

RUNNING HEAD: IN SEARCH OF MONEY

In Search of Money:

Searching for Information and Resources on Funding a College Education

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LI-812, Online Information Retrieval

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May 10, 2004

### Introduction

Michael is almost sixteen and a sophomore in high school. He lives in Kansas, but wants to go out of state to college when it is time. Michael's father, Kevin, has been helping him find colleges and universities that match his criteria. The next step for Kevin is to start researching how to help Michael fund his college education. That is where my online searching skills can help.

After conducting a reference interview with Kevin, I know that he is trying to understand all of the components of paying for college. This includes financial aid, merit, scholarships, grants, work study programs, and loans. He wants to know what forms he should fill out and when. Kevin doesn't think that the family will qualify for any needs-based aid due to the family's income bracket. However, he is concerned since most of the colleges on Michael's list cost above \$33,000 per year for tuition and room and board. Kevin believes that only Internet sites and published books will be helpful resources. He would like to have a synopsis of any retrieved material. If he thinks it may be relevant, he can then retrieve it when he needs it. Kevin does not believe that databases will be of any use. His impression is that newspaper articles will be too shallow, and that journals will be too high-brow.

Since Michael is two years away from college, the search at this point is not for money, but for information and resources concerning paying for college. The search statement appears fairly simple. I'm looking for information on college financial aid. Concept one is college, with university as a synonym. Concept two is financial aid, with possibilities of synonyms including money, "scholarships, "grants, and costs. Concept three is information, with resources as a synonym.

Based on the reference interview, I decide that I will conduct a three-prong online search. One set of searches will be on the Internet. A second set of searches will be through online library catalogs. The third set of searches will be in databases online. Despite Kevin's impressions of databases, I believe that I can find a rich vein of ore in this resource. With a search for money, this is an apt image.

### Online Databases

To identify useful databases, I begin by using the subject listing of William Allen White's online databases, and looking under Education. The obvious choice is ERIC, which is a database of articles dealing with education. I have at least five choices of how I can access ERIC. I can access it through DIALOG, through FirstSearch, through e-Subscribe, through ERIC's free-site, and through SilverPlatter's WebSPIRS. I later discover that e-Subscribe is a beneficial database to retrieve ERIC documents if you know their accession number, but it is not the database you want to use to search for articles through a keyword or subject search. While I do need extra practice in databases with command-based searching, like DIALOG, I choose to experiment with the WebSPIRS interface to ERIC.

#### Searching in ERIC through WebSPIRS

I want current materials in ERIC, which means looking in the 2004 (January through March) database, and the database that covers 1992 through the end of 2003. After I select the databases, I see that there is a Thesaurus available; I use "college" as a subject in the Thesaurus, and retrieve a number of related terms dealing with college. Scrolling through the choices, I select "Paying for College." This has 20 of its own related terms, along with a scope note which tells me that prior to April 1990, "student costs" was used to index this term. When I search with just "Paying for College" as a search subject, I retrieve 910 records. This has the same effect as clicking on "Paying for College" and then exploding the subject.

I add to the search statement a nested statement of **scholarship or grant or financial aid**. By nested statement, I mean the search terms are combined in parenthesis so that just like mathematical statements using parenthesis, the information in the parenthesis is acted upon first. I also apply limits. I want current information, so I limit the publication years to 2000 to 2004. I chose English as a

language limiter; parent and student as target audience; and country of publication as the United States and all 50 of its states. Now I have reduced my 910 returns to 81 returns.

Already the first return shows relevance. It's a guide published in 2002 titled, 100 ways to cut the high cost of attending college: Money-saving advice for students and parents. In the abstract it says, The guide is especially useful to families with too much income to qualify for need-based aid, and not enough to pay high tuition rates. This is exactly what Kevin is searching for.

However, as I begin looking through the abstracts for relevance, I notice I can further limit my search. Michael has no disabilities that would qualify him for financial aid, so I choose my second search statement and add **not disabilities**. This reduces my returns by another 10 records to 71 records.

Scanning through the returns, I see that there are additional terms I can use to limit my search. My search statement ends up being Subject= Paying for College AND (scholarship or grant or financial aid ) NOT (disabilit\* or minorit\* or graduate school or Braille), publication year=2000 to 2004, target audience=parent or student, and country of publication=United States and all 50 states. I now have 62 records. This database uses asterisks for truncation. Although I limited articles to not including minorities, I still retrieve articles that may deal with specific minorities, such as Latinos or African Americans. What surprised me was the retrieval of several articles that were written with the word minorities in them, after I had tried to exclude that search term. I make the assumption that the word minorities is not listed in that article as a keyword, and I may have truly excluded it had I excluded it in a full-text search. Of the 62 returns, I believe that 17 are relevant to my search. This is a 27.4% precision rate, and includes many government publications. Later, after closer examination, I take out some of the records, and my true precision rate becomes 24.2% with only 15 relevant to my search.

