Preliminary Report on a Geology Professor's Use and Perceptions of DLESE

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Preliminary Report on a Geology Professor's Perceptions of DLESE

This document reports preliminary findings of a current research study, situated in an undergraduate geology course, that explores the use of inquiry-based learning activities supported by access to, and use of, resources in DLESE.

As already described in an associated document *Preliminary Report on Student Use and Perceptions of DLESE*, the purpose of the study is to characterize the opportunities and obstacles presented by digital libraries for: (a) instructors attempting to create a technology-enhanced inquiry-based learning environment, and (b) students learning in a technology-enhanced inquiry-based learning environment. The research questions of particular interest are:

1. How do the features and functionality of DLESE support or hinder an instructor's efforts to create a technology-enhanced inquiry-based learning environment?

2. How can an instructor's use of DLESE for creating a technology-enhanced inquiry-based learning environment be characterized?

3. How can students' use of DLESE be characterized?

4. *What are students' perceptions of the affordances or obstacles to their learning presented by use of DLESE?*

For additional information about the research context, participants and design please see the document *Preliminary Report on Students Use and Perceptions of DLESE.*

Preliminary Results of Interest

Preliminary results related to (a) use, and (b) perceptions of DLESE are presented below. (See Appendix for supporting interview transcripts.)

Instructor Use of DLESE

The professor has reported little to no use of DLESE to support instruction of an undergraduate and graduate level course this semester, despite being very familiar with the features

and functionality of the DLESE site. The following were reported as constituting some barriers to use of the DLESE site for this instructor: (a) lack of relevant resources/material for the educational level, and (b) laborious search procedures required. In fact, the professor reported preferring use of Google to DLESE to find instructional resources.

In response to the question "Tell me about some of your experiences using DLESE as an instructor," the professor replied:

> Well I have to tell you that I tend not to use DLESE because there are a lot of things on there that I can't use and the level of information I can't really use. If I was putting together a K-12 project, or umm, looking for, you know, information for just in general, umm its good but I have to do a lot of searching, I can't get anything instantaneously, I have to click a lot of buttons, and things like that - at least for what I've used.
> I use Google all the time. I just type in, I get Google up, I type in the word I want, I put a comma, I put definition and BAM it's right there! The top one, I can use. I can't do that in DLESE.
> DLESE takes more thought, more preparation, umm, its not instantaneous gratification. When I'm writing a lecture, you know I spend a lot of time writing lectures, but I don't have that much time, umm, and I have not used DLESE, at all this semester!

Instructor Perceptions of DLESE

Despite experiencing obstacles to use of DLESE for instruction, this professor does see the value of a resource such as DLESE, stating:

> Oh, personally, yeah exactly, it's all peer-reviewed, it's all scientific, umm, there's no creation science on it. That's fantastic! Because like I said, if I type in the Grand Canyon geology the first six hits let say, well I don't know right now but I remember- the first six hits are creation science, its not good science- and I can go to the DLESE site, with you know, checking the different boxes, type in the Grand Canyon and I'm going to get science. And that's the huge plus right there. And I think that's really important for the public to know about, because some people don't know the difference between creation science and science. And I think its really important that we have this service that [doesn't] have a fundamentalist Christian way of thinking out of the, of science. So that's the big plus.

In addition, although the sorting of resources by different levels appeared to be a barrier for this professor's use of DLESE, the professor acknowledges the potential value of such a system for other users:

> The other plus is that, information is in different levels. I mean, I found it as a barrier because I'd have to sift through stuff, but for most people, you could find what K-12 information is, or just K information, you could find university information. I like that a lot. I think that's great. So I could go in and find out 'oh that's kindergartener level, oh, okay' and I could learn very quickly what kindergartener level is and write something at that level. Right now I don't have a need for that…

In response to the question "Do you have any recommendations for ways that DLESE could be improved for your use?," the following was stated:

> Yeah more substantive information in geology and paleontology, umm, probably following a historical geology framework. With pictures that professors can use, like an image bank, like done through either rock groups or by time, history by time. That would be just fabulous. I would really appreciate that. Yeah, so more of a historical geology, more of a, hmmm, time slices, and what aah, you know, the rocks, what are the rocks doing, what are the organisms doing. Have a really cool time slice all through time. And I could really use that, and that would also help us with the creation fundamentalists.

