

## **Fostering Information Literacy Competency**

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*Do any of these scenarios “ring a bell”?* Your student papers and assignments do not include reasonable sources or all look strangely alike on some topics despite constant updates to academic search tools. Some cite non-scholarly sources or even projects students at other universities have posted on the Internet. Frankly, you suspect that some might be plagiarized. If these examples seem familiar, failures in information literacy may be a large part of the problem. The purpose of this paper is to define information literacy, to pinpoint problems that information illiteracy creates, and to suggest curricular and programmatic solutions to these problems.

### **Literacy Redefined**

*What is information literacy and what does it have to do with Standards for the CCCs?*

“Information literacy is a set of abilities requiring individuals to recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information” (American Library Association, 1989, p.1). For some of us who just reviewed the new revised standards for the Certificates of Clinical Competence in Speech-Language Pathology (CCC-SLP), this sounds a lot like Standard III-G!!! Standard III-G for the CCCs-SLP requires “evidence-based practice.” Evidence-based practice (EBP; Sackett, Rosenberg, Gray, & Richardson, 1996; Straus & Sackett, 1998) includes the following assumptions:

- That clinical skills grow with the application of cutting edge data, not just personal experience;
- That expert clinicians should seek new information to improve

- their effectiveness; and
- That clinicians should be data seekers, data integrators, and application evaluators.

To achieve these goals, steps in implementing evidence-based practice might include the following for a given clinical problem;

First, pose a clear and concrete question. This in and of itself is not so easy. A question such as, “What is the best treatment for stuttering?” is not likely to yield informative results, while a question such as “What is the efficacy of operant treatment for stuttering in preschool children?” may provide data that are more readily interpreted.

Next, one should search the literature. It is this step that will be a large focus of our discussion, because it is a step fraught with complications when done incorrectly. How does one search for information appropriately and efficiently?

Following searches, students (or clinicians) should critically evaluate the information that was obtained. Is it reliable and valid? This important step presumes that students know how to evaluate published data and determine whether or not it is relevant to their specific question and case.

Next, EBP presumes that one will integrate the information into the specific case at hand, taking the client’s specific concerns into account.

Finally, and very importantly, EBP is evaluated by examining the result you obtain from applying your findings.

As indicated above, we find direct parallels between EBP as endorsed by the CCCs and the information literacy competency standards. Importantly, it is

difficult to achieve the goals of EBP if one cannot obtain and interpret the evidence appropriately.

In setting the *Information Literacy Competency Standards for Higher Education*, the Association of College and Research Libraries (2000) list the following five standards:

1. The student determines the nature and extent of information needed.
2. The student accesses needed information effectively and efficiently.
3. The student evaluates information and its sources critically and incorporates selected information into his/her knowledge base and value system.
4. The student individually, or as a member of a group, uses information effectively to accomplish a specific purpose.
5. The student understands many of the economic, legal, and social issues surrounding the use of information and accesses and uses information ethically and legally.

Let's go through each of these skills individually.

### **1. The student determines the nature and extent of information needed.**

The student starts by defining and articulating the need for information. This involves doing some background reading or discussion with others to become more familiar with the topic, formulating a thesis statement and questions, and possibly revising or refining the questions based on initial exploratory research.

At this stage, the student also identifies the variety of types and formats of potential sources for information. There are a number of ways to contrast the options. One is by intended audience. (Is it meant for lay or popular reading or

for professional or scholarly readers? Is it meant to sell something? Is it commercial?) Students often cannot appreciate the level at which material is provided. For Web-based materials, we will provide you with a suggested evaluation tool later in this article.

Students also need to distinguish between primary and secondary sources. Often they cannot make this distinction and are as likely to summarize material from a text or a summary review as to retrieve original sources (or write “Smith (1980) as reported by Jones (1990).”). If you feel strongly about primary sources, define what you mean for the students.

The concept of peer-review is also very unclear to some students. Some databases include a limit option allowing students to retrieve only those materials that are from scholarly peer-reviewed journals. Critically, most of what is out there on the open Internet is NOT peer-reviewed. If your intent is for students to complete an assignment using peer-reviewed materials, you will need to explain what that means, why it is important, and how to search for them.

