particular application of the theory follows suit by not presenting “perfect” examples of Web sites to critique. Instead, it provides multiple examples of Web sites that challenge users’ initial impressions and force them to look beyond surface assessment criteria and cues. Eighth-grade students are assigned to examine a series of Web sites that present particular interpretive challenges. The students work in pairs or alone, answering a series of prompting questions developed for each site. Then each site is discussed by the class as a whole. The group discourse allows diverse viewpoints to emerge and encourages proximal learning, in which less capable students are able to learn from more capable peers.⁹⁹ Finally, students are assigned to take a parent on a “tour” of the Web sites, an activity that requires that they explain their analyses to someone who has no previous knowledge of the sites. By articulating their thinking to an uninitiated outsider, they deepen and internalize their own evaluation heuristics.

A brief analysis of three of these challenging sites illuminates the types of dynamic difficulties the Web can present, as well as the value of presenting multiple, conflicting examples for students to analyze. Two of the sites satisfy surface checklist model standards because

they possess traditional cues that trigger authority and accuracy heuristics. The first is a benign example of this phenomenon, a Web page called “The Good News About Chocolate” (http://www.candyusa.org/Media/Nutrition/chocolate_goodnews.asp). Positive markers include a scholarly (if dated) bibliography, a statement of review by a registered dietitian, a professional look, and a “.org” domain name. Students must determine that the page is on the National Confectioners Association Web site, the advocacy agent of the candy industry. While the information on the page is most likely accurate, an inherent conflict of interest exists. The Association is sure to pick and choose the research literature it presents, most likely leaving out unfavorable information. Students need to identify the conflict of interest and, at the very least, recognize that the information should not be used without corroboration from other sources. They should also appreciate that the site may offer other information of value, such as recipes, that could be used for other purposes.

The Web supplies more insidious examples of sites that, at least superficially, appear to meet checklist criteria. A second item from this class exercise is the Web site of the Institute for Historical Review (<http://www.ihr.org>), a Holocaust denial organization. The site bears traditional credibility cues that are designed to trigger the authority heuristic.¹⁰⁰ The prominently displayed current news and commentary portion of the page is populated with links to articles from mainstream publications such as the *Boston Globe*, the *New York Times*, and the *Miami Herald*, and from Israeli newspapers and Jewish organizations, whose presence conveys an impression of balanced coverage. The piece “A Look at the ‘Powerful Jewish Lobby’” (<http://www.ihr.org/leaflets/jewishlobby.shtml>) cites articles published in the *Jerusalem Post*, *Forward*, the *Guardian*, the *Los Angeles Times*, and books published by the Harvard University Press and the University of Chicago. The context in which these works are cited is where the mischief occurs. Quotes are used as evidence, from Jews themselves, of the existence of an overly powerful Jewish influence on American society and, indeed, on the entire world. Two strategies are available to young people as they study this site. First, they can be alert to the additional cues that should trigger other conflicting credibility assessment heuristics. Second, and less likely to occur given the time investment and the intentionality of such an exercise, they can track down the origins of selected quotes and compare the contexts in which they are used.

The checklist test can go both ways. Sites that, at first examination, “fail” the test can be highly authoritative sources of information. The third example from this lesson is a Web site called The Body (<http://thebody.com>), an HIV/AIDs information and support resource. The most immediate credibility-damaging indicator on the home page of this site is a prominent display of the logos of the pharmaceutical companies that are its sponsors. Viewers are also confronted by a slick presentation, with images and photos that invite them to “click here to learn more!” Students in my classes are immediately put off by this barrage, assuming the links lead to advertisements. However, most of the links actually lead to other informational parts of the site. The one section of the site that is sponsored by commercial interests is clearly labeled as such.

