

“Travel Well” Open Educational Resources: A Presentation of Ongoing Research by The Institute for the Study of Knowledge Management in Education

Prior research has indicated that educators are accessing and using open educational resources (Collis & Strijker, 2003; Harley et al., 2005; Petrides et al., 2008, forthcoming), but little is known about the reuse of resources, and what makes them localizable across multiple teaching and learning situations. In an effort to forge a better understanding of user needs and reusability issues regarding open educational resources, the Institute for the Study of Knowledge Management in Education (ISKME) composed an exploratory pilot study of the factors that contribute to a resource’s ability to “travel well”, meaning, a resource that is more easily reusable in a context different from that which it may have been originally intended.

For this exploratory pilot, ISKME created a survey for college-level biology instructors who had previously accessed and used open educational resources. Participants were asked to review five specific resources from a range of subjects and educational levels for the purpose of preparing, planning and teaching a lesson on the topic of phylogenetic reasoning. The resources included 1) a Flickr photo of an interactive evolutionary family tree from the Santa Barbara zoo; 2) an interactive tutorial on phylogenetic relationships from WGBH public broadcasting; 3) a scholarly research article on aerobic bacteria research; 4) a learning module on the history of 19th century North American whaling; and 5) a case study on HIV/AIDS, including primary literature on the virus, as well as samples of HIV/AIDS patient viral sequences.

After reviewing the resources, the instructors were asked to answer four open-ended and two multiple-choice questions for each resource individually. The questions focused on discovering factors that might influence the use of those resources, as a way for us to begin to isolate those characteristics of the resources that render them more or less conducive to multiple reuse contexts. In assessing each resource and the factors that made it useful, the instructors were asked to consider aspects of the resource itself and of its metadata (both top down metadata such as abstracts and keywords, and user-generated metadata such as reviews by prior users, ratings, and tags). The instructors were also asked to indicate whether they would use the resource, and if so, how they would localize or modify it. After the survey, a debrief session was held with the instructors to assess their perceptions of the survey, and to glean additional insights on the issue of travel well. Analysis of the instructors’ responses on the survey and from the debriefing revealed the following:

- Across almost all of the resources, the subject and abstract were viewed as important in helping the instructors determine usefulness, while author information (or who created the resource originally) and licensing were viewed as less important.
- How other, previous instructors have used a given resource surfaced as a factor that impacted perceived usability. In particular, instructors surveyed indicated an interest in knowing what obstacles others may have encountered in using a given resource, and how they overcame those obstacles.

- Instructors indicated that they had been considering ways to make a given resource more comprehensible and appealing to their students. The instructors expressed interest in using parts of resources, and reformatting those parts (for example, enlarging a picture or adding captions).
- In comparison to the other resources included in the survey, a significantly larger portion of the instructors said they would use the scholarly research article and the Bioquest HIV case study. This indicates that the user's comfort level with a given type of resource (for example, research article, tutorial, image, lesson plan, etc.) may potentially impact use.
- The debrief in particular revealed that on the whole, while the instructors viewed metadata as important in determining resource findability, actually viewing the resource itself played the largest role in determining whether they would use it.

While subsequent research will seek to refine the methods of this exploratory study and extend the number of respondents, the findings nonetheless suggest future directions for inquiry. Specifically, future research is needed to understand the ways in which the structures and technology supporting open educational resources, including the metadata, might better accommodate users' need to understand how others have applied a given resource. Additional research into the factors that did not appear to impact usability, such as licensing and authorship, is also needed.

On the whole both user-generated metadata and metadata created by the author/creator of the resource both surfaced as important to resource usability. Questions remain, however, as to why some types of metadata surfaced as more central than others, and how metadata can best be expressed to facilitate a resource's ability to travel well. Questions also remain as to which aspects of a resource in and of itself impact perceived usability by instructors. We look forward to sharing in a lively and informative conversation on this topic, as we invite collaborative critique of this exploratory pilot study, and welcome open discussion of our findings and directions for ongoing research.

ISKME is working in close collaboration on this topic with European Schoolnet (EUN), which has been investigating the potential of learning resources to "travel well" since 2002. EUN and ISKME are also currently working together on a small feasibility project funded by the Hewlett Foundation that is examining how an international teacher network could help identify K-12 OER content that can be used across geographic and linguistic borders.

References

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Authors

Lisa Petrides
Institute for the Study of Knowledge Management in Education
323 Harvard Avenue
Half Moon Bay, CA 94019
(650) 728-3322
lisa@iskme.org

Lisa Petrides, Ph.D. is president and founder of the Institute for the Study of Knowledge Management in Education (ISKME), an independent non-profit educational research institute located in Half Moon Bay, CA. Her research seeks to inform and improve the ways in which those in formal and informal education foster the creation and sharing of information, apply it to well-defined problems, and create knowledge-driven environments focused on improved learning and organizational success. Petrides also leads OER Commons (www.oercommons.org), an open source teaching and learning network that supports and facilitates the creation, sharing, and modification of open educational resources. A former visiting scholar at Stanford University and professor in the Department of Organization and Leadership at Columbia University, Teachers College, her research and teaching interests include information science, decision-making, and issues of access and equity in education. She received a Ph.D. in Education from Stanford University and an MBA from Sonoma State University, and was a postdoctoral fellow in Educational Policy Research Division at Educational Testing Service.

Cynthia Jimes
Institute for the Study of Knowledge Management in Education
323 Harvard Avenue
Half Moon Bay, CA 94019
(650) 728-3322
cynthia@iskme.org

Cynthia Jimes received her Ph.D. in Information Science from Uppsala University in Sweden. Her academic research focused on how both face-to-face and technology-driven communication play a role in organizational learning and innovation. Before joining ISKME, Cynthia worked as an education data specialist at GreatSchools.net and focused on providing parents with information to inform their school choice and school improvement efforts. While living in Sweden and the Netherlands, she also worked in the

management consulting sector as a researcher and consultant. Cynthia's research interests include how communication and employee perceptions are related to the creation of the organization, and how online communities create content collaboratively.

Anastasia Karaglani
Institute for the Study of Knowledge Management in Education
323 Harvard Avenue
Half Moon Bay, CA 94019
(650) 728-3322
anastasia@iskme.org

Anastasia Karaglani received her Ph.D. in Education from the University of Southern California. Over the past 8 years, her work has focused on quantitative research, standards and assessment development. Prior to joining ISKME, she was a research associate at the Center for Research on the Context of Teaching at Stanford University. She was previously a research assistant at the National Center for Research on Evaluation, Standards, and Student Testing at UCLA, where she participated in the development of language arts performance assessments for the Los Angeles Unified School district.