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Abstract:

This article summarizes a presentation given at the Amigos Library Services Going Green 2 online conference in November 2010. Embedding green messages within your work, tasks, programs, tools, and teaching will passively or subtly inform others without being forceful. My library at the University of North Carolina at Greensboro recently completed a large ten module research tutorial covering concepts from forming a topic to citing sources. By embedding the theme of recycling throughout the entire tutorial, users become more environmentally literate. This brief article discusses the tutorial project and the usefulness of embedding messages within other academic areas, instruction, projects or activities.



Embedding your Green Message through Asynchronous Learning

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Sustainability, going green, eco-friendly, environmental – these terms, though not new concepts, have become mainstream catch phrases common to hear, see, or read in many avenues of life. But not everyone is convinced that the environmental sustainability concept is critical, and thus many feel the “trend” will eventually pass. How can the greening message and its concepts be spread, taught, modeled, and instilled within academia without pushing the ideas on people or turning them away? Embedding your green message within your work, instruction, projects, programs, or tools can passively or subtly inform others without being forceful. My university library recently completed a large ten-module multimedia-based research tutorial covering concepts such as forming a topic to citing sources. By embedding the theme of recycling throughout the entire tutorial, we help our student users become more environmentally literate without them even realizing it.

Embedding Messages

Environmental education has become more commonplace in academia, especially since the National Council for Accreditation of Teacher Education (NCATE) recognized it as a component for certification, and approved the North American Association for Environmental Education standards for pre-service education and professional development in 2007 (NAAEE, 2007). Standards are key to keeping a discipline consistent, proving legitimacy, and helping guide accreditation for environmental educators. The Association for Advancement of Sustainability in Higher Education (AASHE) is a forerunner in environmental education at the higher education level. Stemming from the former Education for Sustainability Western Network, AASHE started in 2001, holding its first conference in 2006. It offers a plethora of professional development opportunities through workshops, webinars, resources, and programs like STARS (Sustainability Tracking, Assessment & Rating System) throughout all sectors of campus (AASHE, 2011).

Despite these accomplishments for environmental educators, AASHE is still often misunderstood or misinterpreted - seen as a radical or liberal group with an agenda based on ideas that will produce environmental activists rather than informed citizens (Brown, 2007). One particular problem for the group is that standalone subject-based programs are often not interdisciplinary, and create silos of knowledge not based in real world experiences for the learner. Embedding messages integrated in other curriculum-based learning experiences will ultimately provide the connections. Multiple approaches to teaching environmental education, as with any concept, will only enhance learning. Therefore, embedding a message into research tutorials creates an additional chance for students to gain understanding and perhaps change their values and behaviors.

Embedding messages is a common theme in the mass media world. Advertising, commercials, and entertainment all use embedding to influence consumers, drawing their attention, but subtly pushing a

product or an idea (Shrum, 2003). Often called “hidden agendas,” these messages can be seen as positive or negative, depending on your perspective or role in the process. Frequently advertising uses “green” themes to grab consumers’ attention to their products with “hidden agendas” that are not as green as they appear – often called “greenwashing.” Another term - “bluewashing” - is typically a disparaging term used to describe corporations associating themselves with the United Nations’ themes of human rights, labor rights, and environmental protection, even though their practices are antithetical to these values (Corpwatch, 2001). It is important to be aware of this “washing” of false information and representation, particularly when planning your own hidden messages so that you are not pushing false or deceptive agendas.

