Learning Activity 7: Final Draft Instructional Design Plan

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17 May 2011

INSTRUCTIONAL DESIGN PLAN

Learning Activity 1. Instructional Design: Step 1. Needs Assessment and Instructional Goals

The information literacy related skill in which I would like to teach to freshmen undergraduate students is how to create effective search terms when looking for journal articles in an online database.

Step 1. Needs assessment

Knowing how to use search strategies to access journal articles in databases is a skill of great importance for students in the college setting because much of their work involves writing research papers using a variety of sources in various formats. College freshmen are new to the library and academic life, so language must be accessible when explaining concepts. Although basic computer use is assumed (as in using the mouse, Internet, and typing essays in Microsoft Word/Works), definitions of what journals and databases are must be explained before jumping to concepts like keyword searching and Boolean operators. While it is important to show students the many options that are available to them when searching for articles and sorting their results, it has come to my attention that the biggest problem freshmen students have is in coming up with terms to use as they research their essay topics. Rachel Milloy, a composition instructor at New Mexico State University at Las Cruces, indicates that students' greatest trouble seems to be in "developing effective key words" when doing research in databases (personal communication, Facebook, Feb 13, 2011).

Instructional Goals

The goal for this unit is to teach students how to develop, discover, and modify search terms when looking for journal articles in a database. College students need to know how to find journal articles that will allow them to make, support, and counter arguments in their papers. Teaching students how to find journal articles for their research topics, however, is not solely about teaching the students how to use the technology; rather, students need to use critical thinking skills to come up with various related terms.

Learning Activity 2. Instructional Design: Step 2. Instructional Analysis (aka Task Analysis), Step 3. Entry Behavior and Learner Characteristics, and Step 4. Performance Objectives (aka Learning Objectives)

Step 2. Instructional Analysis (aka Task Analysis)

-Students will participate in discussion about how they approach searching for something (anything) on Google, Bing, or some other free search engine

-Students will watch a video on the difference between Google (free search engines) and databases, and why they should use them when working on college papers (from http://www.youtube.com/watch?v=VUp1P-ubOIc&feature=related)

-Students will watch video on "What's a Database?" (from http://www.youtube.com/watch?v=FP2dYdOkutw&feature=related)

-Students will learn search vocabulary

-journal

-database

-keyword

-search limits, like date, author, title, etc.

-Boolean operators

-Students will watch the "Search Words?" video (from http://www.youtube.com/watch?v=hcINh_e5aKU), which shows tips for creating search terms when researching

-Students will participate in discussion listing what strategies they learned in the video and/or make other suggestions for creating search terms that might have not been addressed in the video

-during this time, I will be giving each student a handout with the search tips provided by the video, as well as some information I will be adapting from a handout created by the University of Illinois Biology Library (http://www.library.illinois.edu/bix/pdf/genguide/searchtips.pdf)

-Students will be presented with an essay topic, and, in small groups of three to five students, will need to come up with search terms to use in a given database

-students will be using a concept map provided by the teacher (from http://www.library.illinois.edu/ugl/howdoi/concept_map_handout.pdf) to note down their keywords and what kinds of articles or results were retrieved by their searches

Step 3. Entry Behavior and Learner Characteristics

To evaluate whether the students have the minimal level of knowledge or skills needed to begin this proposed instruction, I will ask students in a generalized kind of discussion how they feel about using the computer for typing papers or checking email. Then I will ask whether or not they feel somewhat comfortable searching for things on the web. To also introduce the subject of the class at the same time as assessing their level of comfort searching for general information online, I think it would be a good idea to ask them how comfortable they feel searching for information for their college research papers in databases (not the free web). After getting their responses (by raise of hands), I will then introduce the purpose of the class and what they will be able to do (or should be able to do) after the instruction.

Step 4. Performance Objectives (aka Learning Objectives)

To demonstrate that the students have met the goals of the instruction (learning how to create search terms when given a research topic to use in online databases), the students will actually conduct an exercise in which they will come up with search terms for a assigned topic and then try out searches using the terms in various combinations. Students will be using a concept map to write down the words they come up with and the kinds of results obtained. I will collect the work, make comments or suggestions to each student paper, and then return the work to the students' instructor to give back to the students. I will also check with the instructors throughout the term about their impression of students' research based on the articles students are using in papers.

Learning Activity 3. Instructional Design: Step 5. Instructional Strategy

Step 5. Detail an Instructional Strategy

Preinstructional Activties

Motivation:

In my previous learning activities, I observed that college students especially need to know how to create effective search terms when looking for information in databases. Almost every course a college student takes will involve writing a research paper. Learning how to break down a topic into main concepts and create synonyms and trying them out in various combinations is a necessary skill for their college life. In a real class environment, I think explaining that writing papers will be much easier for the students if they learn how to take the proper steps when beginning the research process is very important. Learning these skills now will save them time in the long run and may lead to better researched papers which may lead to better grades on papers if they engage with the materials they have found.

