The Role of Outside Affordances in Developing Expertise in Online Collaborative Learning

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ABSTRACT

Web 2.0 tools have introduced a dynamic aspect to learning in contemporary classrooms. Pre-service teachers require expertise in the use of these spaces. The metaphor of outsideness—engaging with distant peers using Web 2.0 tools—has affordances that support the development of this expertise. In this paper, a conceptual framework is outlined that links a model of developing expertise with the affordances of outsideness and a case study of pre-service teacher education is used to demonstrate the framework’s possibilities and limitations. Implications are drawn for the use of online collaborative spaces in higher education.

Keywords: Expertise, Knowledge Construction, Outsideness, Virtual Communities, Web-Based Collaboration

INTRODUCTION

Contemporary pre-service teachers are likely to have experience of informal social spaces mediated by a range of emerging technologies e.g. Facebook and YouTube. These environments enable users to acquire a mix of collaborative, representational, reflective and research styles and strengths (Dede, 2009). New teachers may view Web 2.0 tools as a potential means of providing engaging, albeit more artificially structured, learning spaces. Using technology to support collaborative learning allows neo-millennial students to exercise their preference for taking responsibility for their own learning, operating in personally created contexts, and representing knowledge using multiple media (Resta & Laferriere, 2007). It recognizes that knowledge is distributed across time and space, both real and virtual.

The argument contained in this paper is consistent with current dialogue emphasizing the potential of online learning environments to support learning. Specifically, the metaphor of outsideness – engaging with distant peers using Web 2.0 tools - is outlined and affordances identified that support the development of pre-service teachers’ expertise. The central question examined is what role outsideness plays in affording and developing pre-service teacher expertise in collaborative online learning environments.

DOI: 10.4018/jksr.2011040103
Constructing a pedagogical framework to support a critical community of inquiry through the use of Web 2.0 social networking tools is a significant part of teaching and learning discourse in higher education (Garrison & Vaughan, 2008). However, whether the full constructivist potential of these technological tools is achieved is questionable (Deed & Edwards, 2010; Melville, 2009). While the benefits are apparent to the digital generation of using Web 2.0 tools to stay in touch, to arrange meetings or to discuss the latest gossip, this is less so in terms of knowledge generation (Deed & Edwards, 2010; Melville, 2009). The problem appears to be that educators are trailing behind students in terms of familiarity, use, understanding, adoption and adaption of Web 2.0 tools as a means of learning. This paper makes a significant contribution to current discourse in teacher education about preparing teaching graduates who are proficient in pedagogy supporting the effective and efficient use of Web 2.0 technology.

**CONCEPTUAL FRAMEWORK**

Table 1 outlines how the elements of developing expertise are afforded by the metaphor of outsideness. Following the table is a description of each of the elements and corresponding affordances. Affordances are features of a context that allow or potentially contribute to the resultant activity (Greeno, 1994). Affordances and the ability and perceptions of individuals are integrated. Therefore, affordances are realized through the individual’s perceptions about what and how something can be done. In this case the context is online collaborative learning, and one affordance may be the flexibility this offers to participants in terms of how often, or the way, they contribute.

**Developing Expertise**

The model of developing expertise put forward here is based on the work of Sternberg (1999). While there is no precise and encompassing

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**Table 1. Affordances of outsideness for developing expertise**

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<thead>
<tr>
<th>Elements of developing expertise (Sternberg, 1999)</th>
<th>Affordance of outsideness in online collaborative learning</th>
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<tbody>
<tr>
<td>Metacognitive skills: problem recognition, definition, and representation; strategy formulation; resource allocation; monitoring, and evaluation of problem solving.</td>
<td>Metacognitive prompting through heightened sense of doubt about meaning when communicating with distant peers.</td>
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<tr>
<td>Learning skills: cognitive learning processes.</td>
<td>Building meaning by seeking and using multiple perspectives, based on a view of expertise as distributed knowledge.</td>
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<td>Thinking skills: critical, creative and practical thinking processes.</td>
<td>Provides a context for progressively higher standards of analysis and evaluation to build ideas, as communication moves from personal narrative to collegial exploration.</td>
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<tr>
<td>Knowledge: declarative and procedural.</td>
<td>Knowledge situated in a social and cultural sense; available for reinvestment in personal authentic practice.</td>
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<td>Motivation: achievement and competence.</td>
<td>Strategic value - building networks of peers to share stories and ideas, and to make sense of uncertainty.</td>
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<td>Context: features of a specific time and space.</td>
<td>Participants access, interpret and adaptively use perspectives and knowledge located across time and space.</td>
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