This seems to be a good opportunity to check with Kevin to see if I am indeed finding the results that he wants. With WebSPIRS I am able to e-mail Kevin these 15 abstracts for him to check over. Does Kevin's information need change with these results? After examining the abstracts, Kevin lets me know that I'm on the right track and the articles look useful. I had included some articles that deal with EDEXpress Training, which is information actually directed to colleges who are processing applications. Kevin believes that this can give him insights to the process that may otherwise be missed.

### National Newspaper Index

The next database I choose is the National Newspaper Index. This index includes articles from The Wall Street Journal, The New York Times, Los Angeles Times, The Washington Post, and The Christian Science Monitor. I use keyword searching for **college AND scholarship!** and limit the dates between 2002 and 2004. The exclamation mark is used as for truncation in this database, unlike the asterisk used in the previous database.

Thirty-nine records are retrieved, so I decide to scan through them to determine their relevancy. In the case of this database, there are no abstracts, so relevance has to be determined by the headline title, the date, and possibly by the location of the article in the paper. Is it on page one of one of the paper's sections? I have 13 returns that are relevant, which is a 33.3% precision rate. Should Kevin decide he needs to access one or more of the articles, the local library has four of the newspapers on microfiche for the years covered in the search. It also has six months of the fifth newspaper available – the Los Angeles Times. One article that may be especially helpful to Kevin is a 2002 Wall Street Journal article. The title is "College tuition soars, but aid grows as well; Cost of assistance is passed on to full-paying students; Where to find scholarship information." Just as in the ERIC search, I re-examine my returns when all of my searches are finished. Taking out two of the records which I had initially thought pertinent, my precision rate now becomes 28.5%.

### Education Fulltext database through Wilson Web

The third database I search in is the Education Fulltext database through the Wilson Web interface. Despite the fact that I log on to Education Fulltext, the Wilson Web interface forces me to choose which database I'm going into ..again. I select Education Fulltext but also add the Humanities Fulltext database into my database options. There is an online Thesaurus, so I chose it and try the search term financial aid. Financial aid is called Student Aid in the Thesaurus. It is a narrower term for Loans in Humanities Fulltext and a narrower term for Higher education/costs in Education Fulltext. I don't find the Thesaurus as straight-forward as the Thesaurus I used in the WebSPIRS interface for ERIC. Altogether five articles are retrieved this way: four from Education Fulltext and one from Humanities Fulltext. While four look pertinent, they are too dated to be of use. The one that is current is not relevant to our search. I am frustrated at this point, so I abandon the Thesaurus, use keywords, and limit the years.

I have found that using Advanced Search options in online searches suit me better than Basic Searches. When I first started searching in databases over a year ago, I would put each keyword term on its own line. Lately I have found it more effective in keyword searching to use nesting and put the synonyms on the same line. In this case, my search statement is **(college or university) AND (financial aid or scholarship)** as keywords, and limited to articles from 2002. Eureka! There are 446 results. However, now I need to limit. After a quick scan, I see some articles that will be useful, but decide to use **not (black or minorit\* or disabilit\*)**. Notice that this database is using asterisks for truncation.

I really like how Wilson Web remembers my previous search and allows me to use the back button. My new search now retrieves 331 returns. I'm getting articles, however, about theology students who have been challenged on receiving government funding, and on the University of

Michigan affirmative action controversy. I further limit my statement by adding **not Michigan or religio\***. There are now 291 returns, but the relevance is not precise.

My patience has worn down, so I decide to look at the first 100 returns, all of which have been marked as 100% relevant. Although I can pull up the full record, I choose to look at the bibliography information (with no abstract). I mark 17 records of the first 100 returns, and then print them and also e-mail them to myself. All 17 records are from Education Fulltext, so I have the realization that Humanities Fulltext was not the right database for my search. Not all 17 turn out to fit my information need upon closer observation. When I look at the abstracts, I find two dealing with scholarly publishing, and one is a satire about working in academia. My Education Fulltext has a 4.8% precision rate, with 14 out of 291 records being relevant.