An important step in doing research is **in determining the costs and benefits of acquiring the needed information**. Virtually everything is obtainable these days, but at some cost of time or money. For instance, is the resource you want in the library? Can it be obtained through interlibrary loan? Can it be viewed or purchased from the Internet?

Students must also determine a realistic plan for acquiring the needed information and completing the project. Here is a tip for teachers and students to make sure that students allocate the appropriate time and resources to the assignment. Refer them to the Assignment Calculator from the University of Minnesota (<http://www.lib.umn.edu/help/calculator/>). As shown on the sample screen below, it allows students to choose a general topic area, enter the due

date, and receive step-by-step instructions on how to go about a scholarly search and the paper preparation process.

The screenshot shows the 'Assignment Calculator' interface. At the top, it says 'UNIVERSITY OF MINNESOTA Assignment Calculator You CAN beat the clock!!'. Below this, the subject is 'Communicative Disorders/Therapy Research', starting on 3/2/2004 and ending on 3/20/2004. A message states: 'According to the dates you have entered, you have 17 days to finish.' There are buttons for 'Printer-friendly Version' and 'Submit for email reminders!'. A 'Want to try a different date?' section allows users to input 'Start Date' (3 - 2 - 2004) and 'Due Date' ( - - - 2004) with a 'Re-Calculate Schedule!' button. The main content is a list of five steps, each with a deadline and a brief description of the task, along with links to helpful resources.

Once students have come up with a list of possible sources of information, they need to re-evaluate the nature and extent of information needed to complete the assignment. It is very tempting in today's world when using university databases that provide some full-text of articles, to only read or reference those that could be obtained in full-text electronic format from the comfort of dorm or home, rather than those that require actually going to the library. More seriously, when university and other fee-based databases are not available, students may only rely on those sources of information available on the open Internet. In one of the following sections, we will show how student reliance on only full-text options can produce papers with a fairly "cloned" quality.

## 2. The student accesses needed information effectively and efficiently.

To access needed information effectively and efficiently, it is critical that the researcher select the most appropriate investigative methods or information retrieval systems for accessing information. For those of us in higher education, that really translates into knowing your search engine and interface (database screen), as we will detail.

Most of us are familiar with certain types of search engines such as Google, Yahoo, and Alta Vista. As we have noted, these search the open Internet and are less likely to access scholarly papers or materials protected by copyright. Many of us are also familiar with the PubMed version of MEDLINE, the free database from the National Library of Medicine, that searches millions of records of scholarly biomedical journals and produces citations and abstracts for those that are identified as relevant to your search. In recent years, most university libraries have invested in fee-based databases provided by vendors, such as EBSCOhost and Ovid, that essentially provide searching of databases, such as ERIC, CINAHL, Health Source: Nursing/Academic Edition, LLBA, MEDLINE, and PsychInfo. Not only do these databases index scholarly journals (and in some cases, books and chapters), as well as a broad array of other materials, many now also provide full-text access to the article contents embedded within the database. [For those practicing clinicians who no longer have access to university resources, a good fee-for-service alternative is a new database for hearing and speech literature called The Dome (<http://www.comdisdome.com>)] These fee-based databases offer tremendous advantages, but also pose real challenges for appropriate student use. We will illustrate some considerations in using them in the next section.

Students need to appreciate what types of information are available through the database that they choose. Databases index a defined set of journals or other materials, span a specific range of years, and may include citations, abstracts, or full-text of articles. Some databases provide an option to

select more than one database to search simultaneously. Databases also provide options for setting limits on a search to refine the retrieval. If the student fails to use these options effectively, the default search will produce fewer relevant results.

