Computers & Education 75 (2014) 53–64

Contents lists available at ScienceDirect

Computers & Education

journal homepage: www.elsevier.com/locate/compedu

Supporting online collaborative learning in small groups: Teacher feedback on learning content, academic task and social participation

César Coll, María José Rochera*, Ines de Gispert

University of Barcelona, Department of Developmental and Educational Psychology, Faculty of Psychology, Campus Mundet, P. Vall d'Hebrón, 171, 08035 Barcelona, Spain

ARTICLE INFO

Article history:
Received 8 May 2013
Received in revised form
8 January 2014
Accepted 27 January 2014
Available online 14 February 2014

Keywords:
Content feedback
E-feedback
Formative feedback
Computer-mediated communication
Cooperative/collaborative learning

ABSTRACT

The aim of the present study is to contribute to the understanding of the assistance provided by the teacher through feedback to support knowledge building among higher education students working in small groups in an online collaborative learning environment. The analysis examines 145 contributions made by a teacher to two groups of postgraduate students (group 1: 5 students; group 2: 4 students) of the same course whose task was to develop collaboratively a rubric for assessing teacher competencies by means of the Knowledge Forum platform. The results show that the teacher offered both elaboration and verification feedback, not only regarding the learning content but also the students' approach to the academic task and their social participation in the group. This would seem appropriate in terms of supporting the process of knowledge building in this kind of setting. The results also highlight that, when evaluating whether the feedback given is well matched to the needs of student groups engaged in online collaborative learning, it is important to take into account the timing of the teacher's interventions.

© 2014 Elsevier Ltd. All rights reserved.

1. Introduction

Formative feedback has been widely studied due to its enormous potential to support learning and a large number of meta-analyses and reviews have been published on this topic, especially in relation to classroom settings (Hattie & Timperley, 2007; Kluger & DeNisi, 1996; Narciss, 2008; Shute, 2008). Recent years have seen a growing interest in the study of feedback in online learning environments, particularly in higher education, as it has been identified as one of the key components for promoting and validating knowledge in this type of setting. However, there is a need for a sounder theoretical basis and more empirical research (Dysthe, Lillejord, Vines, & Wasson, 2010; Gikandi, Morrowa & Davis, 2011; JISC, 2010).

Authors such as Kanuka and Garrison (2004) and Zhu (2006) have pointed out that participation and interaction in online learning environments does not in itself guarantee collaboration or the achievement of optimum levels of learning, both of which require teacher intervention through feedback or other means (Garrison, Anderson, & Archer, 2000; Ludwig-Hardman & Dunclap, 2003; Sorensen & Takle, 2005; Tallent-Runnels et al., 2006; Zhu, 2006). The teacher is seen on occasions in these environments as a moderator or facilitator (Berge & Collins, 2000; Feenberg, 1989; Salmon, 2000; Xin & Feenberg, 2006), his/her main function being to promote and facilitate effective collaboration between participants and to adapt it to the objectives and learning outcomes. Some studies propose models that incorporate different roles for the moderator, or establish different stages for the moderating process. Berge (1995), for example, suggests that the roles and functions of the teacher cover four broad areas: pedagogical, social, managerial and technical. Berge and Collins (2000) go further and define the teacher as filter, firefighter, facilitator, editor, manager, discussion leader, content expert, helper, and marketer. Salmon (2000) defines five stages for supporting e-moderators in the creation, maintenance and development of online courses: access and motivation, online socialization, information exchange, knowledge construction, and development. Feenberg (1989) defines three categories for the functions of the moderator: contextualizing functions (providing a shared framework of rules, roles, and expectations for the group), monitoring functions (helping participants know if they have successfully followed the group's norms and fulfilled the expectations laid down for them), and meta functions (having to do with the management of process and content).

* Corresponding author. Tel.: +34 933125806.
E-mail addresses: ccoll@ub.edu (C. Coll), mjrochera@ub.edu (M.J. Rochera), inesdegispert@ub.edu (I. de Gispert).

http://dx.doi.org/10.1016/j.compedu.2014.01.015
0360-1315/© 2014 Elsevier Ltd. All rights reserved.

The role of the teacher in collaborative learning environments has also been explored from the perspective of the Communities of Inquiry model, in which the concept of teaching presence has received particular attention (Anderson, Rourke, Garrison, & Archer, 2001; Garrison & Anderson, 2003). Teaching presence is defined "as the design, facilitation, and direction of cognitive and social processes for the purpose of realizing personally meaningful and educationally worthwhile learning outcomes" (Anderson et al., 2001, p. 5). For these authors, teaching presence must facilitate cognitive presence and social presence. Cognitive presence is understood as the creation of an intellectual environment that can serve as the basis for critical discourse and the acquisition of high-level knowledge; social presence is defined as the capacity of participants to project themselves socially and emotionally, creating a favourable affective climate. Teaching presence refers specifically to the design and organization of the syllabus, the facilitation of discourse, and direct teaching. Among the activities proposed in direct teaching, associated more specifically with learning contents, the authors include the confirmation of understanding via feedback.