It is only once I look at the e-mailed list, complete with the search history, that I notice two things. One is that I had forgot to change my **not** statement to a Keyword search, so it has conducted an All-Smart Search. The second item of note is that when I used parenthesis in my search, it treated them as a near search. In other words, it treats the words in parenthesis as being words near each other. However, using the Boolean operator **OR** should negate the near search.

#### Internet Searches

For the second set of online searches, I go to the Internet. I use two search engines and one specific website. They are Google, Vivisimo, and Amazon. While the database searches yielded journal articles, pamphlets, guides, and government publications, I expect to find portals, links, and synopsis of resources in the content on websites unearthed by the search engines of Google and Vivisimo. Using Amazon, I expect to find both new and used books for sale on the subject of college costs, along with customer ratings.

### Google.com Search Engine

Using the Advanced Search feature in Google, I look for **college or university or colleges or universities and financial aid**, and retrieve 3.6 million results. By adding **resources** to the search statement, the results are narrowed to 771,000.

Obviously, this is still too large, but I look at the first twenty results, and find many good resources to pass on to Kevin. Some of the results are not relevant to my search at all. One return is for [Sourcepath.com](http://Sourcepath.com), an information technology company, while another is for George Washington Health Resource Center. To further narrow the search, I could use more exact phrases that were found in the returns I did find relevant.

### Vivisimo Cluster Engine

Vivisimo touts itself as a clustering engine. I used its Advanced Form and try the same search that I used in Google: **(college\* or universit\*) and financial aid and resource**. I am given the top 267 results, with the information put into clusters. I look at the scholarship cluster (62 results), and then the following of its sub-clusters: scholarship search (17); student loans (12); study aid, scholarships, grants (5); financial aid advice and college (3); and aid calculators (2).

Opening the sub-cluster of scholarship search, I examine the 17 results for relevance. Several are sites I found through my Google search. Others are from different pages of the same website. When this happens in Google, Google indents the sub-page link and information under the main page. It is harder to realize with Vivisimo that results may be from the same website.

Both Google and Vivisimo put the search terms in bold font in the returns, which aids in determining the possible relevance. I did not use **scholarship or search** in my search statement in Vivisimo, but I did choose **scholarship search** as the cluster to search within. Both words were therefore put into bold font in my returns.

### Amazon.com

Kevin has indicated that he is interested in print materials, so Amazon.com seems to be a logical source. Barnes and Noble (<http://www.bn.com>) and [Borders.com](http://Borders.com) would be other possible choices.

In a departure from previous searches, I use **college costs** as a keyword search for books. I retrieve 86,312 returns; I find it difficult to imagine that many print materials on this subject. Altering the search statement to **college costs AND financial aid** reduces the returns to 5,811. Changing it to **college costs AND ( financial aid or scholarship or grant)** actually narrows the results to 3,739. While narrowing the results was what I wanted, my experience with Boolean had me guessing that using the OR operator might broaden the search. I take a different approach and try the search term **paying for college**. I have 67,717 results, with the first one being Princeton Review's 2004 edition of Paying for college without going broke. This was not among the first ten results when I had used **college costs** as a search term.

One of the useful features of Amazon.com is that they list both books that are out-of-print, and books that are not yet released. This will be helpful for Kevin should he choose to purchase any resources. He can wait and purchase the most current edition, if there are several editions offered. Another useful feature in Amazon are the customer comments and ratings. Finally, if Kevin isn't choosy about having a new book, he can find used books for lower prices on Amazon.

### Online Library Catalogs

Libraries have been paying attention to their patrons' needs and wants. I was able to access the online catalogs of three library systems in my area. Two of the systems offer graphics of many of the book covers, much like Amazon.com. The library systems belong to the Johnson County public libraries, the Johnson County Community College, and the Blue Valley School District.

### Johnson County Public Libraries

In the online catalog, I search for **college** as a subject and **financial aid** as a word or phrase. I also limit publication dates to falling between 2000 and 2004. Nine results are obtained, although not all of them specifically deal with college costs. Kathy Kristof's Taming the tuition tiger: Getting the money to graduate with 529 plans, scholarships, financial aid, and more (2003) looks very promising. The results are not just books; there is also a DVD on financing college and a US government hearing available on microfilm.

When I conduct a second search, I use **college or university** as a word or phrase, and **financial aid** as a word or phrase. By adding **university** and changing from a subject search to a keyword search, I increase my returns almost by half from 9 returns to 16.