Even the safety terminology on a consumer medical site like this one can seem suspect. The Body has posted a typical legal disclaimer that warns readers that it is designed for educational purposes only and that the information it provides should not be used for diagnosing or treating a health problem or a disease. My students puzzle about how to interpret this sort of language, which can sound like the organization is trying to hide something. The problem is exacerbated if they click on one of the sponsor links. Each of these pharmaceutical companies is required by law to post a disclaimer that reads “(Name

of product) does not cure HIV infection or AIDS and does not reduce the risk of passing HIV to others." The students' confusion deepens further when I ask them to describe what types of people serve on the site's advisory board. They have to look closely to find the fine-print link to "Our Mission and Team," which lists the names and very impressive credentials of the advisory board members. Most are medical professionals at prestigious institutions. In sum, this Web site exercise forces students to reconcile conflicting credibility cues by reading deeply and weighing all the evidence before passing judgment.

In this application of the cognitive flexibility model, the message from teacher to student is, "Here are the general rules for credibility assessment, but you must use them judiciously. Sometimes they apply and sometimes they do not. In the end, it is up to you to determine what is credible and what is not." For teachers, such a teaching approach can be intimidating because it means ceding authority. Students are invited to question what they have been taught, or at least to know when to ignore it. But they are not truly disregarding their lessons. Instead, they are learning when and how to flexibly apply their knowledge in a complex environment that is not suited to simplified analyses.

A similar application of the cognitive flexibility strategy can be used to teach students to "read" sites whose purpose is persuasion or even indoctrination. Careful exposure, during which semantic and visual strategies are deconstructed, can serve as a form of inoculation, particularly against hate sites. A site often used in credibility assessment teaching is the one mentioned earlier titled "Martin Luther King, Jr.—A True Historical Examination" (<http://www.martinlutherking.org>). I demonstrate this site by conducting a Web search on Martin Luther King and projecting the search results. Students always select this site to look at first, both because of its credible-looking domain name and also because of its invariably high placement ranking. They are then given several minutes to read the screen. It does not take them very long to realize that something is amiss. Although the site looks professional and comprehensive, there is an out-of-context quote that does not fit the tone of the rest of the page.

The students in my classes are probably successful at this detection, in part, because they know they are engaged in a Web site evaluation exercise. They are predisposed to anticipate a "trick." Once they catch on, and after a few other pages on the site are displayed, it is hard for them to imagine that others would be taken in by the deception. The value of the lesson might diminish at this point but then I display other sites, developed by teachers, students, Web portals, news sites, and even libraries, which have linked to the erroneous King site unwittingly. Caught up in the fervor of knowing that they see what others do not see, my students are ready to learn some relatively obscure detection techniques. I show them how to conduct a domain name search, which reveals that the site is owned by the white supremacist organization Stormfront (<http://www.stormfront.org>). Other hate sites are then displayed and the students are prompted to look for cues that are designed to signify credibility and to evoke positive associations such as patriotism or religious faith.

Changing Institutional Culture

In pursuit of curriculum integration, one of a school librarian's major roles is to collaborate with teachers on resource-based assignments. Evidence of these partnerships is widely available on school library Web sites, which typically link to class project resource guides that build in opportunities for credibility assessment. In 2000, school library media specialist Joyce Valenza institutionalized partnering in her school by instigating a schoolwide research initiative.¹⁰¹ All research projects are now inquiry-driven, with students tackling compelling

research questions that cannot be answered with a simple yes or no. Teachers have been enlisted to communicate high expectations for source credibility. These high expectations, coupled with the more personal investment students make in inquiry-based projects, generally results in students who are intrinsically motivated to find credible sources.