Next, students need to appreciate **what search language or parameters will be required in the search command**. While it may seem simple to type in a term such as *dysphagia*, an undefined search in a multidisciplinary database, such as Academic Search Premier via EBSCOhost, produces nearly 1,000 hits and by adding the databases ERIC, MEDLINE, and PsychInfo to the search for better journal coverage, we yield an astounding 11,000 citations! Students should not have to weed through such a massive result and need to refine the search. One way of accomplishing this is by using the Boolean connectors AND, OR and NOT. For example, by adding another relevant search term with the Boolean connector, AND, the results will contain a much more defined set. To illustrate, searching *dysphagia AND children AND speech* will produce citations to all articles in the database containing all three words *dysphagia*, *children*, and *speech*. This will prove to be a much more defined set of articles than simply searching on the single term, *dysphagia*.

Along with the appropriate use of Boolean connectors, to implement and construct an efficient search strategy, students need **to identify keywords, synonyms, and related terms appropriate to the discipline and question**. Searches quickly go awry when students use ambiguous search terms, such as *SLI* (which is an abbreviation for many things besides Specific Language Impairment), or limiting search terms (such as *stuttering*) when a more complete search will result from using the root word, *stutter*, combined with the truncation character \* (asterisk). Searching with *stutter\** will retrieve variations on the word *stutter*, such as *stutter*, *stutters*, *stuttering*, and *stuttered*. Furthermore, it would be useful to search synonyms such as *dysfluency*, *disfluency*, (or *dysfluen\** or *disfluen\**). The search example here could be: *stutter\* OR disfluen\**.

One strategy is to try alternate wording of the search terms until a more desirable outcome is achieved. When using a database that contains a thesaurus, such as ERIC and PsychInfo, for example, or MEDLINE's MESH terms, you may more easily select appropriate keywords for a search in a particular database without having to make guesses and go through as much trial and error searching.

Once finding initial citations to articles in one or more databases that appear relevant to the research question, students need to evaluate the quantity, quality, relevance, and scope of the resources they identify, as well as gaps within obtained information, and revise the search as necessary. As they do this, they should be recording pertinent citation information for later use in establishing their references. This may be done with pencil and paper or through the use of an online clipboard or folder feature, if offered as a feature in the database.

### **3. The student evaluates information and its sources critically and incorporates selected info into his/her knowledge base and value system.**

Most of us have expectations that go further than simply gathering together good resources. We want students to **critically evaluate information and its sources and incorporate only selected information in their final product**. We expect them to extract main ideas and restate them in their own words or quote appropriately. (More on academic dishonesty later!). We also expect them to examine information to evaluate validity, reliability, accuracy, and potential bias. These issues become critical when students use the open Internet for information. There is some great information out there, but students (and other consumers of the Web) need to be able to assess the value of Web site information. One good resource for Web site evaluation from the University of Maryland, College Park Libraries is "Evaluating Web Sites" (<http://www.lib.umd.edu/UES/evaluate.html>) which guides the user to asking

questions about the purpose for which the information is posted, the source of information, its author, and how recently the information has been updated. A checklist also is included.

**4. The student individually, or as a member of a group, uses information effectively to accomplish a specific purpose.**

During the next stage of a project, students would be expected to **synthesize information and compare it with prior knowledge** about the topic to determine the value added by the new information, or identify contradictions and reconcile differences. One way of assuring that this step occurs is to remind students to research the conclusion that they reach in the paper as well as the original topic. In other words, if you review a broad literature and conclude that auditory discrimination practice is a worthwhile component in articulation therapy, re-run your search using the terms *auditory discrimination AND articulation* to see if you missed anything.

**5. The student understands many of the economic, legal, and social issues surrounding the use of information and accesses and uses information ethically and legally.**

This final and non-trivial skill in information literacy requires understanding privacy and security issues, free versus fee-based access, censorship and freedom of speech, and ever more importantly, intellectual property and copyright /fair use concerns. (Napster and “cut and paste” papers anyone?)

