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I

Introduction

Over the past few years, I have been invited to speak on a handful of campuses, talking to faculty about student reading problems and how to address them in writing classes and across the disciplines. I often start my talks by recounting typical presentation experiences. On campuses across the country, I report that I ask faculty (regardless of discipline) what is the greatest problem they face in the classroom, and inside of five minutes, we are talking about reading. Even when I am not the so-called reading specialist, brought in to help with reading, the conversation moves almost immediately to what I call the “don’t, won’t, can’t problem.” At conferences, my audience typically starts nodding as soon as I mention these exchanges: the reading problem is the proverbial elephant in the room. Everyone knows it is there; it is much too big to ignore. However, no one seems to know what to do about it, despite the fact that there are straightforward, evidence-based strategies that can be used in every classroom. Moreover, faculty adopting these approaches will be able to achieve their own teaching goals more effectively, a positive outcome everywhere.

Plenty of evidence indicates that faculty members are not alone in their experience with students’ reading troubles. Whether the evidence comes from large-scale standardized testing or close, careful examination of students’ writing or anything in between, and whether it comes from students’ work

with online digital, visual, or audio material or traditional printed texts, the results or findings are fairly consistent. Between 50 percent and 80 percent of students cannot do the kind of careful critical reading essential to success in college and beyond. The evidence shows clearly that students do not read the kinds of extended nonfiction prose expected in college-level work, and they won't do this kind of reading unless it is required of them. Most important, though, the data show that they really *can't* read the way most faculty expect. That is, students can't get the main ideas and details of an extended argument or synthesize differing points of view on a topic, and they specifically don't know how to evaluate any kind of text for authority, accuracy, currency, relevance, appropriateness, and bias. They are especially weak in their ability to evaluate bias.

Far too often, these claims appear to be just a pejorative view of students' abilities or lack of them. Students are seen as deficient, in need of remediation, according to this view of the data. Moreover, an entire line of argument leads to basic writing, developmental reading, and other kinds of skills-based, often non-credit, courses required of students before they are admitted to college or are able to move on to credit-bearing work. This argument was classically presented and clearly refuted by Mina P. Shaughnessy in *Errors and Expectations* (1977) in the open-admissions days at the City University of New York and by Mike Rose in *Lives on the Boundary* (1989). Both of these and many other books and articles in the forty-plus years since demonstrate students' underlying abilities; their troubles arise from poor preparation, socioeconomic factors, systemic racism, and related issues. Furthermore, academia can fairly be described as a foreign country for many students. They, like other travelers, do not read, write, or speak the language; have no interest in permanent residence; expect to spend little time for any reason; and intend to leave quickly. Teachers need to take all of these factors into careful account.

It is increasingly clear, furthermore, that remedial courses do not actually help students succeed or improve degree completion rates. This claim is based on a comprehensive study of remedial coursework by the United States Department of Education in 2016 (Chen 2016). Although Xianglei Chen's study was done prior to the pandemic, it also covered a number of years, so there is reason to think that little has changed despite the challenges of remote instruction and other issues. According to a careful analysis building on Chen's work by Maria Elena Oliveri, Robert J. Mislevy, and Norbert Elliot (2020, 348–349), Subgroups enrolled in a higher percentage of remedial courses had

lower percentages of graduating students. For instance, Black and Hispanic students participated in a higher percentage of remedial courses (78 percent and 75 percent, respectively) in 2-year institutions and had the lowest graduation rates (24 percent and 34 percent, respectively). Comparatively, in both 2- and 4-year institutions, white and Asian students participated in fewer remedial courses and had higher graduation rates. It appears that remediation is not having the desired effect on graduation rates.

It should be clear that remediation is not the solution, but it is especially important to note two further points. First, remedial courses don't help students complete a degree, as these authors point out. But in addition, the reading problem is more widespread than any of these numbers suggest. The findings about students' reading discussed below show that half or more of all students—regardless of race, ethnicity, socioeconomic status, high school preparation, or any other factor—simply don't read as well as they could or should. This outcome appears in both large-scale standardized tests and in detailed studies of students' own writing, in their work reading traditional alphabetic texts, and in their abilities in the digital realm with online materials of various kinds. Given the findings, critical literacy warrants much more attention in every college classroom than it is presently receiving.

Many of the reports and publications mentioned thus far generally address students' reading problems somewhat indirectly, as in degree completion rates. When the focus is directly on students' actual reading, as I have been arguing over the many years since I published "The Connection of Writing to Reading: A Gloss on the Gospel of Mina Shaughnessy" (Horning 1978), the data deliver the same message repeatedly. I pointed out there, and in dozens of publications and talks since, the relevance of reading to the teaching of writing. I have been motivated by the message in the data and by a lifelong love of reading, as far back as my older sister teaching me to read around age four, well before I started school. She taught me to read so I would stop pestering her to read to me and is herself a voracious, speedy, and expert reader. While I did not study reading directly through coursework, I went to graduate school in Michigan in the heyday of the work of Kenneth and Yetta Goodman at Wayne State University and of much intense focus on the psycholinguistics of reading, leading to my doctoral research project on textual redundancy and its impact on reading comprehension. For virtually my entire career, not counting recent detours into literacy history (Horning 2018, 2021a), I have been raising my voice about the need for writing studies and all other faculty in higher education to pay much more attention to critical reading. A few years ago, I caught

the attention of the chair of the Conference on College Composition and Communication (CCCC) (Asao Inoue), who established a task force, which I co-chaired, to create a formal position statement on reading for the organization (CCCC 2021). Otherwise, I do not think my message has been widely acknowledged and integrated in ways that impact students and faculty. This book is just the latest attempt to shine a bright light on the need for much more attention to critical reading in college writing classrooms and across every campus.

