A Framework for the Assessment of Wiki-Based Collaborative Learning Activities

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ABSTRACT

This paper discusses the pedagogical and technological aspects of assessing wiki-based collaborative learning activities. The first part of the paper presents a general framework of collaborative learning assessment. The framework is based on four aspects of assessment, characterized by four questions: who, what, how and by whom. The second part of the paper concentrates on the analysis of the applicability of the assessment framework in wikis. A systematic analysis of MediaWiki’s reports is conducted in order to discuss the requisite information required for a well-balanced and effective assessment process. Finally, a few suggestions are raised for further improvements of the wiki’s reports.

Keywords: Assessment, Collaborative Authoring, Collaborative Learning, E-Assessment, Wikis

INTRODUCTION

Educational institutions and individual educators are adopting social software tools (often called Web 2.0 tools) such as wikis and blogs to support learning and teaching (Alexander, 2006; Downes, 2005; Franklin & van Harmelen, 2007). Although there are several examples of the effective use of social software tools (e.g., Minocha, 2009), there is currently little (formal) guidance for educators to assist them vis-à-vis the design and assessment of learning activities. Furthermore, designing assessment can be extremely challenging (see Cubric, 2007; MacDonald, 2005). On the one hand, counting the number of students’ contributions may not be an effective indicator of their students’ work if the contributions are not insightful enough. On the other hand, ignoring the interaction and collaboration within the group as indicators for assessment could overlook an important goal of collaborative learning: achieving collaboration between the learners.

Wikis are considered to be suitable for collaborative authoring activities. Wikis enable the co-production of content at a distance (Aguar et al., 2004; Bruns & Humphreys, 2005; Lamb, 2004). However, in educational settings, the assessment of wiki activities is quite challenging from both the technological and pedagogical perspectives. From the

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technical perspective, wikis are designed and configured around the content rather than the users (Bruns & Hamphreys, 2005). The content created by a particular student is fragmented and distributed; therefore tracing a particular student’s contributions in a wiki can be challenging and time-consuming for the assessor. Pedagogically, being a collaborative learning activity, the assessment of the activities involves several considerations. These include having a balance between the assessment of the group work and the students' individual contributions, and between the assessment of the product of collaboration (the outcomes) and the process of collaboration itself (MacDonald, 2003; Tal-Elhasid & Meishar-Tal, 2009). This makes the task of designing criteria for assessment and evaluation of student performance quite onerous for the assessor or educator.

This paper reveals the complexity of designing assessment criteria for online collaborative learning activities in a wiki and proposes pedagogical and technological solutions for overcoming obstacles related to the assessment of collaborative wiki assignments.

THE CHALLENGE OF ASSESSING COLLABORATIVE LEARNING ACTIVITIES

Assessment is a key component in the design of a learning activity. Effective assessment can enhance learning satisfaction, and it helps to set expectations of the students and to shape their learning process accordingly (Angelo, 1995; Shepard, 2000). Therefore, the assessment criteria should be clear to the students from the outset. The criteria should be related to the learning outcomes and reflect the goals of the task or learning activity (Angelo, 1995). The assessment should also include feedback and guidance and not just marks or grades (Shepard, 2000). Assessment should be related to the skills and performance of the students, instead of just measuring the learning products (Huba & Freed, 1999).

The assessment of online collaborative learning activities is even more complicated and hence, more difficult to design, as stated by Swan et al. (2006):

The assessment of collaboration requires a radical rethinking of assessment methodologies. Three issues are involved: the variety and kinds of goals for online collaboration, the complexity of assessing both individual and group behaviours, and collaboration on assessment itself (p. 46).

Another way of describing the three issues stated by Swan et al. (2006) is by asking three fundamental questions:

1. **Who** is the entity which we ought to assess? Is the entity the group or the individual within the group?
2. **What** is the object of assessment? (that is, what is being assessed?). Is the object of assessment the product/outcomes of learning or should it also be connected to the collaborative process itself? One of the goals of collaborative learning activities should be to achieve collaboration among the group members. If learning is achieved but in a non-collaborative way, would we be able to say that the activity was fully successful?
3. **By whom**? Who should be the assessor? Should the assessment be conducted by the educator or maybe the students themselves can conduct peer assessment?

The assessment of collaborative learning can be based on several factors, some of which are quantitative, such as the number of contributions, while others are qualitative, such as the quality of the contributions. Thus, a fourth question should be asked:

4. **How** should we conduct the assessment? Qualitatively? Quantitatively? Related to this are considerations of which tools are available to help us assess the final product, and to assess the learning process if
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