

**Selected members of the CCL-EAR Committee review of  
The Thomson Gale Science Resource Center  
November 2004**

In November of 2004, selected members of the California Council of Chief Librarians, Electronic Access and Resources Committee (CCL-EAR), undertook a “hands-on” review of the Thomson Gale Science Resource Center.

Thomson Gale’s Science Resource Center (SRC) which was launched in August of 2004 is a curriculum-oriented science database providing information on science related research topics ranging from earth science, history of science, science and technology, life science, physical science to space science, and others.

Coverage of the SRC comes from three core proprietary reference titles: 3<sup>rd</sup> edition Gale Encyclopedia of Science, Macmillan Science Library and UXL Encyclopedia of Science, and over 40 reference titles containing overviews, biographies, and science experiments. In addition to these reference titles, the database provides indexing and full-text coverage to popular magazines, peer-reviewed journals, indexing to the science section of the New York Times from 1994 and full-text coverage from January 2000. Also included in the database are over 8000 multimedia records containing pictures, illustrations, audio clips and video clips, and links to over 500 science-related curriculum websites.

Selected members of the CCL-EAR Committee, independently or in concert with qualified library and other faculty on their campus, reviewed and evaluated the SRC. Though the latter may have helped in the review process, completion of the form was by the CCL-EAR committee member(s) only and not transferred to others. Ratings were based upon the potential value of the proposal to the California Community Colleges as a whole and not solely on the needs of any specific campus.

Attributes of the information resources were assessed on a scale of 1 to 4 with 1 representing the “least value” and 4 representing the “most value.” The following attributes were examined:

**INFORMATION DATABASE**

Consider its functionality, the appropriateness of format (bibliographic/full-text), the content of the information, the adequacy of coverage (retrospective, current), and its value to the California Community Colleges as a whole.

**SEARCH INTERFACE**

Consider the functionality and ease of use of the interface. Is it intuitive or is an excessive amount of training required? Are any crucial features missing from the search interface?

**USER SUPPORT SERVICES**

If documentation is required for successful use of product, is it available, comprehensive, and well written? Is online help adequate and user friendly? Does vendor supply training if it is needed? Is a telephone help line available?

## COST

If cost is available, does it seem reasonable in terms of comparable products?

## ACCESSIBILITY OF SERVICE

Is access/connection to product reliable and stable? Is response time adequate?

## OVERALL ASSESSMENT

#1 ---- No Support

#2 ---- No Support at this time. Future support conditional upon enhancements noted below in Comments Section.

#3 ---- Support and Recommend proposal be forwarded to California Community College libraries for their acceptance or rejection. Would like to see enhancements in product noted below in Comments Section.

#4 ---- Outstanding offer and opportunity. Recommend proposal be forwarded to California Community College campus libraries or their acceptance or rejection.

Following are the results of the CCL-EAR Committee's review as well as comments taken from the individual Review Reply Forms.

## Information Database 3

The SRC database is designed for use in high school libraries and classrooms, community colleges and public libraries. Similar in concept to other Thomson Gale resource centers, SRC offers many different types of content, including full text journals, multimedia, reference books and links to select Web sites that focus exclusively on science topics. SRC provides topic overviews, biographies, experiments, and academic journal and popular magazine and newspaper articles to offer students a comprehensive research database that covers the major science disciplines, including:

- Physical science
- Life science
- Earth and space science
- Science and technology
- History of science
- Science and society
- Scientist/inventor biographies

SRC brings more than 50 print sets to the database that total more than 150 print volumes from Thomson Gale, Macmillan Reference USA and U•X•L, including:

- *The Gale Encyclopedia of Science*, 3rd Edition, 6 volumes
- *The Macmillan Science Library*, 32 volumes, covering animal sciences, biology, computer sciences, earth sciences, genetics, mathematics, plant sciences and space sciences

- *U•X•L Encyclopedia of Science*, 2nd Edition, 10 volumes
- *Beacham's Guide to Endangered Species, North America*, 6 volumes
- *Gale Encyclopedia of Medicine*, 5 volumes
- *Body by Design*, 2 volumes
- *Notable Scientists*, 5 volumes
- *Chemical Elements*, 3 volumes
- *Experiment Central*, 6 volumes