In thinking and writing about students' current reading status, as detailed below, while I don't blame technology for the decline in students' reading abilities, lots of other people do. The reading problem has little to do with whether a text is alphabetic or visual or whether it appears on a paper page or a screen; the psycholinguistic processing needed is the same in all cases, as is the need for critical evaluation and sustained attention. A lot of data show that students clearly lack the skills needed for effective, efficient, critical reading and evaluation of texts of all kinds. Before exploring the origins of this situation, a review of the evidence for students' current status with respect to reading is in order, with the important caveat that all the standardized tests have strengths and weaknesses, as do naturalistic studies discussed later. The rationale for this look at standardized tests is that they are in widespread use, frequently cited, and commonly thought of (albeit not necessarily correctly) as valid measures of student ability. The larger point is that no matter what kind of assessment is used, warts and all, they show that students do not read as well as they could and should.

Large-Scale Testing: ACT, SAT, NAEP, PISA

ACT

It seems best to start the survey of recent large-scale standardized test data with the findings of the ACT from 2020, the latest year for which results are available. In 2020, 1.67 million students took the ACT, which includes a separate test of students' reading ability (ACT 2020). That number, according to ACT, represents 49 percent of the high school graduating class that year; while many students taking the ACT choose to do so for college admission requirements, some take the test because their state uses it for assessment purposes, so it is at least in part a self-selected sample. The exam itself is a timed, paper-and-pencil, multiple choice test. In the reading section of the test, students have thirty-five minutes to read four passages and answer ten multiple choice questions on each one. The ACT claims it is testing the ability

to understand the ideas of a text, make inferences and generalizations, and see relationships among key points. A number of years ago, I asked a group of Honors College students at my university to look at a sample ACT reading section and tell me if they thought the test was valid, that is, that it really tests what ACT says it does. The students' conclusion was that the test did what ACT claimed. This result is anecdotal and from some time ago, but at the same time, it suggests that some students do see the test as an appropriate measure of key reading abilities. The ACT reading test is limited both substantively and practically for various reasons, but it does offer one approach to a few kinds of academic reading that a large number of students take. Many better measures, especially of reading in the context of writing, exist; some of these are discussed below.

The 2020 results show that 45 percent of students met ACT's benchmark score of 22, on a scale of 1–36 on the test. The ACT (2020, 3) explains its benchmark scores as follows: “A benchmark score is the minimum score needed on an ACT subject-area test to indicate a 50 percent chance of obtaining a B or higher or about a 75 percent chance of obtaining a C or higher in the corresponding credit-bearing college courses, which include English Composition, Algebra, Social Science, Biology, STEM and ELA. These scores were empirically derived based on the actual performance of students in college.” Thinking through these results carefully suggests a few key observations. First, it seems reasonable to think that translated into any first-year college class, about half the students meet ACT's benchmark, but half do not. And the standard ACT sets for the benchmark is fairly minimal: earning a grade of B or better (50–50) or a grade of C or better (75% chance) if students hit the benchmark. These findings are not about first-year writing; they apply to the aggregate of all students in all classes going to all colleges across the country. Also, a score of 22 means that students who met the benchmark got a little more than half of the questions right. This says a lot about those abilities ACT rightfully claims (according to my own students) it is testing: only about half the students can grasp key ideas, draw inferences, and so on.

A closer look at what the test measures sheds more light on the kinds of abilities addressed in the ACT. Note that the ACT does not claim that it asks specifically for much critical evaluation of any text, so it is difficult to judge students' evaluation skills. The description on the ACT website shows that the reading test focuses on main ideas and details, including inference and conclusion (55%–60%); craft and structure, including vocabulary and point of view (25%–30%); and integration of knowledge and claims (13%–18%),

including evaluating claims (ACT 2021). This description shows that the ACT offers a minimal look at students' critical reading ability. While little attention is devoted to critical reading and evaluation of texts, the test does assess some key components of reading. A very large number of students have taken this instrument, so it offers a broad look at high school graduates. On the other hand, it is a timed test with multiple choice questions that have only one right answer. Naturally, the passages are relatively brief and thus provide no insight on how well students can focus sustained attention to follow a fully developed argument or compare and contrast two texts on the same topic, evaluate credibility, or conduct other kinds of analysis required in high-level critical reading.

SAT

Relatively recently, the SAT was redesigned, adding separate reading and writing sections to the test. Almost a decade ago, the College Board (2015) released a report on the redesign of the SAT in which it noted on the first page of the Executive Summary that 57 percent of those who took the SAT in 2013 were not prepared for college-level work. Here's how the College Board describes the test and what it measures: "The redesigned SAT's **Reading Test** is a carefully constructed, challenging assessment of comprehension and reasoning skills with an unmistakable focus on careful reading of appropriately difficult passages in a wide array of subject areas. Passages are authentic texts selected from high-quality, previously published sources. One notable feature of the test is its use of texts representing a range of complexities to better determine whether students are ready for the reading challenge posed by college courses and workforce training programs" (College Board 2015, 4–5). Other features are questions about one original document (such as part of the United States Constitution), analysis of graphic material such as a chart or table, specific questions about vocabulary, and the presentation of pairs of passages with questions relating to both.