Embedding ideas into other curricula is a widespread idea. Searches on the terms "embedding" and "curriculum" in a variety of subject databases will produce results indicating the widespread practice of embedding messages in a variety of different learning environments, including such titles as:

- Dogra, N., Reitmanova, S., & Carter-Pokras, O. (2009). **Twelve tips for teaching diversity and embedding it in the medical curriculum.** *Medical Teacher*, 31(11), 990-993. doi:10.3109/01421590902960326.
- Stevenson, N. (2009). **Enhancing the student experience by embedding personal tutoring in the curriculum.** *Journal of Hospitality, Leisure, Sport & Tourism Education*, 8(2), 177-122. doi:10.3794/johlste.82.218.
- Darlington, M. (2008). **Contrasting views: embedding cultural diversity in the FE Art and Design curriculum.** *Journal of Further & Higher Education*, 32(3), 263-274. doi:10.1080/03098770802220447.
- Jackson, C., & Mogg, R. (2005). **Embedding IL into the curriculum.** *Library & Information Update*, 4(1/2), 32-33.
- Treby, E., Hewitt, I., & Shah, A. (2006). **Embedding ‘disability and access’ into the geography curriculum.** *Teaching in Higher Education*, 11(4), 413-425. doi:10.1080/13562510600874169.
- Thomas, T., Davis, T., & Kazlauskas, A. (2007). **Embedding Critical Thinking in IS Curricula.** *Journal of Information Technology Education*, 6327.
- Holmberg, J., Svanstrom, M., Peet, D., Mulder, K., Ferrer-Balas, D., & Segalas, J. (2008). **Embedding sustainability in higher education through interaction with lecturers: Case studies from three European technical universities.** *European Journal of Engineering Education*, 33(3), 271-282. doi:10.1080/03043790802088491.
- Lowther, J., & Sellick, J. (2009). **Embedding Sustainable Development into Legal Education.** *International Journal of the Humanities*, 7(6), 11.

Such materials can provide some ideas as to the ways environmental messages might be embedded into education and learning.

The Problem

There is ample evidence that college students need to gain research skills to be proficient throughout their academic coursework and professional lives. Most every university offers research skill classes, workshops, tutorials, guides, or web pages teaching skills such as how to choose a topic, finding scholarly articles, avoiding plagiarism, etc. Web-based tutorials are an important resource for college students, especially as online education grows. Whether students are online-learners or on-campus

students, asynchronous tutorials – student centered online teaching resources – are excellent methods for students to learn research skills through point-of-need instruction about topics ranging from developing a research question to integrating research into writing skillfully and responsibly.

In the past, my university library has hosted an effective research skills tutorial, used by students and mandated by many faculties on campus. Though the tutorial required some interaction, much of it was text-based prompting students to read dialogue on a web page. It is more challenging to engage students of the millennial generation - those born between 1981-2000 (Pew Research Center, 2009) – in the learning process. Unlike previous generations, millennials grew up with online classes, watching and posting online videos, wireless internet and mobile technologies, viewing TV programs and news online, and interactive online networking (Pew Research Center, 2010). They seek multimedia-enhanced learning to stay engaged, whether we librarians like the idea or not. Libraries are embracing this concept and building online videos and tutorials that offer more multimedia based interactions like movie-based, web-based, or through podcasting (Plumb, 2010). Research studies show that audio tutorials will hold a user's interest and help present more positive perceptions of the material (Yu et. al., 2009). Rethinking the research skills we aimed to teach students and using a method that grabbed their attention and kept them involved, my library collaborated to build a database driven multimedia-based tutorial.

The Project

A year-long collaborative effort between the Distance Education Librarian, Information Literacy Librarian, First-Year Instruction Librarian, a library IT staff programmer, and designer at UNCG concluded with the creation of a ten module dynamic research tutorial - *Path: lighting the way from research to writing*. Starting with sticky notes on a wall, we brainstormed skills, grouped them into skill sets, established our student learning outcomes, and determined we needed ten modules. Moving to Google Docs for project management, we outlined each module with student learning outcomes, scripted narratives to video record introductions for each module, determined interactive exercises and/or necessary textual information, and created mini-quizzes reinforcing the objectives. Our IT programmer built a quiz question manager to handle input of new quiz questions associated with answers so we could sustain the tutorial on a long-term basis as needed. By contacting the campus' theater department, a willing student volunteer was found to be our main actor for the videos. Volunteers from within the library were also recruited to play roles. With a spreadsheet timeline of tasks and assignments, we worked throughout the academic year on this project virtually and through bi-weekly brief meetings.