**Why Do We Feel That This Is An Important Issue For CAPCSD Members?**

*Some troubling trends are emerging.* According to Philip Davis (2003), between 1996-2000, student term paper bibliographies grew incrementally, but contained progressively fewer scholarly resources. It is evident that students are

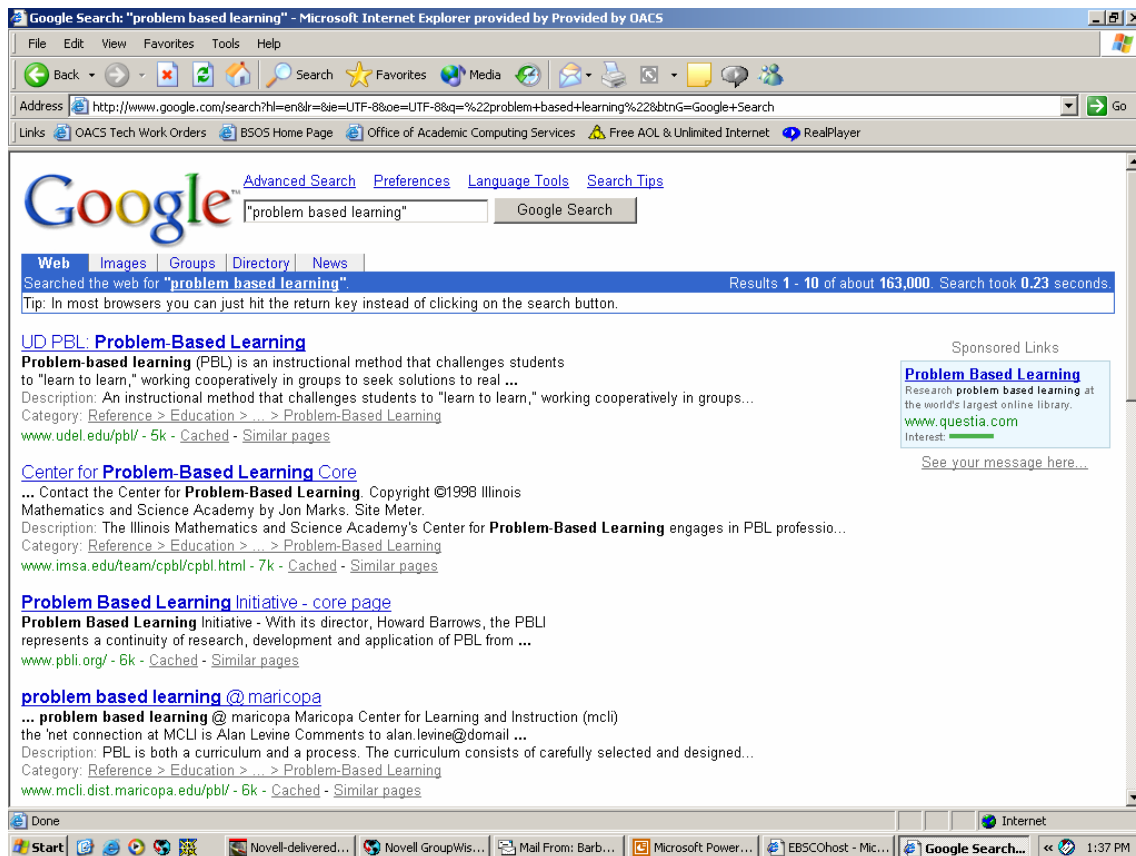
relying more and more on general search engines (e.g., Google), full-text articles in searchable databases, as well as non-peer reviewed Web sites for their academic assignments. It is clear they (and their professors) do not always know the difference between options such as the Internet search engine, Yahoo, and fee-based scholarly databases. Thus, professors who do not want unpleasant surprises need to let students explicitly know their expectations. Unfortunately, it is not just the students who are “Googling” ...

*“If ‘Google has won’...it deserves the victory. ...I don’t know anyone who wouldn’t prefer sorting through too much material to scouring library shelves or limited databases to find enough... If a Google search can accomplish that more effectively, I say hurray for Google... it eliminates the middleman between user and information – how wonderful! There are still many niches for librarians to fill...”*

A fellow academic, at a State College in Florida, *Chronicle of Higher Education*, letters to the editor, March 21, 2003.

Instructors and students need to understand that Google and scholarly, academic databases access completely different types of information. As a field that relies on its research base and urges students to adopt evidence-based practice, we need to demonstrate that the scholarly literature is not well-represented on the open Internet.