Like the ACT, the SAT is a timed, multiple choice, paper-and-pencil test used in many high schools, now going all-digital. A number of colleges and universities have chosen to make standardized tests like the ACT or SAT optional, based on the claim that high school grades are as good or perhaps a better indication of students' likely success, as validated by a careful study in California with its very large community college system (Bahr et al. 2017). Even so, the SAT continues to be offered and is used by many colleges and universities to make admissions decisions. Like the ACT, though, it is to some degree a self-selected sample unless students take it as part of

a state-mandated assessment. A recent report by the College Board (2024) shows the results for high school seniors who took the test in 2023, 1.9 million students in all. The reading section consisted of five passages; students were given sixty-five minutes to read the passages and answer ten–twelve multiple choice questions about each one.

On the reading portion of the ACT test, where the scaled score range is between 1 and 36, for the graduating class of 2023, 66 percent achieved the benchmark score of 22 (ACT 2024, 36). On the SAT Evidence-Based Reading and Writing (a combination of the Reading Test score and the Writing and Language Test, with a standard SAT scaled score range of 200–800), 62 percent achieved the benchmark score of 480 in the class of 2023 (College Board 2023, 4). As the report notes, “The SAT Evidence-Based Reading and Writing (ERW) benchmark is associated with a 75 percent chance of earning at least a C in first-semester, credit-bearing, college-level courses in history, literature, social science, or writing” (College Board 2023, 3). Thus, whether looking at ACT or SAT, somewhere between about 35 and 40 percent of students do not meet the benchmark; moreover, the benchmark sets a fairly low bar for success.

Naturally, there is plenty of room for debate about the benchmark score, in terms of both its level and whether defining students’ abilities in terms of grades earned in college courses is an appropriate way of setting a benchmark. For the purposes of the present discussion, these results give an indication of where a substantial number of students who have taken the SAT stand on this second standardized test, bearing in mind that the trend toward making the ACT, SAT, and other admissions tests optional means smaller numbers of students, not a large, representative sample of all students.

NAEP

A third standardized test given to K–12 students is the National Assessment of Educational Progress (NAEP), often cited as “the Nation’s Report Card.” It is given this name because it is the United States Department of Education’s carefully designed nationwide sample of students in all subject areas and at a variety of grade levels. High school seniors are not tested every year in every area, however. In addition, the NAEP was not administered in the 2020–2021 school year because of the pandemic. But in 2019, the most recent year for which high school student scores are available, the reading results show that 37 percent of students tested “proficient” (National Assessment of Educational Progress 2019). This result is no different from the outcome in

2015, the previous year in which seniors were tested. The implications of this result should be clear: based on this test, only four of every ten students in a first-year college writing class read well enough to do the work instructors expect. Again, however, it is important to keep in mind that the NAEP, like the ACT and SAT, is a standardized, timed, multiple choice, paper-and-pencil instrument, though by the post-pandemic time of publication of this book, NAEP had begun using tablets for the test on a trial basis in 2019. Assorted analyses, according to NAEP, were done to ensure that the digital and paper forms of the test were equivalent. The results have been thoroughly reviewed and critiqued by Diane Ravitch (2020), former United States Department of Education assistant secretary of education and New York University professor. The test, however, measures a true *sample* of students across the nation.

The description of the types of texts used in the NAEP includes both literary texts like fiction and poetry and informational texts such as arguments and documents. The test is intended to measure the ability to process texts of different kinds to “locate and recall” specific information, “integrate and interpret” through drawing inferences or identifying themes, and “critique and evaluate” for content and meaning (National Assessment of Educational Progress 2019). “Critique and evaluate” is just one of the three target areas for the NAEP reading test. The other skills measured by the instrument are certainly relevant and important for an overall assessment of students’ reading ability. But the critical reading part is not the sole or major focus being tested, as is true of all the tests under discussion here. Of the three large-scale tests discussed thus far, all are exclusive to the United States, all measure similar sets of skills in a similar way, and all produce results suggesting that a majority of students do not read as well as they could and should, as measured by these tests.

PISA

One more standardized test warrants review for the purposes of this discussion: the test from the Programme for International Student Assessment (PISA). PISA is a product of the Organisation for Economic Cooperation and Development (OECD), a group of about thirty mostly Northern Hemisphere countries that have joined forces for a variety of programs and activities, including testing a representative sample of students at age fifteen. Like the ACT, SAT, and NAEP, it is a timed, multiple choice instrument that has been translated as needed and administered every three years to students in the included countries. The last administration for which results are available is

from 2018 (Programme for International Student Assessment 2018). The test is scored on a 300–600 scale. In the reading portion of the test, the US average (505) is above the OECD average (487), but it has been flat since 2000 according to the PISA Report (Schleicher 2019, 11). While US scores have not gone up, they have not gone down either.

PISA defines “reading literacy,” the term it uses for students’ abilities, as follows: “Reading literacy is understanding, using, evaluating, reflecting on and engaging with texts in order to achieve one’s goals, to develop one’s knowledge and potential, and to participate in society” (OECD 2019, 34). The test measures four specific abilities: “The PISA 2018 framework identifies four processes that readers activate when engaging with a piece of text. Three of these processes were also identified, in various guises, in previous PISA frameworks: ‘locating information’, ‘understanding’, and ‘evaluating and reflecting’. The fourth process, ‘reading fluently’, underpins the other three processes” (35). In addition to finding materials, comprehending those texts literally, and drawing inferences, PISA measures critical reading with a specific focus on three areas: judging credibility, accuracy, and bias along with source authority; using prior knowledge to assess the quality and format of the text; and comparing and contrasting multiple sources to address conflicting information from more than one source (36). While this description suggests that PISA provides a solid focus on critical reading skills, the fact that American students have not improved in this area in over twenty years makes clear that much work remains to be done. There is clearly not less reading in anyone’s future, and as access expands on screens, the need for stronger skills also expands. PISA gives a sense of where American fifteen-year-olds have been and are in the context of a global sampling. A stronger focus on the kinds of skills described by PISA is certainly in order.