The SRC databases also includes:

- 200 full-text, cover-to-cover magazines and journals
- 80 full-text academic (peer-reviewed) journals
- Select general-interest magazines with science coverage, such as *Time* and *U.S. News and World Report*
- Backfiles to 1981 when available
- *New York Times* Science section
- More than 9,000 images and line drawings
- Access to more than 880 million additional images through *Google* Image Search (you may choose to disable this function)
- 50 audio and video clips
- 555 links to student-safe Web sites

SRC provides a hot link to the *Merriam Webster's Collegiate Dictionary* and the *Thomson Gale Science Glossary* that gives users definitions of scientific terms and concepts. A student can highlight a word in an article, then click the dictionary link and search the word. The dictionary will search the highlighted word and provide a definition with options to print, email and/or how to cite the source. In addition to these titles, the Science Resource Center also contains the National Science Education Standards and the Project 2061 Benchmarks for Science Literacy American Association for the Advancement of Science Adopted in 1993 as well as state science standards. California Department of Education Curriculum Frameworks and Instructional Resources Division didn't allow Gale to use the California Science Content Standards within the Science Resource Center. Furthermore, Standards for the states of Alabama, Arkansas, District of Columbia, Hawaii, Illinois, Iowa (doesn't maintain a curriculum), Maryland, New Mexico, Ohio, Rhode Island, Washington, West Virginia, and Wisconsin are not available. An explanation as to why the standards are not included is provided for each one of these states.

The SRC includes approximately 229 titles six of which are not full-text. Articles that are not full-text include abstracts describing the scope and content of the article. Full-text coverage for periodicals begins for some as early as 1977.

The SRC also contains a spotlight weekly section highlighting a topic of interest in addition to a toolbox containing science related tools, research guide, research tools,

search tips, research guide, periodic table, important formulas and a quick Flash guided tour.

The database is updated daily as evidenced by a note at the bottom of each page indicating the total number of documents in the database and date of last revision. On November 19, 2004, there were 1,639,595 documents. On November 24, 2004, SRC had 1,961,235 documents updated. A total of 321, 440 documents were updated over a period of 4 days.

### **Search Interface 3**

The SRC interface is similar in look and feel to the Thomson Gale Opposing Viewpoints Resource Center. It is easy and intuitive to use when utilizing the point and click of the subject directory or basic search method. All the search screens are clear, uncluttered and visually appealing. There are clear visual navigational links and pages load quickly.

At the top of the SRC home page is a title banner that includes typical Thomson Gale toolbar hyperlink buttons for Help, Gale Databases, Toolbox, Dictionary, List of Sources, Timeline, and Mark List.

At the bottom of the title banner are hyperlink buttons for Advanced Search, Person Search, Publication Search, and Science Standards.

Just below these hyperlinks is the search term text box followed to the right by a pull-down menu for subject, keyword, and full-text option selections. A prominent SEARCH button is to the right of the pull-down menu.

Directly below the search bar is a select hypertext subject topic list from Anatomy to Zoology. Users who don't have a specific subject and who prefer the browse method may find the 81 subject topics a good starting point for finding general and background information. Each topic provides an overview of the subject with links to related documents, articles, and multimedia if available.

Types of searches available from the SRC interface are: Basic, Advanced, Subject, Keyword, Person, Publication, National and State Science Standards, Dictionary, and Timeline.

Natural language searching is available utilizing the Full-text Search option from the search bar pull-down menu. Natural language searches were generally successful.

A subject search can be performed using the topics listed on the home page, or using the search bar at the top of the page and selecting subject search from the pull-down menu. Gale recommends to enter the most important word first in the search box and to avoid using the AND, OR, and Not. Using stem cell in the subject search field retrieved a total of 6 reference citations, 598 magazines, 192 academic journals, 1 newspaper, 1 multimedia and one website.

Search results pages include all of the above toolbar and hyperlink buttons and search bars. Reference, Magazines, Academic Journals, Newspapers, Multimedia, and Website hyperlink tabs are available when activated. A basic search on stem cell resulted in an activation of all the available hyperlinked tabs.