Final Note:

As a final note is should be stated that this professor is eager to support the mission and goals of a project such as DLESE. This professor views projects that aim to improve the education of geologists and earth scientists, such as DLESE, as worthwhile and necessary. Thus, this professor has integrated into the graduate level course they teach a class project in which students will build a website to be submitted to DLESE as a resource as the end of the semester.

> We are putting together a DLESE, a reef site because DLESE does not have a good reef through time site. So in 8000 we put together this reef site, ah, that DLESE does not have, and we've checked DLESE and it doesn't have it, it has links to, other peoples sites, but they're only one point in time – so it didn't give you a sense of what reefs are, ah, what they mean for geology, for you as a person, why are they important, why we should care. Um, they've got some cool NASA stuff, there is some connection to that, but we're trying to find a site that puts it all together and

we don't see that. So we're hoping our sites will be competitive enough to put, to be on there so that people can use it - with pretty pictures that are not copyright, our own diagrams, our own photographs, all on there. So we're excited about that, so we did search DLESE and found that there was a lot lacking for the reefs anyway. And we're hoping that what we do is going to make it better.

Future Research Directions

As mentioned at the outset of this report, these are only preliminary results and findings. Classroom observation and interview data will continue to be collected throughout the semester, and thus should provide more insight on, if and how, the professor is using DLESE to support instruction in an undergraduate geology course.

Appendix

Selection from Professor Interview Transcripts

[Researcher: Tell me about some of your experiences using DLESE as an instructor.]

Professor: Well I have to tell you that I tend not to use DLESE because there are a lot of things on there that I can't use and the level of information I can't really use. If I was putting together a K-12 project, or umm, looking for, you know, information for just in general, umm its good but I have to do a lot of searching, I can't get anything instantaneously, I have to click a lot of buttons, and things like that. At least for what I've used.
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Umm, in the class, I noticed that they were using it in the beginning, but then they used Yahoo a lot. They would go to yahoo as a search engine, and I've never used yahoo. And so I'd always try to put it back on the DLESE site during the lab. And I noticed that they were using it early on, now I don't know what they do outside of class so. I've told them to get to the Internet you know and work on their problems, so I don't know how much they use it, so I'd be curious to see what they say.

[Researcher: In terms of any, negatives you've already talked about – you just can't find things, it doesn't come up right away, are there any positives associated with your experiences?]

Professor: Oh, personally, yeah exactly, it's all peer-reviewed, it's all scientific, umm, there's no creation science on it. That's fantastic! Because like I said, if I type in the Grand Canyon geology the first six hits let say, well I don't know right now but I remember- the first six hits are creation science, its not good science- and I can go to the DLESE site, with you know, checking the different boxes, type in the Grand Canyon and I'm going to get SCIENCE. And that's the huge plus right there. And I think that's really important for the public to know about, because some people don't know the difference between creation science and science. And I think its really important that we have this service that [doesn't] have a fundamentalist Christian way of thinking out of the, of science. So that's the big plus.

The other plus is that, information is in different levels. I mean, I found it as a barrier because I'd have to sift through stuff, but for most people, you could find what K-12 information is, or just K information, you could find university information. I like that a lot. I think that's great. So I could go in and find out 'oh that's kindergartener level, oh, okay' and I could learn very quickly what kindergartener level is and write something at that level. Right now I don't have a need for that, but instance if I had known about the DLESE site when I had done the February evolution thing I could have gone on the DLESE site – I went and found all the mistakes in the K-12 curriculum that they were doing for Georgia; and so I edited that based on geology and biology – and so if I'd had the DLESE site I could have gone through a kindergartner site, or k-2 and find out what level of information nationally that they tell about evolution, and then I would have been able to use that to look at what these curricula were about. What I used was the National Academy of Sciences information and compared the National Academy of Sciences information to what Georgia was doing. So umm, anyway that would have been cool – I could have used it then but I didn't know about it so.

…

[Researcher: Do you have any recommendations for ways that DLESE could be improved for your use?]

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