-Students will be self-motivated to learn the skill for their college success (good grades on research papers)

Some students may not attend the class session even if it is arranged by their instructors. Students may be motivated if their participation is awarded some kind of grade or if some extra credit may be given for attending. Some instructors may be willing to collaborate on this point.

-Students will be motivated to attend the session if they can receive some extra credit points or are given a grade for attending by the instructor who assigned the session

Objective of the Training/Purpose Served:

The purpose of this unit of instruction is related to the motivation factor described above. Here is a reiteration of the needs assessment from Learning Activity One:

> Knowing how to use search strategies to access journal articles in databases is a skill of great importance for students in the college setting because much of their work involves writing research papers using a variety of sources in various formats… the biggest problem freshmen students often have is in coming up with terms to use as they research their essay topics.

Entry Behaviors Essential to the Instructional Strategy:

The students don't need to have too many specific skills before beginning this instruction, but there are some basics that are necessary.

-Students are able to use a mouse and keyboard (fast typing not required).

-Students are able to use a Web browser.

Information Presentation:

In Step 2 of Learning Activity Two, I outlined the following tasks for this particular unit of instruction:

-Participate in discussion about how they (the students) approach searching for something (anything) on Google, Bing, or some other free search engine

-Watch video on the difference between Google (free search engines) and databases, and why they should use them when working on college papers (from http://www.youtube.com/watch?v=VUp1P-ubOIc&feature=related)

-Students will watch video on "What's a Database?" (from http://www.youtube.com/watch?v=FP2dYdOkutw&feature=related)

-Students will learn other search vocabulary

-journal

-database

-keyword

-search limits, like date, author, title, etc.

-Boolean operators

-Students will watch the "Search Words?" video (from http://www.youtube.com/watch?v=hcINh_e5aKU), which shows tips for creating search terms when researching

-Students will participate in a teacher-led class discussion listing what strategies they learned in the video and other suggestions for creating search terms that might have not been addressed in the video

-During this time, I will be giving each student a handout with the search tips provided by the video, as well as some information adapted from a handout created by the University of Illinois Biology Library (from http://www.library.illinois.edu/bix/pdf/genguide/searchtips.pdf)

-Students will be presented with an essay topic, and, in small groups of three to five students, will need to come up with search terms to use in a given database

-Students will each be using a concept map I will be providing (from http://www.library.illinois.edu/ugl/howdoi/concept_map_handout.pdf) to note down their keywords and what kinds of articles or results were retrieved by their searches

-Each student will have to fill out the concept map even though they will be working in groups, as this will be used as "evaluation" that the concepts have been learned.

-Students will share their results with the class if time permits and will turn in their concept maps.

Learner Participation:

-Students will participate in a class discussion on ways they search.

-Students will watch videos and take notes if desired.

-Students will participate in a class discussion about what they have learned so far about search strategies from one of the videos and take notes if desired on other search strategies.

-Students will interact in small groups and create search terms for an essay topic and try out their keywords in any combination.

-Students will share results if time permits.

Testing/Assessment:

Because I am planning this unit of instruction as a one-time session, testing and evaluation will have to be based on the concept map the students will be turning in. I will provide feedback to each student as I look over their concept maps and give their instructor back the work to hand out to students. I hope that the feedback I provide will give students more ideas about keywords to use or other ideas that could also benefit them as they work on other research projects in the future. This opportunity will give me a chance to see if students really are learning the concepts, and, if they are not learning, it will help me think about what needs to change in the future.

Follow-through Activities:

As another method of self-reflection of my teaching strategy, I think it is very important to keep in contact with the instructor of the students I taught as far as checking in to see whether students seem to be finding appropriate articles for their papers. Sometimes, students do contact their instructors (vs. librarians) as a first point of reference if they have problems finding relevant materials. In my feedback to students, I plan to leave my contact information directly with them if and when they need any more help. In my contact with the instructor, I also want to reiterate to them that I am available to help their students. The instructor could remind the class of the library's services, and I have known of instructors referring students directly to see librarians and tutors.

-I will contact instructors about student progress.

-Students and instructors will recommend others to come to the library for reference help.

Learning Activity 4. Instructional Design: Steps 6-7. Planning Instructional Materials/Learning Objects and Formative Evaluation

Step 6. Developing Instructional Materials or Learning Objects

This unit of instruction is designed as an in-person, one-time session in which teachers have requested the instruction for their class(es). This mode of instruction is the most practical for students new to the college setting who may not have ever used databases before. In class, the learners and I, as well as the learners to learners, will be interacting with each other and the other class materials. Part of my instruction will involve modeling/demonstrating (with a little lecture) and leading discussions.