Valenza's school library Web site (<http://mciu.k12.pa.us/~spjvweb/>) is replete with the kinds of tools that support the development of credibility assessment heuristics. She supplies course-related resource guides and a number of information evaluation guides and exercises that stretch the typical school worksheet or checklist experience. For example, her webquest for evaluating Web sites has students working in groups of four, which distributes the cognitive load by assigning discrete tasks to individuals who then combine their analyses for a final synthesis. She includes a guide to evaluating blogs, which poses clarifying questions such as this set related to a blog's influence: "Does this blogger have influence? Who and how many people link to the blog? Who is commenting? Does this blog appear to be part of a community? The best blogs are likely to be hubs for folks who share interests with the blogger." Valenza's students are also employing metacognitive tools, such as research blogs and annotated bibliographies that include descriptions of their search processes and selection rationales. An analysis of seniors' research experiences indicates that these approaches are assisting students in their development of credibility assessment heuristics.¹⁰²

Going to the Source

Perhaps the richest resource for improving best practices is young people themselves. By incorporating ideas inspired by the millennial generation's behavior, it may be possible to minimize the disconnect that exists between how young people learn while at school and how they learn when they are away from school. If educators can better understand what young people are already doing with digital media and leverage those habits, credibility assessment instruction has a better chance of being situated in a context that is meaningful to them. In addition, digital media tools lend themselves to inquiry-based learning because they can be used to connect students to real-world resources and situations.

What would such an approach look like? To start with, content elements can be made to more closely reflect the digital content that interests students. Teachers might use eBay to teach consumer skills or online sports scores to teach statistics. Students could be assigned to compare the product or media reviews on recommender Web sites to those in traditional consumer print literature. Young people taking political science, civics, or journalism classes might study political blogs, national party Web sites, extremist Web sites, and online news sites, in addition to mainstream newsprint and broadcast media sources. All of these examples are likely to generate interest and motivation for learning in a way that ordinary textbook-based lessons might not. Several of the examples feature what Eysenbach calls "apomediaries"—humans or technology tools that mediate without standing "in between" the consumer and the information (as an intermediary would), and instead "stand by" and provide added value at the will of the consumer.¹⁰³ Some of the apomediaries mentioned here are the seller ratings on eBay, the reviews and reviewer ratings on Amazon or *epinions.com*, the comments posted to political blogs and news site stories, and even the tags and links to the sites that others use in categorizing or evaluating Web sources. In each example, apomediaries offer additional credibility cues and provide metainformation that can help a young person navigate through this complex information environment. It is worth noting that apomediary assistance is not reflected on most traditional checklists, yet is a tool

that most users of digital media, including young people, are increasingly relying on for help in credibility assessment.

Finally, new media tools themselves, such as podcasts, Web sites, blogs, videos, and other digital media products, can be employed as tools in direct instruction. Teachers can design the infrastructures or students themselves can become digital media producers, or “prosumers.” Such tools and experiences extend the scope of learning beyond the traditional closed conversations with teachers that are so characteristic of formal schooling. In particular, social software tools that promote dialogue can easily be used to enable peer-to-peer as well as other kinds of informal learning. A great deal of learning occurs during such dialogic negotiations, whether students are creating digital media, seeking and evaluating information, or collaborating on a creative endeavor.

Educators can also position themselves within new media environments, carrying credibility-assessment messages to the virtual spaces young people already inhabit. For example, the 3D virtual world Second Life (<http://secondlife.com/>) now hosts Second Life Library 2.0, developed by the Alliance Library System and OPAL (Online Programming for All Libraries) and staffed by volunteer librarians. A virtual teen library is being developed on the Teen Second Life grid (<http://teen.secondlife.com/>). Some libraries are establishing a presence within popular social networking services—public libraries typically in MySpace and academic libraries in Facebook. Because of the many restrictions on social networking software in schools, however, school libraries have not ventured much in this direction. A library profile has a name brand advantage that carries implicit credibility associations.

To be truly successful, a social software presence must be much more than a one-way announcement space for a library. It should support two-way communication with users and, most notably, provide a portal to real library services.¹⁰⁴ In other words, what matters is not merely being *where* young people are, but also being *useful* to them by providing library-vetted information. The Brooklyn College Library uses its MySpace site (<http://www.myspace.com/brooklyncollegelibrary>) to push information to their students who have chosen to be “friended.” The Hennepin County Library MySpace profile page (<http://www.myspace.com/hennepincountylibrary>) features a working search window for the online catalog and a link that allows users to install the online catalog search within their own MySpace profiles. The online catalog itself allows Amazon-like user comments on book records, functioning as an apomediary for assessing book choices.