The goal of reviewing these large-scale tests is not to compare them or the results they provide, as noted at the outset. In fact, the National Academy of Education issued a recent detailed report on a variety of issues that impact comparability of test scores, across administrations of the same test and across different types of tests. The report makes the following key points about differences in student background that might affect test performance:

Students with different linguistic or sociocultural backgrounds should have the same opportunities to demonstrate their knowledge, skills, and competencies on assessments. When testing programs span diverse language or sociocultural groups, translated versions of tests may be used. However, comparability across translated versions is far from ensured. Items often function differently between

language groups, both within and across countries. Even in the same language context, such as in the United States, students from different socio-cultural groups may speak structurally and semantically different varieties of the “same” language (e.g., indigenous students, African American students, Mexican American students, and students from nonmainstream socioeconomic backgrounds). The goal with translated tests must be measurement equivalence, including equivalence of construct, test, and testing conditions. The quality of adaptation to other languages is optimized when the assessments in the source language are developed with test adaptation goals in mind. (Berman, Haertel, and Pellegrino 2020, 8, original emphasis)

Student background is crucial in all kinds of testing programs and is essential to keep in mind in examining test results. However, in tests like the NAEP and PISA, the students who take them are not a self-selected group (as might be true of the ACT or SAT, taken by students who choose to go to college, to meet application requirements) but are part of a carefully designed sample, intended to reflect the larger population. Sampling is not perfect, but if a sample is well designed, the results will indicate the degree of certainty administrators have about the extent to which the sample represents the status of the entire population.

Other Issues Regarding Testing

Other studies of the impact of students’ socioeconomic status have shown for many years that college admission tests are skewed in favor of those from well-to-do backgrounds. A review of this research by two University of Minnesota economics professors, Nathan Kuncel and Paul Sackett (2018), shows clearly that students from wealthy backgrounds perform better on tests like the ACT and SAT than do those who are less advantaged. This finding is one reason many colleges and universities have gone “test optional,” so students can present other data to support their application for admission. While high school course choices (such as taking Advanced Placement classes and tests), grades, interviews, and so forth provide useful background for college admissions, the tests *do* offer a standardized indication of students’ skills. In their report, Kuncel and Sackett repeatedly mention the specific importance of students’ critical reading ability as a key aspect of their background that is measured in some ways by the tests and plays a central role in overall success in college and careers. They write that “being able to read texts and make sense of them and having strong quantitative reasoning are crucial in the

modern information economy” (4). These points are made with respect to college admissions tests, not the careful samples of the entire student population offered by the NAEP and PISA. These points about student background are important to the larger picture I am trying to present. My goal here is to show that in terms of these large-scale tests, whether we look at results from a self-selected sample of college-bound high school students or a careful national sample, the results are fairly consistent: roughly 50 percent or more of students do not read as well as they could and should, certainly not well enough to do the work college faculty expect.

There is one further point with respect to standardized tests. When we put these results showing that 50 percent of students lack effective and efficient reading ability next to the fact that about half of those who begin any kind of postsecondary education never complete it (National Center for Education Statistics 2022; also discussed in Oliveri, Mislevy, and Elliot 2020), those two facts warrant attention. Recent research by a nonprofit, nonpartisan research organization sponsored by 3,600 colleges and universities across the country (National Student Clearinghouse Research Center 2020) also shows that the rate of degree completion has been flat for a number of years. For this reason, among others, reading deserves much more attention than it has received for years, in writing classes and across the curriculum.

A Different Vantage Point: Students' Actual Research and Writing

A broader model of critical literacy that involves all four language arts skills will be discussed as this book unfolds; the model includes the ongoing shift to all things digital. To explore both traditional and digital abilities, other kinds of data are needed. One option is students' own writing, especially writing that makes use of a variety of sources they have read or examined and that they use in research papers in college courses. The key ongoing study that provides data of this kind is the Citation Project work under the leadership of Sandra Jamieson at Drew University and Rebecca Moore Howard at Syracuse University. Their original data were collected in 2011–2013; the history of the Citation Project has been traced by Jamieson (2017). According to the project's website:

Citation Project researchers studied researched papers written by 174 first-year students at 16 US colleges and universities and collected in the Citation Project Source-Based Writing Corpus (CPSW). Intertextual analysis of these students' work produced a data-based portrait of student reading and

source-use practices, presenting an image of students moving into their sophomore year of college while only sometimes demonstrating expert reading, summary, and citation practices . . . Analysis of the 174 researched papers found the students working from one or two sentences in 94% of their citations; citing the first or second page of their sources in 70% of their citations; and citing only 24% of their sources more than twice. (<http://www.citationproject.net/>)

The Citation Project has produced a number of different reports on students' reading of source materials, as reflected in their written work (Jamieson 2013, 2017). Because information literacy plays a key role in the ways students find and use source materials, librarians have also contributed to this work and have additional useful data and insights (Li 2020). Librarians themselves have also been working on students' critical reading skills in conjunction with information literacy; their work is discussed in more detail below.