In this section, we briefly illustrate how search engines like Google and fee-based databases produce different responses to identical queries. We will undertake two illustrative examples, one of a professor seeking to determine whether or not problem-based learning is an effective approach to teaching, and one which asks if auditory feedback alteration is an effective treatment for stuttering.



Let us start with the first example. A professor wishes to know whether or not to adopt problem-based learning because it has been touted in recent discussions of improved pedagogy. First, we go to Google, on the open Internet and type in *problem-based learning*. Our results are interesting – over 16,000 hits. From an initial scanning of items on the first page, most of are relatively high quality, produced by educational institutions. However, the content is inappropriate for our question. The Web sites mainly endorse the approach and explain how to implement it. They do not offer information about whether or not it has been shown to be an effective alternative to current pedagogy.

In our next attempt, we go to MEDLINE (PubMed), the free database of scholarly articles indexed by the National Library of Medicine. We re-run the search on *problem based learning*. The resulting search yields fewer than 2,000 citations. Many of these are in fact geared toward evaluation of the effectiveness

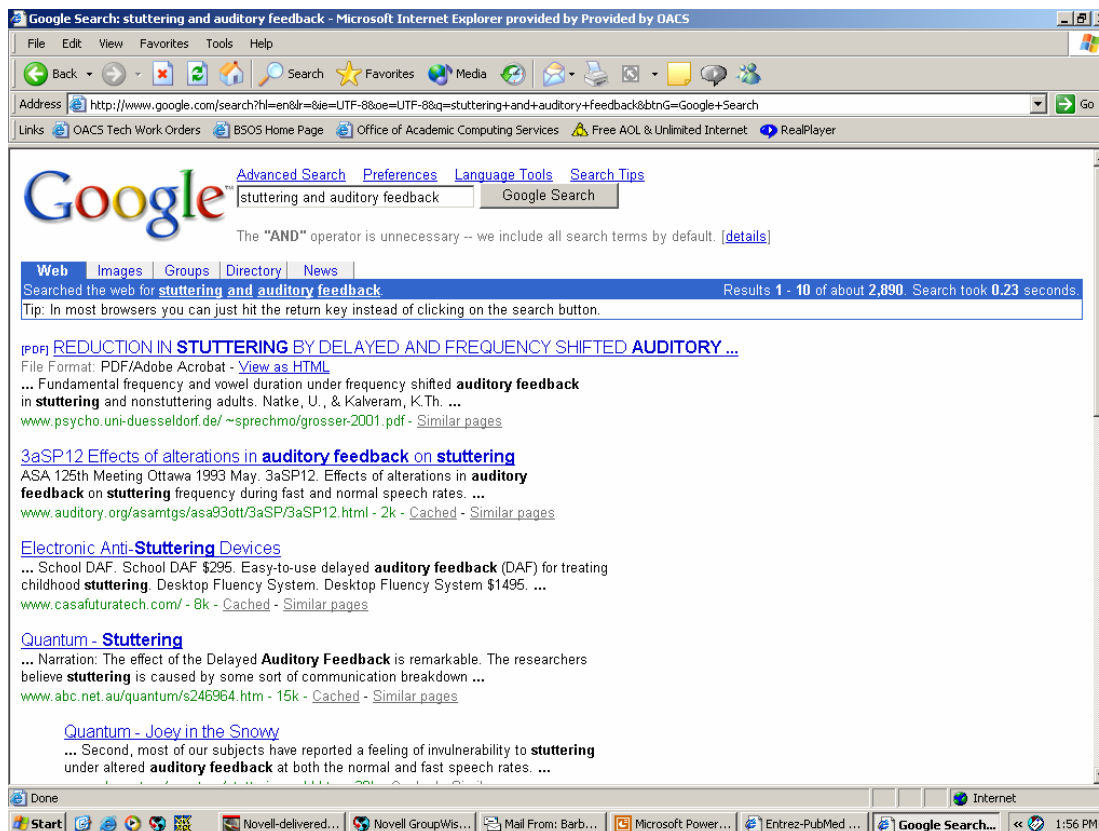
of the approach, but it becomes clear that most have studied the question in medical professions, such as nursing. Thus, to explore further, we specify our search as *problem based learning AND (audiology OR speech)*, using the search grammar suggested by the program. Perhaps to our surprise, we find only seven articles that address application to our discipline, none from the major American journals in speech and hearing. While it is reasonable to extract from other disciplines to our own, it becomes clear that documenting the appropriateness of this approach to our field is only in its infancy.