Conclusion

In the final analysis, we will be more successful teaching credibility assessment by taking advantage of the way young people think and work. If teaching “positive” heuristics is the goal, we should first take a look at the successful models and strategies young people have already developed for themselves. We can accomplish this by allowing and even encouraging the personal connection they feel to digital media. Next, we need to acknowledge and capitalize on young people’s collaborative instincts. Before the popularization of social networking software, Twidale et al. wrote about browsing information systems and “serendipitous altruism” as being collaborative processes.¹⁰⁵ Now we have the tools to build in collaborative opportunities for our students as they search for and critically evaluate information using digital media. Finally, we need to understand that young people will continue to use digital media that may not conform to “school standards” of credibility, but which either satisfy or meet their needs in some way. Our endeavors in teaching credibility assessment will also

benefit from further research in how credibility-assessment heuristics are learned and how they can be taught.

In a tongue-in-cheek school newspaper editorial summarizing what he had learned during high school, one of our departing seniors had this to say about Wikipedia: "Wikipedia is an essay's best friend. Wikipedia is a bibliography's worst enemy."¹⁰⁶ Educators do not have to compromise their principles regarding source credibility or turn a blind eye to what their students are doing. What they can do is credit students for the search and evaluation *process* and not just the products of their efforts. The Web boards, the recommender sites, and the Wikipedias can have an acknowledged place in the course of learning, but should be accompanied by comparison and corroboration experiences. Students can be taught that credibility criteria differ depending on audience and purpose. By expanding our notions of "appropriateness" in the school setting and exposing students to a fuller range of information to evaluate, our credibility instruction will itself become more credible and, thus, more likely to be successful.

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Teachers who find out successful ways to come out of these top complained classroom challenges can have a flawless teaching phase. Classroom challenges are one of the adequate problems faced by teachers and a good teacher has the courage to overcome all these challenges bravely. Some of the common classroom challenges faced by teachers include lack of teamwork, minimal personal time, working towards long term goals, arguments and student excuses, etc. Addressing these common classroom challenges can not only help to improve teacher retention rate but also enhance success rates of student and the ultimate quality of education. Here we can have a look at some of the top classroom challenges faced by teachers in the present.

Qualitative foreign teaching is one of the most important key characteristics defining the professional competence of a higher school graduate as a whole and is considered from the point of view of systemacy, of integral content, of teaching technologies, of methods of control and assessment of the results.

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The Challenge of Assessment - This challenge relates to the planning and programming phase, but takes it a step further. Teachers are constantly storing away information about the children they teach in order to improve learning opportunities for their classes. The challenge is in selecting assessment tools which allow students to best present what they know and teachers to best access this data. [Click here for a more detailed post about assessment.](#)

The Challenge of Communication with Parents - Children learn so much more effectively when there is effective communication between school and home. The beginning of a school year is a particularly good time to start building this relationship. For more details on communicating with parents check out [Link4Learning](#). After parents, teachers have the most important role in a student life. They are the one who mold the character of their students and contribute to raising educated, sane and responsible citizens of our country. This makes teacher jobs valuable and significant as they have the opportunity to impact the lives of students and the future of the country. But at the same time, this makes teacher jobs challenging and full of responsibility. They come across many obstacles, hurdles, and challenges as given below regardless of their training and location.

Incentives and Appreciation - Teachers are rare. For example, teachers can set challenges associated with reading tasks that can be increased or reduced according to their students' abilities, pointing to the fact that in one class they can have fast readers, slow readers and students who do not like reading. She demonstrated the use of visuals to engage readers, and stressed the importance of providing extension tasks for "fast finishers". Monica demonstrated how teachers can support writing tasks at different levels by using frames, where students have to fill in the blanks as opposed to writing a whole piece. She also discussed how they