In several publications (full disclosure: I was the guest editor for Jamieson's 2013 article on what the Citation Project reveals about students' reading status), Jamieson makes clear that students' weak reading abilities contribute to the likelihood that they will resort to patchwriting and plagiarism. In her careful review of the project data, she demonstrates that students lack key skills to engage fully with sources. Not only do they lack the skills to find appropriate sources (about which the librarians have much more to say), but they are also unable to go beyond basic comprehension to analyze and evaluate materials they do find for authority, accuracy, currency, relevancy, appropriateness, and bias. She writes, "Similarly, if they tend to work from sentences rather than extended passages, as do 93.7 percent of the 1,911 citations in the sample, we might conclude that students are less likely to be able to understand the larger concepts in the texts they read, or to be able to assess how an argument unfolds, how sources are in dialogue with each other, or how the author uses an accumulation of references and sources to further a position of his or her own, or support, challenge, or revise a position or interpretation presented by another scholar" (Jamieson 2013, 16). These are the kinds of skills students are missing, based on an analysis of the careful sample collected by the Citation Project researchers. Further examination of where cited material comes from shows that almost 83 percent of citations are from the first four pages of the source, chiefly from the first two pages. This finding in combination with the use of quotation rather than summary or paraphrase suggests that most students did not fully engage with the material they used (Jamieson and Howard 2013, 122–123).

In conjunction with the Citation Project, Janice R. Walker and other researchers have been developing related work in the LILAC Project (Learning Information Literacy across the Curriculum). Like the Citation Project, LILAC is also a cross-institutional project, examining students' information skills at various institutions. In results reported thus far, the researchers used “research-aloud” protocols, screen-capture recordings, and questionnaires to examine what students said about their strategies and what they actually did when conducting research. An early report on this work (Blackwell-Starnes and Walker 2017) focuses mainly on where students look for information when doing research and what they seem to know about how to do research online. The LILAC project focuses on information literacy rather than on reading *per se*, but it shows that students have limited knowledge of how to access valid and reliable information, since they rely largely on open web searches through Google or Wikipedia rather than on curated sources found through library databases or other appropriate resources.

Two other reports of the findings of the LILAC Project reveal what happens when multilingual students conduct research, providing further insights about the evaluation of sources found—that is, about students' critical reading abilities. The first of these (Mina, Bohannon, and Li 2018) provides additional insight into students' research behavior. The study involved fifty Chinese first-year writing students at an American university who completed an online survey about their research skills and then did a fifteen-minute research-aloud protocol, which recorded their comments on their search process and captured their actual work on the screen. A total of 650 minutes of screen capture and audio resulted from the data collection process. The research questions were chosen to investigate three of the Association of College and Research Libraries (ACRL) Framework points, but the one of interest for the present discussion is focused on evaluating search results and sources to establish authority and credibility. (The ACRL and its Framework are discussed in more detail below.)

Findings show that students have an array of problems when conducting research that requires strong reading skills: “The participants' plan for using the sources identified further confirmed this inclination: only two participants (4%) attempted to paraphrase the information identified; four (8%) indicated that they would copy and paste what they found onto their own papers; and none of the participants took the time to identify more specific sections to quote or to summarize, or to consider how relevant information from the sources can be integrated into their own writing” (Mina, Bohannon, and Li 2018, 259).

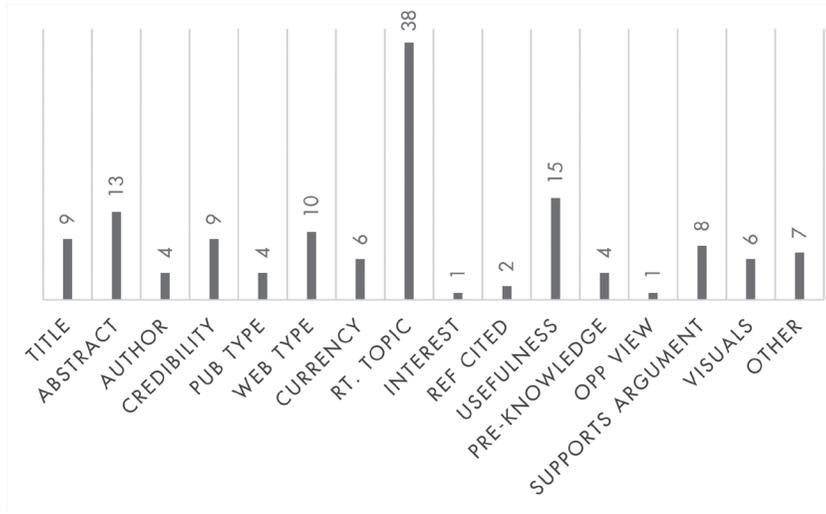


FIGURE 1.0. Criteria for evaluation of sources (Mina, Bohannon, and Li 2018, 261)

A more general overview of the criteria students use to evaluate sources appears in figure 1.1, drawing on the data from all fifty students. The authors point out that they did not have any direct insight from the students as to what constituted a judgment of relevance to their research topic. But it is clear to the researchers on this study that these students are novices at evaluating search results and then in evaluating the sources themselves. In summarizing the results of this study, the authors write: “Participants demonstrated narrow search scope and had difficulty accessing the information they needed for their writing projects. They also used limited search strategies without being able to refine or modify their searches. Further, most participants lacked strong search and source evaluation skills that resulted in their determining credibility randomly rather than systematically or consistently” (Mina, Bohannon, and Li 2018, 262–263). Reading challenges show up, this study shows, when students try to do research for their own writing projects. This kind of research provides a different perspective than the testing data because it looks directly at student work, in this case with a multilingual population.