### Johnson County Community College

I use the Johnson County Community College (JCCC) online catalog because the college is located within a few miles of my home, and I have access to its materials with my public county library card. I begin my search in the JCCC catalog in the same way as I conducted the Johnson County Public Library search; **college** as a subject and **financial aid** as a keyword phrase brings no results. I wonder if college is not a subject because it would be too broad in a college setting.

My second search attempt is college as a keyword instead of a subject, and adding **universit\*** (truncated). Again, no returns. My third attempt searches for **college** and **money**, both as keywords. I do retrieve records this time, but they are too dated. After re-examining my search limits, I realize that I had incorrectly set my date range at the beginning of my search.

Returning to my original search statement, now with the correct date as a limit, I retrieve five results. The first result is for Financial aid for African Americans, which is not useful in this search. However, the second record is from Peterson's and titled Get a jump!: The financial aid answer book. There is additional material (a CD-Rom?) available to check out at the circulation desk.

### Blue Valley School District

My final search is in the Blue Valley USD #229 online catalog. I have access to the material as a parent with children in the district, but also as an employee. Using keyword search, I use **college and financ\*** to find resources in Blue Valley's library catalog. With four high schools, and a high percentage of graduates going on to higher education, I believe I should find some books about paying for college. This return, however, gives me no matches, but takes me to the subject list. After looking through the choices, I try **COLLEGE STUDENTS UNITED STATES FINANCE PERSONAL HANDBOOKS MANUALS ETC**, and retrieve a book by Theresa Fives called *Getting through college without going broke*. Besides requesting the book, I also have the option to look for more like this. Looking through the 25 records that come up with this feature, I find one additional book that looks promising. Going back to the subject terms, I decide to look for terms that are a little more basic, and try **COLLEGE COSTS**, which has two records. I also use **COLLEGE COSTS UNITED STATES**, which has eight records. David Rye's *The complete idiot's guide to financial aid for college* is available, so I request it. This allows Kevin to look at it and determine once again if I'm obtaining the type of information he will find helpful. This book does actually answer a question he has had regarding Early Decision and financial aid packages.

### Conclusions

I have found online resources to help my client, Kevin, with his information need. This was accomplished by using databases, the Internet, and library catalogs, all online. Although Kevin's information need did not change during the search, the entire process has not been completed. I have compiled an extensive hyper-linked electronic resource for Kevin as a repackaging effort for him. While it is a Microsoft Word document, it will be most useful with its hyperlinks as a file, rather than printed. His information need will very likely sharpen and focus as he starts looking at the various

articles, books, and websites that I have retrieved for him. Another part of my repackaging effort is to add Editor's Notes to annotate some of the results, in particular the Internet results.

Several times through this project, I tried subject searching as well as keyword searching. Keyword searching certainly gave me more results than subject searching. When I had the right subject term, it was a more effective way of searching than keyword. I found ERIC's Thesaurus in WebSPIRS extremely effective, but didn't like the one in Education Fulltext through Wilson Web. The bottom line is if you know one piece of information about what you are specifically looking for, such as a title or author or subject, you will have better results with field searching. Keyword searching is helpful when you don't know exactly what your results may be.

I especially appreciated the customer service features in many of the online resources I searched. Both the WebSPIRS and Wilson Web interfaces offered useful print and e-mail options. Amazon.com and the three library catalogs offered options to mark materials and state where I wanted them shipped or where I would pick them up.

What surprised me is that the results retrieved were often not relevant to my information need, although I could usually see how they fit within my search statement. In most of the searches where I calculated the precision rate, initially I found the relevancy rate in the 20 to 30 percent range, except in Education Fulltext. However, after thoroughly reading through annotations and descriptions, I often further reduced my results by several percentage points. It seems as if I could have been more precise on my search statements. I also had to remind myself that just as people are different, systems and interfaces are also different. The same search statement didn't always give the same type of results when in different online systems. I was choosier with my terms in the databases than I was on the Internet.

Would I do anything differently if I were to conduct the search again? Overall, I would probably use the same sources, but be open to others. I would definitely change my search statements.

Knowing that **college costs** was a possible search term, I would probably use it in more resources than just Amazon.com. It is frustrating to know that to borrow a previously used metaphor I might have missed a rich vein of ore due to my choice of search terms. I could have used one relevantly retrieved record and mined it for subject terms or keywords. Perhaps then I would have found exactly the point to pick at until I found that vein. While I am disappointed with my final precision rates, I also know that I found many resources to help Kevin in his search for money to pay for his son's college education.

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