Students will also be using printed matter: handouts with an outline of the session (which will include the learning objectives) and a concept map to be used during the hands-on exercise in which each student working in a small group will be filling out with search terms and synonyms, strategies, and any results. I feel that having an outline of the session gives students some direction as far as what to expect, and noting the learning objectives shows them what they should know how to do after the session is over. Students can also take notes directly on the outline. The concept map is a learning object I found as a PDF through the University of Illinois website (http://www.library.illinois.edu/ugl/howdoi/concept_map_handout.pdf). Another handout that would be useful to the students is an adapted version of the University of Illinois Biology Library's search tips guide (http://www.library.illinois.edu/bix/pdf/genguide/searchtips.pdf). I would change the examples to fit a more general, humanities background, but the ideas are great. I think adding the tips from one of the videos below ("Search Words?") would also enhance the information on this handout.

The students will also watch several YouTube videos that outline some of the concepts that could be shared in a regular lecture style, but having some visual materials breaks up the teaching style. Unless a URL is broken, students can easily find YouTube videos to re-watch. I plan to include the links to these videos in the outline of the session.

> -Video on the difference between Google (free search engines) and databases, and why students should use them when working on college papers (http://www.youtube.com/watch?v=VUp1P-ubOIc&feature=related)
>
> - Video on "What's a Database?" (http://www.youtube.com/watch?v=FP2dYdOkutw&feature=related)
>
> -Video on "Search Words?," which shows tips for creating search terms when researching (http://www.youtube.com/watch?v=hcINh_e5aKU)

Another learning material that might be interesting to use would be to create a class wiki with all the materials covered in class (definitions/concepts from the lecture/demonstration, PDF links to the concept map and outline, links to the videos, etc.). Students would be able to refer to the materials on the wiki for extra "practice" or focus on aspects that maybe were too fast-paced in the in-person environment. Links to other materials not covered in class could also be added as "extra help/resources."

Step 7. Formative Evaluation

To get a feel for whether or not students found the session helpful, I want to use a survey. The survey type will depend on several factors. Because I don't think the students will have time to do a paper survey during the last few minutes of the session, the only viable way to do a paper survey would be to have the instructor who asked for the session to hand them out during the next class meeting and have the students turn them in. The problem with this is that the instructor

may not want to have the students do it in class because of time constraints. The instructor could hand it out and have students turn it in the next class session, but the chances of getting them back are slim. I could work with the instructor to see if perhaps an extra credit point could be given for turning it in. It may be better to have a web-based survey delivered to the student email addresses that cannot be traced back to individual students. To receive extra credit, the instructor would have to use an honor system in which students send emails saying they have completed the survey. Again, communication with the instructor is of upmost importance to determine the type of survey (print or web) to be used. The best idea would be to prepare for both forms in case of late decisions, etc.

I rather like the survey created by the Medical Library Association. I would modify it to fit the parameters of my institution (change the title, etc.) and decide on whether it should be paper or web-based. I will also bring it to the Institutional Review Board for analysis and approval. The survey also needs information on a separate sheet (or in the message portion of the email if the survey is web-based) explaining how the results of the survey are going to be used. The results of the survey will help me determine what worked and what didn't for future sessions. Changes are difficult to make if problems aren't reported.

Learning Activity 5. Evaluating Training/Instruction from both the Student and Teacher Viewpoints

In evaluating online trainings and instruction, I have determined that, while my instructional design is not an online training, some of the platforms used to post class materials or structure courses would work quite well as a supplement to the class session. Specifically, I think developing a class wiki with the class materials, including handouts and videos, would be beneficial as a reference tool for students after the session.

Learning Activity 6: Evaluating and Choosing Instructional Tools and Materials

After evaluating instructional tools and materials, I have become familiar with the screen cast software, Jing, and have discovered that audio lectures can be recorded in QuickTime. In the class wiki, I would choose to demonstrate searches and clarify key points using Jing and/or QuickTime.

Implementing the Instructional Design Plan

While I believe that online tools offer a more varied learning experience for certain subjects, for new college students, the most practical approach to teaching how to develop search terms is a one-shot, face-to-face lesson. The request for these sessions normally comes from course instructors who set aside time in their course schedule for a library session. It may be more difficult to have students complete an online tutorial because parameters need to be set in place to show proof that the students have actually completed the tutorial (some kind of notification or "certificate of completion"). These students also wouldn't have the benefit of

asking questions and receiving immediate answers in this kind of learning environment, which is a disservice if this is the first introduction the students have to the academic library. Because developing search terms requires critical thinking, it is probably more beneficial to engage in a live conversation and discussion about this topic.

Many academic libraries have classrooms with computers at each desk and access to laptops and projectors that display the teacher's screen so as to aid in the modeling process. Since these tools are more than likely already in place, and live courses would be helpful to acquaint students with the academic library and academic life, this seems like the more practical approach to an online tutorial. However, a class wiki with the materials covered in class would serve as a strong reference tool for the students' later use.