The second report presents a different batch of data from the LILAC Project, with a larger multilingual population of 469 students. Like the previous study, this one entailed survey data and research-aloud protocols from typical college students, although the non-native speakers outnumbered native English speakers by about five to one. A sample of forty-five of the collected videos is

included in this report (Li 2020). Although the students report fairly high confidence in their ability to evaluate sources, a close examination of their actual search behavior presents a different picture. They run too many searches and spend little time reading the sources they do find or evaluating them according to key criteria such as authority, accuracy, and currency. A marked flaw in their search strategies is the use of source-type phrasing along with content-based terms, such as “scholarly articles on global warming” (Li 2020, slide 14). Moreover, students’ search terms are frequently general and do not seem to become more refined as they continue to search. Finally, with very few exceptions, students do not seem to understand that research involves a nonlinear process that draws heavily on prior knowledge. These points all apply to critical reading, of course, and so the LILAC Project findings provide further evidence of the reading challenges students face when they attempt to do research.

Information Literacy: Librarians’ Look at Reading

The LILAC Project, it should be clear, is closely connected to the Citation Project, using a similar approach to examine samples of actual student research and writing with an eye toward the information literacy skills students need to do research for academic and personal purposes. And information literacy is the key concern of library faculty. College and university librarians together with other kinds of research librarians constitute a separate section within the American Library Association, the Association of College and Research Libraries. The ACRL has developed its own Framework for defining and evaluating college students’ information literacy (Association of College and Research Libraries 2016). This Framework document has given rise to a number of published reports. Among them, the most useful for the present discussion is the work of Project Information Literacy (PIL), a nonprofit research organization that studies information literacy at colleges and universities across the country. PIL is directed by Dr. Alison Head, currently at Harvard University. According to its website, “93 U.S. public and private colleges and universities, community colleges, and 34 high schools have participated in PIL’s institutional samples during the past decade. PIL has produced 12 open access reports since 2009” (Project Information Literacy 2021). Its latest findings, as with all the other reports cited here, show students’ difficulties in reading and evaluating all kinds of materials.

The work of librarians goes across all academic disciplines, since students who need help with research often go to the library regardless of the course

topic or their specific major. The work of the ACRL and other library faculty, then, offers a wider lens through which to view students' abilities and needs. The Framework document and the studies done to date offer a compelling argument for much more focus on reading, not only in first-year writing courses but in every course in higher education. This goal has not been discussed in recent critiques of US higher education, like that of journalist Will Bunch (2022), but perhaps writers of these critiques will take up the idea. One writing studies scholar who has embraced the importance of reading is Ohio State University literacy historian Harvey J. Graff (2022), whose reasoning is discussed in chapter 5; others will surely follow in his footsteps, in writing studies and beyond.

Two studies from the librarians provide a useful picture of students' research behavior and their ability to evaluate sources. First, a study published in 2012 examines first-year students' research experiences, using a combination of online surveys of 1,941 high school and college students and interviews with 35 of them from six colleges and universities around the country (Head 2012, 11). Thus, the findings are based on students' self-report of their research experiences, not direct observation of actual behavior during research or writing. Still, the difficulties students report are revealing: 43 percent said they had a hard time summarizing material from different sources, 34 percent reported difficulty reading and comprehending sources, and 14 percent reported trouble evaluating sources for credibility (15). Summarizing these and other findings from the study, Alison J. Head writes: "Our findings suggest many freshmen were overwhelmed with the first part of the research process—finding—and were often relieved when they had some sources in hand. But other problems inevitably arose for most of them. They soon found themselves struggling with reading, comprehending, evaluating, and applying the scholarly sources they had found. These were the higher order thinking skills necessary for college-level research" (19). By taking all of the students' reports together, Head concludes that most of them had trouble with what can fairly be called critical reading.

The second, more recent study (Head et al. 2018) examined students' interaction with news sources of various kinds, seeking answers to questions about what they consider to be "news," what they actually do with news sources, and how good they are at critical evaluation of the materials they use. In this study, according to Head and her colleagues, "a sample of 5,844 respondents returned an online survey administered at 11 US colleges, universities, and community colleges. Thirty-seven follow-up telephone interviews and

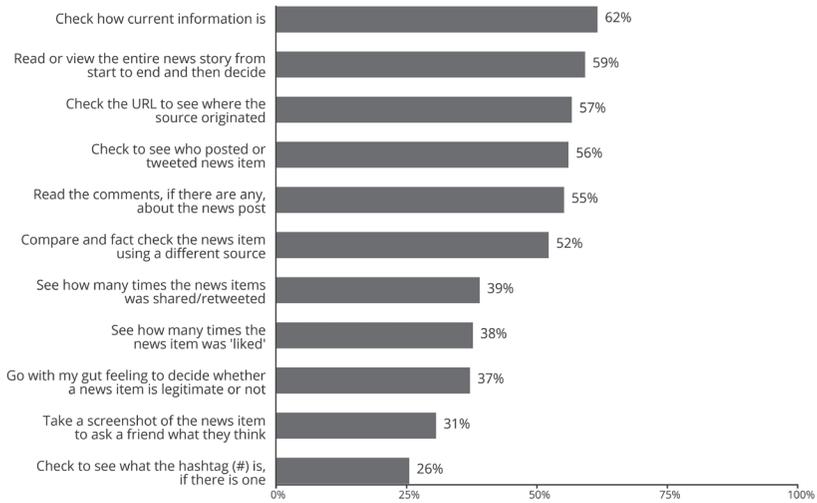


FIGURE 1.1. Information literacy source evaluation: student strategies

write-in responses to an open-ended question from more than 1,600 survey respondents provided qualitative data about their opinions and perspectives. A computational analysis of Twitter data from 731 survey respondents and a larger Twitter panel of more than 135,000 college-age persons provided observational data about news sharing behaviors” (3).

