

## **EPD 151: SAMPLE STUDENT DISCUSSIONS (names changed)**

### **SAMPLE ONE , free-form exchange:**

#### **Instructor Post:**

**Part 1.** For this discussion unit, feel free to ask any questions you have about finding books. Alternately, *ask a question* or *share a thought* about any of the topics covered in EPD 151. Do you have any burning questions, fuzzy areas, or brilliant insights that you would like to share? :-)

**Part 2.** Reply to a classmate's post with a useful contribution from your own experience.

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#### **Sample student dialogue:**

**Authored by: DAMIEN**

**Authored on: Nov 13, 2009 12:25 PM**

I have one interesting thought to share about the first article topic that we had that involved the Millennium Bridge in London. I recently interviewed a Civil Engineer Consultant for one of my other classes and i asked him about the technology that he used to keep on top of information so he can be the best resource possible for his clients. He told me he is always reading new engineering journals and magazines to learn all the new information that is coming out so he can stay informed about new technology etcetera that is coming out. if the engineers had been doing this that built the Millennium Bridge they might have averted the problem altogether. This just goes to show you that staying informed and up to date can keep you on the top of the job market.

**Reply to DAMIEN**

**Authored by: ANGELA**

**Authored on: Nov 15, 2009 3:07 PM**

While it is commendable for engineering professionals to read journals and magazines in order to stay current, this would seem to be an inefficient way to keep the profession informed, especially when it comes to information that impacts public safety. It should not be assumed that Joe Engineer will pick up that particular issue of Earthquake up to date. Instead of each individual having to continuously conduct his/her of Earthquake Engineering and Structural Dynamics and every other obscure publication. Information that is important to the profession should be "pushed", not "pulled". Professional Civil Engineers are registered as part of their credentials so it should be easy to find them. A broadcast email should be sent out as a priority communication to this community whenever there is critical new information that they need to know. Critical information is that which changes previous assumptions or directly impacts public safety.

**Reply to ANGELA**

**Authored by: MELANIE**

**Authored on: Nov 16, 2009 1:06 PM**

Angela, I found your post really interesting to read and it provoked a lot of thoughts in my mind. It's good to know that there are services like RSS and paid searches that allow engineers to obtain this

important information without having to constantly take the initiative to conduct exhausting searches regularly. I agree with you that this is way too time consuming and I can't imagine how an engineer who is working on a big design or research project has enough time to do this efficiently, especially with the rate at which new technologies are emerging these days. It seems impossible that any one person could keep up in this way.

But I'd also like to address your comment that, "A broadcast email should be sent out as a priority communication to this community whenever there is critical new information that they need to know." I will have to respectfully disagree with this. I understand your concern of public safety but this is also an issue of "leveling the playing field" between corporations. As discussed in an earlier post for this unit, there is no one, big monster source of all peer reviewed publications. It is all about individual companies and the share of the information that they own access to because of the money that they pay. I think the closest thing to what you are suggesting would be what Diana mentioned about companies that are paid by engineers to conduct massive searches and keep them up to date. But a free service that automatically did this for all registered engineers would have to be some sort of government program which would mean that politics would be involved and it would take a lot of time for the government to even agree on what is even considered "critical new information that they need to know." By the time the broadcast was sent out to the community, all of the leaders in the industry would already have known about it. I guess what I'm saying is, because of the private ownership of information that makes it so difficult to find what you are looking for and creates the need for classes like this to teach people how to navigate through it all, it would be pretty much impossible to create a nationalized broadcast system with automatic alerts.

#### **Reply to MELANIE**

**Authored by: ANGELA**

**Authored on: Nov 17, 2009 3:44 PM**

I think that the "playing field" should be leveled when it comes to information directly related to public safety, as was the case with the discovery of the unexpected lateral forces on pedestrian bridges. This is the responsibility of the engineering community just as making important new information available to doctors must be a priority in the medical community. When there are unforeseen side effects discovered in common drugs or medical treatments, how does that information get into the brains of physicians who are making decisions about their patients? It seems like the government is involved (FDA) but there are also strong professional groups (AMA) that may have a role. There is probably a parallel here that we could learn from; you would expect that any hospital you end up in within the US would have ready access to the current best practices. Does anyone know what process and safeguards are in place to insure that new information gets to doctors?

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## **SAMPLE TWO, task-based:**

### **Instructor Post:**

The Unit 3 discussion will help you complete your **Round of Searching** project. It consists of a mini-assignment. **It will be much easier to do this if you have read/listened to the Unit 3 content and tutorials.**

Complete each of the following, posting your answers below each question.

1. Write your topic as a question or statement (eg., "Is the US power grid vulnerable to cyber warfare?). Type it below:

2. Open a new window or tab. Following your own instincts about where to search, find background information on your topic. There is no right or wrong place to look for this information. Researcher intuition is worth a lot. While you're at it, write down any terms that are potentially useful, such as narrower/broader terms, synonyms, acronyms, or related terms (eg. *attack* for *warfare*, *CAD* for *computer aided design*, etc.) Type these terms below:

3) What was/were your best background information source/s? In choosing your top few, remember to apply the criteria for evaluating sources from Unit 2. Paste URL or citation info. below:

4) Most indexing databases use Boolean syntax to structure searches. Put your concepts and terms in **Boolean search syntax**, using AND, OR and parentheses correctly. Be sure to include any helpful **truncation**.

Example: (US or united states) and (power grid\* or electrical power system\* or power supply) and (secur\* or attack\*)

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***Sample student/instructor dialog:***

***Authored by: BEN***

***Authored on: Nov 5, 2009 1:08 PM***

***Subject: Selective catalytic reduction***

**1. Topic as question: What is the effect of selective catalytic reduction systems on the operating cost of on-highway heavy-duty diesel engines?**

2. Useful search terms:

Selective catalytic reduction

SCR

urea injection

fuel economy

diesel exhaust fluid

DEF

consumption

cost

**3. background websites**

[http://en.wikipedia.org/wiki/Selective\\_catalytic\\_reduction](http://en.wikipedia.org/wiki/Selective_catalytic_reduction)

[http://www.cumminsfiltration.com/html/en/products/fuel/diesel\\_emission/urea.html](http://www.cumminsfiltration.com/html/en/products/fuel/diesel_emission/urea.html)

<http://alternativefuels.about.com/od/researchdevelopment/a/scr.htm>

#### **4. Boolean searches**

(SCR OR selective catalytic reduction OR urea injection) AND (fuel economy OR consumption OR cost)

(diesel exhaust fluid OR def OR urea) and (consumption OR cost)

**Reply to BEN:**

**Authored by: DIANA (instructor)**

**Authored on: Nov 8, 2009 2:35 PM**

**Subject: Re: Selective catalytic reduction**

Ben,

Great job, and excellent use of terms in your search strategy. Be a little careful about overdoing it with the Boolean ORs while using kind of general terms. Consider how, based on this search, **(diesel exhaust fluid OR def OR urea) and (consumption OR cost)**

the database might pull up articles on just this combination of terms:

#### **urea and consumption**

Now, if you are searching an engineering/automotive database in the first place, chances are you will get appropriate results simply because of the body of literature that is being searched in the first place.

It isn't necessarily the case that your search would give you problems. It is just something to be aware of not to go overboard with the Boolean combinations. You could try the search, and if you get weird results, simplify it a little. Also, sometimes a combination of terms in a phrase is more powerful than a single word, as with "urea injection".

Don't forget about truncation.

--Diana

**Reply to DIANA:**

**Authored by: BEN**

Re: Selective catalytic reduction

Nov 9, 2009 5:27 PM

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Thanks for the tip! -Ben