Capitalizing on Multiple Perspectives to Build Knowledge Communities

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Abstract

Our work focuses on designing instructional environments that prepare students to learn through a process of action, comparison, reflection and research. This poster focuses on a component of a software framework that helps build knowledge communities by capitalizing on the multiple perspectives available within any population. The framework structures an array of resources that encourage learners to reflect on what they know and to contrast it with other people's perspectives. It organizes the resources through a cyclical process of inquiry and problem solving that follows these steps: the presentation of a challenge, generating ideas, viewing multiple perspectives, doing research, testing your mettle, and finally "going public" by publishing what you've learned. An authoring environment called STAR Legacy (Software Technology for Action and Reflection) provides a vehicle for "learning designers" to structure various media resources that support a learner's thinking during the process of exploring a particular challenge. In this presentation we emphasize how multiple perspectives bring together experts and learners.

The multiple perspectives component helps draw together and make available distributed expertise and practices among people who cannot easily be brought together. It helps address the problem that students and faculty often do not have a chance to see and learn from one another's thinking. Legacy presents people with an interesting "case," or challenge, as a central focus about which they generate and articulate their ideas. People then view others perspectives about the case and contrast it with their own ideas. A Legacy designed for an Educational Psychology course exemplifies the use of multiple perspectives. The initial challenge shows a video of a 6-month old infant's encounter with a voice activated mobile. The infant apparently learns that her voice turns on the mobile. The challenge for the students is to "generate ideas about what important things you noticed." Typically the students only notice superficial features like "the baby learned." Then they hear observations prepared by different experts from the university faculty. Among other things, the experts comment on the mastery smile often seen on infants after learning, on the repertoire of innate behaviors infants use to stir up an environmental response from which she could learn, on the question of how we can know whether the infant has really learned, and so forth. Students who compare these ideas to their own invariably comment that their original observation, "the baby learned," was not sufficiently differentiated. Moreover, the faculty who commented on the video showed an increased awareness and appreciation of their colleagues' insights and domains of expertise. In this way, Legacy provides a mechanism to overcome the problem of bringing together busy people by allowing participating members to contribute or to use Legacy at their leisure. Additionally, Legacy can support communication of an even more asynchoronous sort; people can leave or look at Legacies from different cohorts. For example, students from one class may create a Legacy for another class, much as a graduating class might leave something for their school. Ideally, Legacy can help create an enduring culture of collaboration.

The Legacy authoring environment provides hardware and software tools that support the use and development of multiple perspectives for both faculty and students. These will be demonstrated at the poster.