Each search result citation is clear and includes the document's title, author, source, publisher, and publication date. Graphics when included in the results list may be enlarged to full size printed but not emailed. When printing documents with graphics, the images are enlarged to full size and integrated with the text. Full-text of articles are either available in PDF format or html.

An INFOTRAC Infomark **Web Page Generator** icon hyperlink icon may be used to bookmark search results and save searches. Users may be able mark up to 50 documents by checking off specific articles from the results list, and set them aside to view them at a later time. The marked result list can be emailed and printed out. This marked list, however, will be lost if it hasn't been infomarked. The infomark feature that allows the user to revisit a page at a later time after a SCR session has ended is not intuitive and easy to use. Users may need to go to the help menu to find additional information. Any page that has the Infomark **Web Page Generator** icon can be infomarked.

Users may sort search results from a pull-down menu by Relevance (Default), Title, Reverse Chronological Order, Chronological Order, Document Type, Source, and Content Level. Search histories are available at the bottom of each results page.

A narrow by subdivision option that helps users further refine their search might not be visible and obvious to a beginning user. If the search topic is not an authorized heading, SRC searches for the word or words in the subject field and provides a list of broad, narrow and see references subjects. When searching a broad topic such as "Evolution," an alphabetical list of hyperlinked subjects starting with Evolution, Evolution (Biology), Evolution (Book), etc. is provided to the left of results. Users may not be aware that by clicking the subject "Evolution" again they will get a list of subdivisions.

Limiting options for full-text documents, documents with images, and peer-reviewed journals are not available from the basic search screen. Users will have to go to the advanced search for these additional features when refining their search.

Advanced searching allows the user to utilize full Boolean operators that can be combined with Title/Headline, Source, Author, Subject, Full-text, Keyword, and Document Number index type options. Document Type options include: Any (Default), Academic Journal, Audio, Biography, Experiment Activity, Image, Magazine, Newspaper, Table, Topic Overview, and Video. Content level options include: Any (Default), Basic, Intermediate, and Advanced. Designated colored icons for the three content levels next to article citations in the results list identify the degree of difficulty of each source provided. Default content levels are not provided for multimedia and websites. However, this feature may be library enabled.

Person searches may be conducted for names and biographical facts. The names may be limited to “Biographies only” or “All results”. Biographical Facts may be limited to Occupation (with View occupation list and Reset Occupation list hyperlinks), Nationality, Ethnicity, Gender, Birth Year, Death Year, Birth Place, and Death Place.

The Publication search is easy to use and straightforward. Users can use this search method to find the titles of journals indexed in the database and retrieve the contents of these publications by date, starting with the most recent first. Publication searches may be limited by “Title starts with” and “Title contains” as well as 10, 20, 30 or 50 number of results per page.

Science Standards searches are only for Grades 9-12 and are divided between National and State Standards. When the California hyperlink was clicked on, the following message appeared on the screen: “We’re sorry, but the California Department of Education Curriculum Frameworks and Instructional Resources Division will not allow Thompson Gale to use the California Science Content Standards within Science Resource Center.”

Document delivery methods icons include Print and E-mail. A “How to Cite” icon links the user to the SRC Tools web page where APA and MLA Style citation examples are provided for specialized reference, magazine, journal, newspaper, and Spotlight articles.

Two dictionary searches were conducted on the term “atom”. The following results were returned from the *Thomson Gale Science Glossary*: Atom, Atom Bomb, Atomic Clock, Atomic Mass, Atomic Mass Unit Amu, Atomic Nuclear Physics, Atomic Number, Atomic Weight, and Atomism. A short one-sentence definition of the atom was provided after clicking on the Atom hyperlink. The following results were returned from the *Merriam Webster’s Collegiate Dictionary*: Atom, Atom Smasher, Atomic, Atomic Bomb, Atomic Clock, Atomic Mass, Atomic Mass Unit, Atomic Number, Atomic Reactor, Atomic Theory, Atomise, Atomism, Atomistic, Atomize, Atomizer, and Atomy. Three definitions of the atom was provided as well as pronunciation, function, etymology, and date after clicking on the Atom hyperlink.

Timeline searches may be initiated by clicking on images from two Timeline chronology bars ranging in dates from BC to 1990-Present or by entering specific years or range of years and entering text to search a specific Timeline event. 10, 20, 30 or 50 results per page may be requested from a pull-down menu. Two Timeline searches were conducted.

