

Online Tutorials and Assessment of Information Literacy Skills

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Purpose

Moore Library at Rider University has created several online tutorials to teach information literacy (IL) skills for a distance learning Psychology course and a traditionally taught Organic Chemistry class. Both tutorials involved course integrated library instruction based on the research papers assigned to these classes. The students in the distance learning course were able to find appropriate resources for their papers but it could be assumed that they learned IL skills to do so. This experience led to the addition of challenge questions for review as a means of assessing student learning. This Psychology class was taught in the traditional manner for the spring semester and as an online course during the summer in 2010.

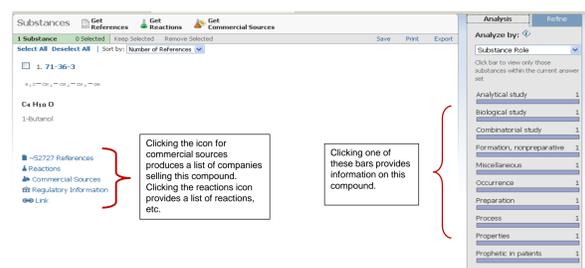
The American Chemical Society strongly recommends that students learn to find and critically evaluate peer reviewed articles in the chemical literature. Thus the Organic Chemistry tutorial, consisting of 8 modules, was created and used during the spring 2010 semester. Review questions were devised to serve as a snapshot of the students' IL skills, plus feedback forms documented the usefulness of the online tutorials for both courses. The results for the SciFinder™ tutorial is reported in this presentation.

Methods and Procedures

- Faculty sent class assignments to the Science Librarian which formed the basis for the tutorials.
- Storyboards with screenshots and scripts created for design and audio recordings
- Captivate 4.0 generates interactive Flash modules
- 3 files produced: x.swf, x.js, and x.htm
- Files loaded onto library web server with pointer to x.htm created to access tutorials
- Student feedback surveys given mid-semester after submitting first draft of research paper
- Quiz to evaluate student skills using SciFinder™ administered on Blackboard at mid-semester

Storyboard

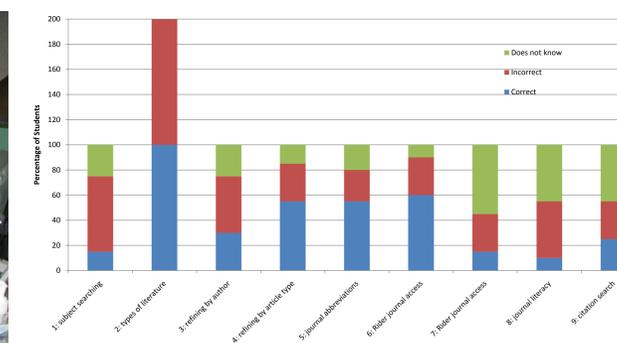
Click "Commercial Sources" to see what companies sell this substance.



Creating Tutorial

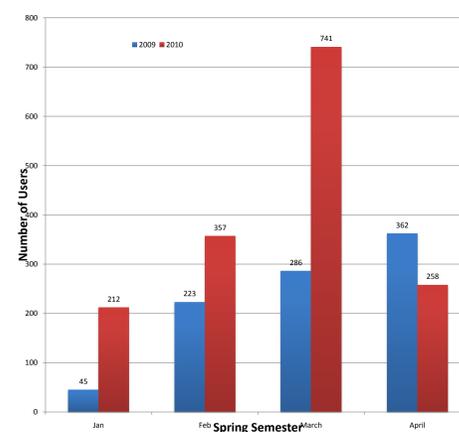


Results of SciFinder™ Quiz

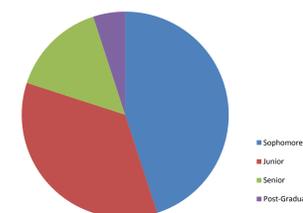


Institutional Use of SciFinder™

Note that the rough draft of the research report was due on March 12, 2010



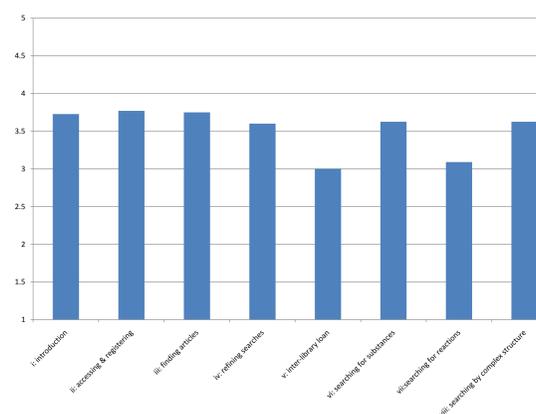
Student Demographics



20 out of 25 total students completed the survey. 14 out of those surveyed reported using the SciFinder™ tutorial during their research process.

Student Feedback of Each Module

Students were asked to rate from 1 (worst) to 5 (best) how helpful each module was in teaching how to access SciFinder™ and finding relevant articles.