The screenshot shows the Entrez-PubMed search results page. The search query is "problem based learning AND (audiology OR speech)". The results are displayed in a list format, showing the first five items. Each item includes a checkbox, the author's name, the title, the journal information, and the PMID. The first article is by Freeman M. titled "Reflective logs: an aid to clinical teaching and learning".

| Item | Author                        | Title  | Journal  | PMID                                    |
|------|-------------------------------|--|--|---|
| 1    | Freeman M.                    | Reflective logs: an aid to clinical teaching and learning.                       | Int J Lang Commun Disord. 2001;36 Suppl:411-6.   | 11340823 [PubMed - indexed for MEDLINE] |
| 2    | Bruce C, Parker A, Herbert R. | The development of a self-directed and peer-based clinical training programme.   | Int J Lang Commun Disord. 2001;36 Suppl:401-5.   | 11340820 [PubMed - indexed for MEDLINE] |
| 3    | Baxter S, Gray C.             | The application of student-centred learning approaches to clinical education.    | Int J Lang Commun Disord. 2001;36 Suppl:396-400. | 11340819 [PubMed - indexed for MEDLINE] |
| 4    | Gascoigne M, Marks L.         | Safe swallowing?--an opportunity for students working with dysphagic clients.    | Int J Lang Commun Disord. 2001;36 Suppl:363-8.   | 11340813 [PubMed - indexed for MEDLINE] |
| 5    | Parker A, Emanuel R.          | Active learning in service delivery: an approach to initial clinical placements. |  |   |

In our next search, we simulated the task of a student who wanted to know about treatment of stuttering using altered auditory feedback. Once again, we went first to Google. What we got here was a true mix, the kind that bedevils many professors attempting to mark papers. Of the 2,000 Web sites that were identified, a large proportion of the top listed sites on the first few pages were commercial ventures selling auditory aids for people who stutter. A few were

sites featuring recently publicized aids on shows such as Oprah and Today. A few were unpublished conference papers. A few were chat rooms discussing personal experiences with devices. Taken together, they provided a relatively poor mix of resources for a student to determine whether or not auditory aids were appropriate treatment options for people who stutter.



Next, we went to the database, Academic Search Premier, and include ERIC, MEDLINE, PsychInfo, and other major health-related databases in its search scope. We retrieved far fewer items, but the articles did tend to address whether or not auditory feedback affected stuttering frequency and severity. However, we note the consequences of working from home or other remote location from off campus, where we insist that ONLY those items with full-text be displayed: we got only 12 hits. For professors who wonder why some term

papers seem to be clones of one another, the answer may not be plagiarism, but simple dependence on the same small set of easily obtainable materials.

Somewhere between 2,000 and 12 sources, there is room for very good student research work. We suggest that instructors teach students to treat the open Internet with care and the full-text ease of university-supported databases with caution as well. The true answer to any question will come from judicious use of both sorts of information sources as appropriate to the research question.

The screenshot shows a Microsoft Internet Explorer browser window displaying the EBSCOhost search results page. The browser's address bar shows the URL: [http://web8.eprint.com/resultlist.asp?tb=1&\\_ug=dbs+0+ln+en%2Dus+sid+13C28AC9%2DC362%2D4264%2DAFDC%2D75955BA28D54%40Sessionmgr4+A2FD&\\_us=bs+stutterj](http://web8.eprint.com/resultlist.asp?tb=1&_ug=dbs+0+ln+en%2Dus+sid+13C28AC9%2DC362%2D4264%2DAFDC%2D75955BA28D54%40Sessionmgr4+A2FD&_us=bs+stutterj). The page header includes the EBSCOhost logo, navigation tabs for Basic Search, Advanced Search, and Choose Databases, and a search bar. The search results are displayed in a table with three entries:

| Refine Search  | Search History / Alerts | Results   |
|--|-------------------------|---|
| <p>1 to 10 (of 12) Pages: 1 2      Sort by: Date      Add (1-10)</p> |                         |   |
|  |                         | <p>1. <a href="#">Effects of Monitoring Condition and Frequency-Altered Feedback on Stuttering Frequency</a>. By: Kalinowski, Joseph; Stuart, Andrew; Wamsley, Loma; Rastatter, Michael P.. Journal of Speech, Language &amp; Hearing Research, Dec99, Vol. 42 Issue 6, p1347, 8p, 1 graph; (AN 4521969)<br/> <a href="#">HTML Full Text</a>   <a href="#">PDF Full Text</a> (810K)   <a href="#">Add</a></p> |
|  |                         | <p>2. <a href="#">Effect of extended exposure to frequency-altered feedback...</a> By: Armonson, Joy; Stuart, Andrew. Journal of Speech, Language &amp; Hearing Research, Jun98, Vol. 41 Issue 3, p479, 12p, 1 chart, 4 graphs; (AN 734103)<br/> <a href="#">HTML Full Text</a>   <a href="#">Add</a></p>   |
|  |                         | <p>3. <a href="#">The effects of frequency-altered feedback on stuttering...</a> By: Ingham, Roger J.; Ingham, Janis C.; Cordes, Anne K.; Moglia, Richard; Frank, Peter. Journal of Speech, Language &amp; Hearing Research, Jun98, Vol. 41 Issue 3, p513, 3p; (AN 734107)<br/> <a href="#">HTML Full Text</a>   <a href="#">Add</a></p>  |

The bottom of the screenshot shows the Windows taskbar with several open applications, including Novell Groupware, Microsoft PowerPoint, and Microsoft Word. The system clock shows 2:46 PM.

## Okay, Enough Preaching, What Do We Do Now?

In this section, we briefly address the very important question of how to integrate the information literacy competency standards into the curriculum. Among the options for building assignments into the curriculum are tasks that

require students to use library resources. (A first step might be asking if your students know where to find the library.)

Programs may wish to consider a formal information literacy course in their curriculum. This might be a stand-alone one-credit course, one credit attached to a 3-credit research course, required or an elective.

Another potential solution is an online tutorial with assessment. The development of such a resource is a monumental task. However, as an example, we refer you to Terrapin Information Literacy Tutorial (TILT), which was adapted by the University of Maryland from the original tutorial developed by the University of Texas (<http://www.lib.umd.edu/UES/TILT/>). If you visit this site, you will see an adoption for teaching and assessing students' basic information literacy skills in some of the areas we have discussed in this article.

Although not a complete solution, a step towards information literacy is the use of course-related Web pages that contain print and electronic resources tailored to one or more research-related assignments for a particular course. These are meant to be a support when a librarian provides information literacy instruction to a class. However, they have been used as well to support an assignment when library instruction was not possible. For an example of a course-related Web page see: <http://www.lib.umd.edu/MCK/hesp305.html>.

A method of organizing electronic resources in a specific subject area to aid in the selection of appropriate resources is the Web Resources by Subject page. Following is an example of Web Resources in Hearing and Speech Sciences from the University of Maryland, College Park: [http://www.lib.umd.edu/ETC/SUBR/resources.hearing\\_speech\\_sciences.html](http://www.lib.umd.edu/ETC/SUBR/resources.hearing_speech_sciences.html) .

Minimally, we believe that professors and programs need to establish expectations for use of resources in class projects, such as requirements that

resources be scholarly and peer-reviewed. At the University of Maryland, College Park, User Education Services has produced a helpful brochure and Web site for instructors that detail how to create effective assignments: <http://www.lib.umd.edu/UES/assignment.html>. This resource includes information on setting the purpose, preparing students, characteristics of effective assignments, pitfalls to avoid, the role of the librarian, as well as appropriate citing and plagiarism. In the Department of Hearing and Speech Sciences, searches may be assigned as a pre-assignment to class papers, take-home assignments, candidacy papers, and such.