The study produced five key “takeaways” for educators and others (Head et al. 2018, 5–24), of which the last is most pertinent for the current discussion: “Takeaway #5: Traditional standards for evaluating news are increasingly problematic” (24). For the present purposes, the summary of source evaluation strategies in figure 1.2 is instructive (21).

These results show that 40 percent or more of students don’t use any of the strategies listed here, suggesting their limited ability to evaluate material for authority, accuracy, currency, relevance, appropriateness, and bias. Further findings suggest that while students do use library databases to find sources of information, along with consulting their instructors and examining traditional sources like printed newspapers, for their personal lives they rely heavily on social media sources. A key finding is that students have limited ability to judge information coming at them from multiple sources, in great quantities, and at high speeds. When asked whether new studies confirm this result, Professor Head said she believed these findings have not changed over the past few years (personal communication, December 18, 2020). Given the results of other studies discussed in this chapter, this answer seems correct.

The librarians' work, then, also points to students' difficulties reading and evaluating source materials of all kinds.

Online Reading

It isn't only librarians who are concerned about students' reading abilities, especially online. The famous or infamous "digital natives" are thought to be much better at reading all things digital online, including both alphabetic texts on screens large and small and the full array of visual texts, social media posts, and other kinds of materials. A group that has studied reading from this angle reports the same array of results as do researchers testing more conventional reading of traditional print texts. If anything, the picture that emerges is, according to investigators at Stanford University's Graduate School of Education (Stanford History Education Group 2016), "dismaying . . . [and] troubling" (McGrew et al. 2017, 5) in their description of their findings in a study of students in middle school, high school, and college working with an array of online materials. The researchers at the Stanford History Education Group (SHEG) have done two similar studies to explore students' critical reading in the online realm, obtaining similar results in both cases (Stanford History Education Group 2016; Stanford History Education Group and Gibson Consulting 2019). For the purposes of this discussion, the more recent of these two studies gives a better picture of students' abilities nationwide because it reports results from a national sample of US high school students.

To take a careful look at students' abilities, the SHEG researchers designed a study of online critical reading. They set up six un-timed tasks for students at the high school level, mostly juniors and seniors, requiring them to read and evaluate different kinds of online materials. Here is an overview of the kinds of tasks given to the students:

Evaluating Video Evidence

Evaluate whether a video posted on Facebook is good evidence of voter fraud.

Webpage Comparison

Explain which of two websites is a better source of information on gun control.

Article Evaluation

Using any online sources, explain whether a website is a reliable source of information about global warming.

Claims on Social Media 1

Explain why a social media post is a useful source of information about background checks for firearms.

Claims on Social Media 2

Explain how a social media post about background checks might not be a useful source of information.

Homepage Analysis

Explain whether tiles on the homepage of a website are advertisements or news stories. (Stanford History Education Group and Gibson Consulting 2019, 10)

It is easy to see that these tasks entail the kinds of materials students are likely to encounter and rely on for school assignments or for their own purposes. The 2019 report provides a detailed description of where and how the SHEG researchers administered these tasks to students, as well as the statistical analysis of the results. The study was done as follows: “From June 2018 to May 2019, we administered an assessment to 3,446 students, a national sample that matches the demographic profile of high school students in the United States. The six exercises in our assessment gauged students’ ability to evaluate digital sources on the open internet” (Stanford History Education Group and Gibson Consulting 2019, 3). Thus, the study was carefully designed to show what a sample of students can do when reading online texts of different kinds, alphabetic and visual, with the sample drawn from sixteen school districts in fourteen states (7–8). The study was done prior to the presidential election in November 2020 and also prior to the pandemic.

The results show that almost 60 percent of the students could not do these tasks at all, and only thirteen students (0.038%) attained a perfect score (Stanford History Education Group and Gibson Consulting 2019, 23). The findings make clear the status of students’ skills regarding online reading and the evaluation of texts. The researchers point out that efforts to help students read more effectively using a checklist—such as evaluating material for authority, accuracy, currency, relevancy, appropriateness, and bias—do not address the more fundamental critical literacy skills needed for effective evaluation of all kinds of materials, print or digital. They cite yet another study done by SHEG researchers that makes clear the kinds of skills expert readers have and use with all kinds of texts.

In the lateral reading study (Wineburg and McGrew 2017), the SHEG investigators compared the evaluation strategies of professional fact-checkers to

those of faculty with PhDs in history and Stanford undergraduate students. While not a representative sample, this population does provide useful data on how professionals approach the verification of information, compared to students. The main findings of the study are that students and even people who hold PhDs are easily fooled by misinformation and disinformation from digital sources, chiefly because they rely entirely on vertical reading within a website; by contrast, professional fact-checkers read laterally, going from source to source as well as to other sites to check the accuracy of information. They were able to assess sources much more quickly and accurately through two strategies: lateral reading and taking bearings. The SHEG researchers define the lateral reading approach this way:

When reading laterally, one leaves a website and opens new tabs along a horizontal axis in order to use the resources of the Internet to learn more about a site and its claims. Lateral reading contrasts with vertical reading. Reading vertically, our eyes go up and down a screen to evaluate the features of a site. Does it look professional, free of typos and banner ads? Does it quote well-known sources? Are bias or faulty logic detectable? In contrast, lateral readers paid little attention to such features, leaping off a site after a few seconds and opening new tabs. They investigated a site by leaving it.