Student Comments on Tutorial:

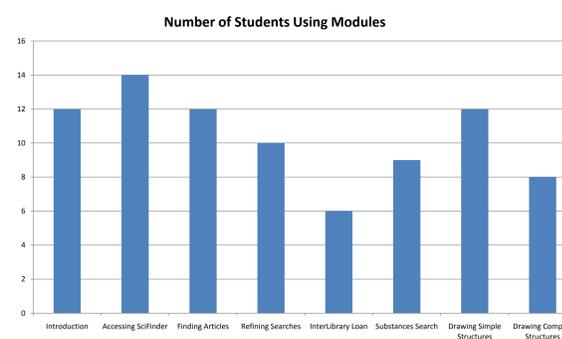
- In-depth explanation of how to use SciFinder
- Instructions very clear
- Helped to find relevant journal articles
- Visual step-by-step instead of just words was easy to follow
- It is a little long-make it clearer and shorter
- Slow moving-constantly fast-forwarded
- Professor and librarian should hold voluntary tutorial session together in order to address everyone's questions at the same time
- Going through an example article would be helpful
- It seemed like Rider had none of the articles that came up in SciFinder
- Finding historical information on the reaction [difficult part of research process]

Conclusions and Future Plans

- Assessment given in the middle of semester; predict SciFinder™ use would improve by end of semester when final paper due
- Both SciFinder™ assessment and review should be administered online
- Make SciFinder™ workshop and individual tutorials available
- Add additional tutorials and refine present modules

Students' Use of SciFinder™

Below are the reported number of students who accessed each individual module.



SciFinder Assessment

You have just been assigned a research report on the **Strecker Reaction**. Your assignment is to outline the overall reaction, electron-pushing arrow mechanism, the historical and current significance, and two recent examples from the literature wherein your assigned reaction has been used.

Since you can only use the primary literature, you decide to use SciFinder to access all of the relevant articles:

1. How many references, excluding duplicates, contain information regarding the Strecker Reaction?
 - a) 532
 - b) 603
 - c) 917 *
 - d) 1040
 - e) I do not know
2. To initiate your search, you primarily want to focus on the historical implications and applications of the reaction. What kinds of sources should you refine your search by? More than one answer may be applicable:
 - a) book *
 - b) journal
 - c) patent
 - d) review *
 - e) I do not know
3. Who is the researcher that has authored the most articles on the Strecker Reaction?
 - a) Roman Blaszczyk
 - b) Shibasaki Masakatsu
 - c) Kanai Motomu *
 - d) Tadeusz Gajda
 - e) I do not know
4. Since the researcher above obviously has a wealth of experience with the Strecker Reaction, you decide to refine your search to his articles. What is the title of his most recent review?
 - a) Asymmetric Synthesis of α,β -Diamino Acids
 - b) Recent Progress in Asymmetric Bifunctional Catalysis Using Multimetallic Systems *
 - c) Developments in Organocatalytic Asymmetric Strecker Reactions
 - d) Bronsted Acid-Catalyzed Efficient Strecker Reaction of Ketones, Amines and Trimethylsilyl Cyanide
 - e) I do not know

5. What is the title of the journal in which this review article was published?
- J. Org. Chem.
 - Chem. Rev.
 - Angew. Chem. Int. Ed.
 - Acc. Chem. Res. *
 - I do not know
6. Do we have access to this article through the Rider Library? Is it in print or on-line?
- No – there is no way we can access the article
 - No – but we can access it through ILL
 - Yes – print
 - Yes – online *
 - I do not know
7. After perusing the review article, you find that it does not contain enough pertinent information on the significance of the Strecker Reaction. You decide to un-do your refinement by author, and find the most recent review article or book (besides the article in #4-5) that you can access directly through Rider Library. Who is the author?
- Bruce Ganem *
 - Nadia Pastori
 - Takashi Ooi
 - Varoujan A Yaylayan
 - I do not know
8. Access the article in #7. By reading the conspectus (abstract), which statement best summarizes the **author's view** on the historical significance of the Strecker Reaction?
- It is the best way to make amino acids synthetically
 - It was the first documented hydrolysis of nitriles into carboxylic acids
 - It paved the way for other multi-component coupling (MCR) reactions *
 - It introduced computer-automated synthesis to the chemists' tool belt
 - I do not know
9. You are very intrigued by the information found in the above article, but are afraid that some of the examples may not be current enough. How many articles have cited the above reference, and thus could be relevant to your research?
- 20
 - 22 *
 - 38
 - 40
 - I do not know

Note: the * indicates the correct answers.

3. Please rate the tutorial respect to the objectives below by circling the appropriate response:

(1) strongly disagree (2) disagree (3) neither agree nor disagree (4) agree
(5) strongly agree (6) not applicable

The tutorial...

Explained how to register for and access SciFinder Scholar

[1 2 3 4 5 6]

Made finding relevant articles easy and fast

[1 2 3 4 5 6]

Taught how to actually find the journal articles at our library (in print)

[1 2 3 4 5 6]

Taught how to actually find the journal articles at our library (on-line)

[1 2 3 4 5 6]

Taught how to find the journal articles NOT at our library (InterLibrary Loan)

[1 2 3 4 5 6]

Made it easy to draw chemical structures with the drawing editor

[1 2 3 4 5 6]

Was relevant to my research

[1 2 3 4 5 6]

4. Why did you use the tutorial? Please circle one of the answers below.

- a. Independent learning [ie; you decided to do it yourself]
- b. As part of a course [ie; your professor assigned it]
- c. To support your teaching [ie; you pointed your students to it]
- d. As part of class [ie; your professor referred to it or demonstrated it in class]
- e. As part of instruction by a librarian during your class
- f. Other [please explain]