The first search was initiated by clicking on the 1851-1899 image “Dimitri Ivanovich Mendeleev puts forth the Periodic Table of Elements arranged in order of atomic weights.” 3,901 Timeline citations were listed. On the first results page only one item was remotely related to science – 1851: A 100-acre wheat field remains the largest any one man can farm. After clicking on the hyperlink to the citation, the following web page provided one sentence of full-text: “A 100-acre wheat field remains the largest any one man can farm.” Returning to the search results citation page, the hyperlink to the third

citation [1838-1865: Guatemala's first dictator](#) was clicked on just to see what if anything this citation had to do with science. The only information remotely related to science was that Rafael Carrera (a dictator who would not tolerate opposition) succeeded in building roads and improving farming. Exactly how he did that was not provided.

The second search was initiated by clicking on the 1601-1700 image "Isaac Newton formulates his laws of motion and writes on calculus." Two out of the ten citation results listed were much more scientific. These two were [1601: Science academy founded](#) and [1601: The East India Company's James Lancaster doses his crew with lemon juice](#).

Despite the questionable scientific content results from the Timeline searches, the SRC search interface was assessed as a 3. Although the interface is user friendly, it does require significant training by librarians to users in high school as well as lower undergraduates in community colleges for them to effectively use the database.

#### **User Support Services 4**

The "Help" icon is located at the top of every SRC web page. The "Help Using Science Resource Center" web page is both context-sensitive and a dynamic Table of Contents that provides hyperlinks to useful information About, Searching, Navigating, Tools, and Search Tips for Science Resource Center. About SRC provides Product Overview, Search Paths, Technical Support, and Copyright Information. Searching SRC includes instructions for Browse, Basic search, Subject guide, Spotlight, Advanced search, Publication search, Person search, Science Standards, Search History, and Search Operators. Navigating SRC includes navigating instructions for the SRC Banner, Navigation Bar, Search Bar, Sidebar and Returning to Your Library's Home Page; Home Page Features; Breadcrumb Trail; Search Results, Citations, Tabs, Content Levels, and Google Image Search; Document Display; and, Exiting Science Resource Center. Tools for SRC lists hotlinks to information on how to use the SRC Toolbox, Dictionary and Science Glossary, Timeline, and Science Tools (Periodic Table, Research Guide, etc.); Mark List; InfoMarks and the InfoMark Web Page Generator; PDF Files; Printing Pages; E-Mail Delivery; Linking to Library Holdings; List of Sources; and, Citing Thomsom Gale Online Products. Search Tips for SRC provide valuable information on how to use Stop Words; Punctuation; Capitalization; Wildcards; Logical Operators; Nesting; Proximity Operators; Restoration Marks; and, Quotes or Quoted Strings. Instructions are clear and easy to follow and understand.

In addition to the "Help" icon, a "Toolbox" icon on SRC web pages provides hyperlink access to Science-Related Tools, a Research Guide, Research Tools, Search Tips, and a Guided Tour (Flash).

Science-Related Tools include helpful scientific information on the Scientific Process – How to Read a Science Article and Scientific Methods appropriate for Middle and High School users; Earth and Space Science – Solar System Data; Life Science – Geologic History of Animal Life, Taxonomic Tables (Plant, Bird, Mammal, Fish, Amphibian, and Reptile), Comparison of the Five and Six-Kingdom Classification of Organisms, Plant

and Animal Cell Illustrations, DNA Nucleotides Across the Double Helix, Comparison of DNA and RNA, and Human Body Systems (Circulatory, Digestive, Endocrine, Lymphatic, Superficial Muscle, Nervous, Male and Female Reproductive, Respiratory, Skeletal, and Urogenital); Measurement – Sizes and Distance to Objects, Base 2, Base 10 Equivalents, Approximation to Powers of 10, Base 16, Base 2, Base 10 Equivalents, International System of Units (SI) Base and Supplementary Unit Names and Symbols; Units Derived from SI, with Special Names and Symbols, Units Used with SI, with Name, Symbol, and Values in SI Units, Data Unit, Abbreviation, Equivalent (Data Storage), and Power of 10/Additional Information, Conversions for Standard, Derived, and Customary Measurements (Length, Area, Volume, Units of Mass, Pressure, Energy and Power, and Temperature), and a MegaConverter; and, Physical Science – Periodic Table (complete, annotated, and blank [all in PDF]), Common Abbreviations and Acronyms (Physics), and Common Symbols.