Paradoxically, a key feature of lateral reading is *not reading* . . . It requires knowledge of *sources*, knowledge of how the Internet and searches are *structured*, and knowledge of *strategies* to make searching and navigating effective. (Wineburg and McGrew 2017, 38, original emphases)

The study showed that the fact-checkers made quick and efficient use of lateral reading to investigate the sites they were given. They came up with correct evaluations significantly more quickly and more correctly than did the faculty with PhDs or the students.

A second key part of fact-checkers' strategy is what Sam Wineburg and Sarah McGrew (2017, 13, original emphasis) describe as "taking bearings," which they explain as "a concept borrowed from the world of navigation. Exploring an unfamiliar forest, experienced hikers know how easy it is to lose their way. Only foolhardy hikers trust their instincts and go traipsing off. Instead they rotate their compass's bezel to determine *bearings*—the angle, measured in degrees, between North and their desired destination. Obviously, taking bearings on the web is not as precise as measuring an angle in degrees. It begins, however, with a similar premise: When navigating unfamiliar terrain, first gain a sense of direction." This approach, as practiced by the fact-checkers, took them to other sites where they could get information

on the source of the original site, check its claims with authoritative and independent sources, and find out what other verified resources might have said on the same topic, issue, or claim. The fact-checkers were 100 percent correct in verifying accurate information and in identifying inaccurate or misleading claims. The differences in performance between the fact-checkers on the one hand and the students and PhDs on the other were statistically significant in all cases. This further study by the SHEG researchers, then, shows clearly that the digital natives are no better at reading and evaluating material online than they are with traditional texts on screens or on paper. In the first of the SHEG studies discussed here (2016), 50 percent to 80 percent of the students were unable to evaluate the online materials accurately, with similar results in the more recent study (2019) of a national sample and the separate study of fact-checkers (Wineburg and McGrew 2017).

One additional study by the SHEG group provides further evidence of students' reading troubles and current or recent approaches to addressing them in the digital environment. In a more recent study, Wineburg and his colleagues (2020) asked 263 college students beyond first-year status at a large state university to perform two tasks: evaluate a satirical news website and then one that was a supposedly nonpartisan source run by a former lobbyist. The students were able to access the internet and were asked to evaluate the trustworthiness of both sites. They had been taught evaluation strategies such as the CRAAP test (currency, relevance, authority, accuracy, and purpose; cf. Breakstone et al. 2018), which, as Wineburg and colleagues point out, are based on print texts and their usual resources. However, as they write in a more recent study: "The basic assumptions of the CRAAP test are rooted in an analog age. Websites are like print texts. The best way to evaluate them is to read them carefully. But websites are not variations of print documents. The internet operates by wholly different rules" (Wineburg et al. 2021, 8). Results show the kinds of trouble students had with these tasks:

- OVER TWO-THIRDS never identified the "news story" as satirical.
- NINETY-FIVE PERCENT never located the PR firm behind the supposedly "nonpartisan" website.

Often students:

- FOCUSED exclusively on the website or prompt, rarely consulting the broader web
- TRUSTED how a site presented itself on its About page

- APPLIED out-of-date and in some cases incorrect strategies (such as accepting or rejecting a site because of its top-level domain)
- ATTRIBUTED undue weight to easily manipulated signals of credibility—such as an organization’s non-profit status, its links to authoritative sources, or [its] “look.” (Wineburg et al. 2020, 3, original emphases)

These results show that despite the widespread belief that the “digital native” students are adept users of the internet as well as critical readers, the Stanford group’s work shows consistently that they are not. In an even more recent study, to be discussed in detail in chapter 7 (Breakstone et al. 2021), demographic variables show that a variety of personal and other factors also play a role in limiting students’ ability. Moreover, as Wineburg and his colleagues (Wineburg et al. 2020, 6) observe, democracy relies on readers who can distinguish between fact and fiction, so there are much larger implications from this study and the others these scholars have conducted.

Summary

Whether we look at the big, standardized tests of students’ reading or very close analyses of their use of source materials in their own writing, the results are fairly consistent. Moreover, the results seem to apply to both self-selected samples of students who hope to attend college (and so take the ACT and/or the SAT) and careful national samples designed to represent all students. Whether we look at students’ reading of traditional sources or their ability to judge digital resources of different kinds on screens large or small, the results are consistent there as well. It’s the same story: all these studies make clear that students’ critical reading skills are not where they could and should be. Clearly, not only writing teachers but all college and university faculty need to be paying much more attention to this issue. It is a fixable problem, but to fix it, a deeper understanding of the origins of approaches to reading is essential, as is a rigorous definition of critical literacy. I present a first sketch of that definition at the end of part 1, as it must reflect the current context in which students live and study; it will be expanded and enhanced over the course of the discussion. The history of the teaching of this critical literacy at the college level is largely untold. Literature faculty *have* given attention to reading, such as Louise M. Rosenblatt’s widely respected proposal of “reader-response” theory, among other proposals that will be considered in chapter 5. In addition, a small group of writing studies scholars has been interested in reading and

has recently managed to raise its profile. However, reading, taken together with writing, listening, and speaking, has suffered from inconsistent, uneven attention over the entire history of the field. In the chapters that follow, this history will be excavated from the roots of writing studies, beginning with English A at Harvard (instituted in 1885) through the Dartmouth Conference in 1966 to the present moment, as reading is variously integrated or supported through corequisite courses at community colleges and open access institutions or ignored in postsecondary settings of all kinds. Throughout the discussion, it should be clear that the focus here is on the field of rhetoric and composition/writing studies (United States Department of Education code 23.13), though *all* faculty, not just those in writing studies, need to pay much more attention to critical literacy as defined here.