The concept of teaching presence bears a certain similarity to the concept of educational assistance formulated in the framework of a constructivist and sociocultural approach to the processes of online teaching and learning (Coll, Onrubia, & Mauri, 2008). Feedback is considered as one of the forms that this educational assistance may take. For Hämäläinen, Manninen, Järvelä, and Häkkinen (2006), online collaborative learning may be seen as a process involving the co-construction of meanings related to the learning content. In order to achieve this, however, students must become actively involved in establishing procedures for group work so as to coordinate their interactions and solve the learning task together (Häkkinen, 2004). It is this shared activity that enables them to construct meanings related to the learning content. This activity therefore implies the establishment of one structure of academic task that concerns the restrictions imposed on the behaviour of participants by the task(s) being carried out or by the learning content and one structure of social participation what defines rights and obligations regarding who can or should say or do what, when, how and with whom (Coll et al., 2008; Erickson, 1982). Thus, the process of collaborative online learning is a complex process that includes at least these three dimensions: the learning content, the academic task and social participation. Consequently, educational support and feedback in online learning environments should aim to scaffold these three aspects or dimensions of the shared activity: the learning content, the academic task and the social participation (Coll, Bustos, & Engel, 2011).

Inside this framework, the aim of the present study is to contribute to the understanding of the assistance provided by the teacher through feedback to support knowledge building among higher education students working in small groups in an online collaborative learning environment. In the next section we review the literature that has sought to analyse the types of feedback and its timing. Taking into account this research, as well as our own previous studies of educational influence, the paper then goes on to propose an analytic framework that considers how and when feedback is given in relation to the three dimensions (learning content, academic task and social participation) of the process of knowledge building in online collaborative settings.

1.1. Content of feedback in online learning environments

The term *feedback* has been defined as the information that is communicated to students about their current learning situation or performance, in order to help them identify the gap between what they have achieved and the objectives to be reached in a given context (Narciss & Huth, 2006; Nicol & Macfarlane-Dick, 2006). Strictly speaking, feedback includes both an appraisal of and a response to a student's prior learning or performance. However, the most important function of feedback is to guide or scaffold students' learning so that they are able to change their way of thinking or behaving in line with the objectives that have been set (Narciss, 2008; Shute, 2008). Strijbos, Narciss and Dünnebier (2010, p. 292) argue that feedback can take many forms depending on the situation and the needs of students, ranging from confirmation of a correct answer or achievement of a learning level (in the event that there is no gap between current learning and learning objectives) to (where such a gap exists) the provision of different kinds of information about concepts, procedures or task conditions, etc. Some authors have used the term *e-feedback* to refer to the feedback given in virtual learning environments (for example, Dysthe, Lillejord, Vines, & Wasson, 2010; Guasch, Espasa, & Alvarez, 2010; Smith & Coenders, 2002).

Research on the content of feedback has focused primarily on analysing the type of feedback that is most suitable for promoting learning. Kulhavy and Stock (1989) argue that productive feedback, in other words, that which facilitates learning, should include two kinds of information: verification and elaboration. Verification refers to information about the correctness of an answer, whereas elaboration is information designed to guide or scaffold the student towards the learning objectives. Narciss and co-workers (Narciss, 2008, 2013; Narciss & Huth, 2006) propose different dimensions for studying the diversity, characteristics and quality of feedback: its content, which refers to the focus; its function, which refers to the purpose; and its structure, which refers to its formal characteristics, including its timing and form of presentation. They also consider individual conditions and the instructional context. When it comes to analysing content they propose a broader classification of the components of verification and elaboration: in their view, verification includes information about outcomes or the correctness of an answer, while elaboration involves more complex information about knowledge of concepts, working rules, task requirements, errors, procedures and metacognition.

The results obtained in a recent study about feedback in an online collaborative writing task (Alvarez, Guasch & Espasa, 2012) suggest that when the teacher offers elaboration feedback based on suggestions and questions rather than direct corrections the students are better able to improve the texts they are producing. However, given the exploratory nature of this study the authors point out the need for further research in order to determine more precisely the extent to which elaboration feedback has the potential to promote learning. A study by Wolsey (2008), has also shown that indirect feedback, such as providing references, making suggestions and formulating key questions, can foster self-correction and reflection and promote learning. Other studies have shown that teachers give different kinds of feedback, for example, explaining the correct answer or providing reference material, in order to help students progress with their learning (Van der Kleij, Eggen, Timmers, & Veldkamp, 2012).

The different ways of giving elaboration feedback seem to fulfil two main functions (Shute, 2008): a directive function, when the teacher uses feedback to give the students more specific information about which aspects they need to review or how they should participate; and a facilitative function, when feedback is used to give pointers, pose questions, make suggestions and offer indirect guidance that encourage the group of students to review and self-regulate both the work carried out and the learning that has been achieved.

In summary, these studies have focused primarily on the type of feedback (verification or elaboration), as well as on the learning content or the academic task (often without differentiating between the two), with very little attention being paid to social participation. However, in order to develop their knowledge students sometimes need help to understand better the learning task or to take part in a more

Download English Version:

https://daneshyari.com/en/article/348411

Download Persian Version:

https://daneshyari.com/article/348411

Daneshyari.com