How do we document competency? First, the faculty should be competent! If you have faculty who still think that Google and PubMed are the beginning and end of electronic resource “surfing,” have them talk to your university or college librarians. Next, for the students, if at all possible, information literacy instruction should not be a “one-shot” deal. A typical 50-minute library instruction session as part of a course is helpful in supporting a research assignment, but does not allow for the development and assessment of skills that make the students information literate. In contrast, the use of early and preliminary assignments or the use of a search journal attached to an assignment, for example, can aid in the evaluation and development of skills throughout a program, culminating in capstone assignments (e.g., theses, research papers/candidacy papers) for a full documentation of a student’s ability to pursue life-long learning through intelligent use of information resources.

For a great set of resources for faculty, including model programs in information literacy, we recommend *Information Literacy in a Nutshell* at [http://www.ala.org/Content/NavigationMenu/ACRL/Issues\\_and\\_Advocacy1/Information\\_Literacy1/Overview2/Info\\_Lit\\_for\\_Faculty/Info\\_Lit\\_for\\_Faculty.htm](http://www.ala.org/Content/NavigationMenu/ACRL/Issues_and_Advocacy1/Information_Literacy1/Overview2/Info_Lit_for_Faculty/Info_Lit_for_Faculty.htm)

### **Academic Dishonesty**

No discussion of information literacy would be complete without a discussion of academic dishonesty. The growth of electronic resources, and the ease of “copy and paste,” has made plagiarism more attractive and effortless than ever before.

How does one prevent academic dishonesty? First, climate is important. Students need to be explicitly instructed about instructor and program expectations of them. Thus, we firmly believe that it is the responsibility of the instructor to educate students to prevent it or otherwise catch it. We take this position because it is not clear students are being taught how NOT to plagiarize before getting to college or graduate school. To avoid honest but painful mistakes, do not assume! Tell students what plagiarism is and then follow through with the consequences if they do not respect the rules.

There are a number of very good sources that discuss academic dishonesty and plagiarism and we list a few here. For students and faculty (mainly focusing on how to prevent it):

[http://owl.english.purdue.edu/handouts/research/r\\_plagiar.html](http://owl.english.purdue.edu/handouts/research/r_plagiar.html)

<http://www.indiana.edu/~wts/wts/plagiarism.html>

<http://www.georgetown.edu/honor/plagiarism.html>

These sites provide excellent and easily understandable explanations of what plagiarism is and why it is considered dishonest. Some institutions, particularly Georgetown University, provide answers to plagiarism from the perspective of today’s students who have always been able to find the answers to homework on the Web. Do yourself and your students a favor – read them and recommend them.

Unfortunately, some students will willfully violate honor codes. So, for faculty, here are some sources on how to catch it. A major new site, [www.turnitin.com](http://www.turnitin.com), is a site that will allow professors to have students submit

papers for preview by the site for verification of authenticity. Other excellent sites that discuss the faculty role in plagiarism include

<http://alexia.lis.uiuc.edu/~janicke/plagiary.htm>

<http://www.wiu.edu/users/mfbhl/wiu/plagiarism.htm>

<http://www.academicintegrity.org/>

<http://www.library.ualberta.ca/guides/plagiarism/>

### **Some Sobering Closing Thoughts**

We spent a large portion of this article explaining how to obtain quality resources for academic papers. However, according to [www.plagiarism.org](http://www.plagiarism.org), between one-third and one-half of college students admit plagiarizing their assignments from the Internet. Other sources (e.g., Hinman, 2000) make it clear that some of this problem is preventable through better education – it is not entirely an ethical issue. Many students cross the line without meaning to. They simply have not been educated properly. How do we stop this and improve students' information-finding abilities? Here are some final suggestions. (See more great teacher resources at [www.turnitin.com](http://www.turnitin.com)):

- TEACH students the skills required of information literacy
- Particularly, how to SEARCH, how to CITE, how to EVALUATE
- PREVENT “mistakes”
  - Explain information literacy EXPECTATIONS, including ethics/quality of work
  - Make CONSEQUENCES clear
  - Check intermediate STAGES of work
- DON'T EXCUSE “mistakes”

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