The Research Guide introduces the user to arguments and tips for the study of science. A hyperlink [Why study science?](#) directs the user to additional information on how the study of science promotes critical thinking skills and common fallacies in arguments regarding science and pseudoscience. Primary and secondary resource information is provided from the hyperlink [How to read a science article](#). Arabic names can be found under the hyperlink [Diversity in science](#). In addition to helpful information from the hyperlink [Additional resources](#), the Research Guide provides valuable “How to” research tips in Six Steps to Successful Research – Identify the Topic, Obtain Background Information, Verify Resources, Collect and Organize Information, Evaluate Information, and Cite Sources; General Science Writing Guidelines; General Laboratory Report Guidelines; General Style Guidelines (14th edition of the Chicago *Manual of Style*); Math Fundamentals; Quotations; and, Ideas for Research Projects.

Two hyperlinked columns of tools to help the user with ideas and organizing information may be found on the Research Tools web page. “How to” hyperlinks under the left column entitled **Tools for Getting Started** include how to Judge Information; Make a Concept Web; Choose a Topic; Write a Topic Sentence; and, Make an Outline. “How to” hyperlinks under the right column entitled **Tools for Wrapping it Up** include how to Cite a Source; Organize a Report; Build an Argument; Write a Conclusion; Write a Thesis Statement; Create Visual Representations of Data (charts, graphs, etc.); and, Footnote.

The Search Tips hyperlink redirects the user to the “Tips for Improving Your Science Resource Center Searches” web page in the Help menu where valuable information on how to use Stop Words; Punctuation; Capitalization; Wildcards; Logical Operators; Nesting; Proximity Operators; Restoration Marks; and, Quotes or Quoted Strings in the search process may be found.

As with all Thomson Gale resource center databases, statistical reports may be generated for internal and external usage in .txt format.

## **Cost 2**

The SRC database is priced for unlimited users license based on FTEs or on per user level cost which would make it more reasonable for some libraries. Consortium members may want to consider the \$6,720 cost against the content overlap with Expanded Academic ASAP (see Overall Assessment below).

The cost of the product is high compared with Wilson Resource Center that includes more scientific journals.

## **Accessibility of Service 4**

Service was accessible quickly both from campus computers and from remote site DSL workstations. According to Gale, the database is available 24/7 and it was available at every attempt to use with good interactivity speed and a quick response time. There are no simultaneous user restrictions (Unlimited User subscription via CCL) and remote access is available using both IP and User Name/Password authentication, which means that any of the California community colleges would be able to take advantage of this accessibility.

## **Overall Assessment 3**

The Science Resource Center is easy to use and is a good resource for high school students, public libraries and non-science majors at the community college level. The material is primarily aimed at public library users and high school students. Students who are non-science majors researching a science related topic might find this database useful and could benefit from it. SRC is not suitable for science majors because it is too elementary in content and citation results obtained from the Timeline searches revealed liberal content of a non-scientific nature.

Many of the titles included in SRC are also included in Expanded Academic ASAP. Content overlap analysis revealed 82 out of 242 SRC full-text titles are included in Expanded Academic ASAP. This is a 34% duplication of Expanded Academic ASAP full-text titles. Price reduction considerations for the consortium may be appropriate by the vendor when comparing the SRC price of \$6,720 with that of Expanded Academic ASAP currently at a range of \$7,590-12,412. Although there are other quality full-text titles that are not included in Expanded Academic ASAP, SRC would be viable for California community college libraries where (1) funding outweighs considerations of content overlap and (2) do not subscribe to Expanded Academic ASAP and would like a database devoted to general science research purposes.

There are 17 Embargoed Titles, which is not high considering the total number of titles in the SRC database. Four out of the embargoed titles are 365 old but that may be better than no content are all. The embargoed titles are not scholarly journals.

The Science Resource Center database is currently non-ADA compliant.

Published reviews are not available from the Science Resource Center website or from independent sources at this time.