Chapter X

Methods for Analyzing Collaboration in Online Communications

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ABSTRACT

This chapter discusses the problems of defining collaboration in online discussions and measuring the extent to which true collaboration occurs. Drawing on a variety of previous studies, the authors present ways of dealing with both the computer-generated data and the discussions themselves to determine whether a discussion meets three basic criteria for collaboration. These criteria include roughly equal participation, genuine interaction among the participants, and the synthesis of work into a unified whole. The chapter develops coding procedures for content analysis that can be used to analyze discussions and compare different discussions to the extent to which they show that group members collaborated. It ends with a discussion of using these procedures in research on online collaboration to find out, for example, the factors that affect collaboration in small online discussion groups.
INTRODUCTION

Over the past several years, instructors, instructional designers and researchers have increased their reliance on collaborative and cooperative instructional strategies. As online learning becomes more prevalent, we see such strategies being implemented more and more, using both synchronous and asynchronous computer-mediated communications. By now, collaboration and cooperation are firmly established as teaching methods in face-to-face classes (e.g., Johnson, Johnson, & Smith, 1998). These methods are rapidly becoming widespread in online environments as part of both traditional and distance courses (e.g., Weigel, 2002).

Cooperative and collaborative teaching and learning are likely to be most effective if the methods are based on concepts and research that is firmly grounded in how people actually work together, rather than how we wish they would work together. One of the first steps is to try to define exactly what we mean by such terms. In this chapter, we make a distinction between cooperation and collaboration. Cooperation is defined as the style of working, sometimes called “divide-and-conquer,” in which students split an assignment into roughly equal pieces to be completed by the individuals, and then stitched together to finish the assignment.

In contrast, we define collaboration as a more complex working together. Students discuss all parts of the assignment, adding and changing things in conjunction with one another as they come to understand more about the topic. At the end, the final product is truly a group product in which it is difficult or impossible to identify individual contributions. There appear to be differences between cooperation and collaboration in both the complexity of the interactions and the effectiveness for instruction and education. In this chapter, we concentrate on this definition of collaboration and measuring the extent to which online groups meet it.

Collaboration is a complicated concept, and it can be difficult to know when it is occurring, how effective it is, how to encourage it, or what is preventing it. Online collaboration can be easier to manage, track and understand because the communications are all written, and a record can be kept of everything that occurs during the online sessions. We define collaboration as consisting of three crucial elements: participation, interaction and synthesis. Participation is important, because collaboration cannot occur within a group unless there is roughly equal participation among its participants. If some participants do the bulk of the work while others barely contribute at all, then the group is not truly collaborating. Interaction requires that group members actively respond to one another. It is possible for group members, whether face-to-face or online, to talk past one another, never really reacting and changing as the discussion progresses. Such a discussion cannot be considered collaborative. Finally, the product that the group creates must represent a synthesis of ideas and input from all members of
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