How it works

Students have the option to take a dynamically generated pre-assessment quiz to determine which modules they should complete, or they can choose to complete all ten modules. This pre-assessment gauges their skills and assesses their knowledge before they complete the tutorial. There is a post-assessment as well to determine the skills gained through the asynchronous learning experience. Each of the ten modules covers an aspect of the research process, allowing students to focus on particular

areas as needed. The modules all follow a similar structure: they open with a Flash video clip of a student-acted drama showing a student navigating the research process, move on to interactive exercises, further explanation of the topic, and finally a mini-quiz to wrap up each module. Built on ASP.NET with jQuery and a database using Microsoft SQL Server, the code displays the pages and dynamically generates features like quizzes. The database holds the quiz module, questions, answers, associations, and user progress. Our campus students have the option to login into the dashboard to view their progress, come back and complete modules at another time, and email their progress or completion to their instructors.

Theme

Embedding a consistent theme throughout the entire tutorial seemed most useful in demonstrating the objective of the tutorial itself. In the module videos, the student actor went through the process of researching an idea and writing a paper from start to finish. The goal was to demonstrate the path of each module, but keep to a common theme that would make realistic sense to a student using the tutorial. Besides the video introductions, the screen shots demonstrating database searches and example exercises all matched that same theme. The theme chosen had to be generic enough for all students to understand. "Recycling" as a topic fit these objectives and we created our theme based on this concept. The result is a research skills tutorial embedded with an environmental education concept.

Why the recycling theme?

Recycling is a key term almost everybody recognizes, and that many people embrace already. Keep America Beautiful (<http://www.kab.org>) and their annual Great American Cleanup program promotes recycling nationwide as a simple but responsible initiative that all individuals can do to improve their community environments. On college campus, we often see recycling bins, though behavioral changes for better usage are still a problem. One hope was that through this tutorial student would see examples in journal articles, websites, and exercises that would potentially increase the recycling efforts on our own campus. Recycling is a not a controversial side of sustainability, and it is fairly easy to do while benefits are tremendous. Recycling of aluminum cans saves 95% of the energy required to make the same amount of aluminum from its virgin source (EPA, 2009). Americans use 2.5 million plastic bottles every hour but only about 23% are recycled (Clean Air Council, 2006). One ton of recycled office paper saves 4,100 Kwh of energy, 9 barrels of oil, 54 million Btu's of energy, 60 pounds of air pollutants from being released, 7,000 gallons of water, and 3.3 cubic yards of landfill space (MDEQ, 2007). The average American worker uses about 10,000 sheets a year - that's 5 sheets per hour worked, or 4 million tons of paper of which a little over a half of it might get recycled (EPA, 2010). Libraries are institutions that use lots of paper and many other recyclable products; it seems a relevant and natural fit to educate our students using this basic theme.

Results and Conclusions

Our tutorial was promoted for the fall 2010 semester and thus it is too early to assess the usefulness of embedding the green message, but we had over 30,000 unique visits to the tutorial that first semester. Anecdotal comments from sustainably-minded faculty members have of course been positive and

supportive. Usability studies and assessment will be the next steps for our tutorial. Regardless, embedding an environmental theme as your hidden message within an asynchronous learning object is an idea more people should address and attempt. Whether it's a large dynamic tutorial such as our project, or simply a lesson in the classroom using a green theme for the example, embedding a green message will portray sustainability as more commonplace and not a passing trend. Try reviewing daily teaching, projects, programs, and experiences, and figure out ways to embed these ideas, model this behavior, or create educational environments instead of silos of learning. Ideas like green-themed common book reads, nature-themed artwork displays, green web resource guides, recycling books into art class projects, community gardens, eco-film and discussion nights, gifts of trees/tree planting, bringing your own mug and water bottle, and going paperless are all examples of how to embed and model green behavior, regardless of your job or academic area.

The article is based on a presentation at An Amigos Online Conference: Going Green @Your library 2. Working Green, Teaching Green on November 3, 2010.

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