

Significance of context in university students' (meta)cognitions related to group work: A multi-layered, multi-dimensional and cultural approach

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Abstract

This article examines the significance of context in university students' development of (meta)cognitions related to a specific group assignment. For this purpose context was conceptualised at two levels: class (Business, Science) and small groups within class (culturally diverse, non-diverse). Diverging trends in (meta)cognitions emerged at class and small group levels, which reflected affordances and constraints of the learning contexts. The value of incorporating a cultural angle in research on group work was confirmed. Overall, the findings highlight the usefulness of a multi-layered learning contexts design for enhancing our understanding of the developing nature of students' multi-dimensional experiences of group work.

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1. Introduction

Small group work is a key component of academic learning with strong theoretical and empirical support for its cognitive and motivational benefits (Dillenbourg, Baker, Blaye, & O'Malley, 1996). Productive engagement in peer interactions, collaborative reasoning and co-construction of knowledge lead to cognitive gains (Barron, 2003; van Boxtel, van der Linden, & Kanselaar, 2000) and are therefore effective tools for promoting higher level learning (Amato & Amato, 2005). For Boud, Cohen, and Sampson (1999) and Gupta (2004) there are many benefits of peer learning at university, including the facilitation of generic learning outcomes, and the promotion of skills related to lifelong learning, team work, communication, critical reflection, and self-directed learning. Moreover, there is evidence that participation in small group activities can enhance student performance (de Vita, 2002).

Yet, despite all the potentially beneficial effects of group work in academic learning, there is a parallel, strong and converging body of literature documenting students' negative perceptions (Pauli, Mohiyeddini, Bray, Michie, & Street, 2007; Volet & Mansfield, 2006) and experiences of socio-emotional as well as socio-cultural challenges (Burdett, 2003; Garcia-Prieto, Bellard, & Schneider, 2003). Potential problems include unmotivated peers (Bourner, Hughes, & Bourner, 2001), communication difficulties (Salomon & Globerson, 1989), challenges in the management of workload (Feichtner & Davis, 1985) and frustration with group assessment (Livingston & Lynch, 2000). There are, therefore, a multitude of reasons why group work can result in less positive processes and outcomes for participants.

Furthermore, research carried out in English-speaking countries hosting large numbers of international students (typically the United Kingdom, USA, and Australia) has revealed that local and international students display strong tendencies to study, and form small groups, with members from the same or similar ethnic background (Ledwith, Lee, Manfredi, & Wildish, 1998; Trice, 2004; Volet & Ang, 1998). This is concerning as group learning activities create natural opportunities for intercultural learning, which is of critical

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importance for preparing students for a globally diverse workforce, especially in professional fields that demand well developed communication and interpersonal skills for working with culturally diverse customers, clients or patients.

1.1. Cultural diversity and group work

The issue of culturally heterogeneous/homogeneous group work has attracted the interest of many researchers (Hobman, Bordia, & Gallois, 2004; de Vita, 2002; Watson, Johnson, & Merritt, 1998) but the findings remain inconclusive. For instance, while Ledwith et al. (1998) and Robbins and Frendall (2001) found that homogeneous groups tend to be happier, have less conflict, and report higher levels of motivation and success, Banks and Banks (2005) as well as Schullery and Schullery (2006) highlight the positive outcomes of culturally diverse group work. Furthermore, while Wright and Lander (2003) found concerning deficits in culturally diverse groups' mutual interactions and communication patterns, de Vita's (2002) and Watson, Johnson, and Zgourides' (2002) research provided empirical support for the benefits of participation in diverse groups, since these were found to perform higher on team project tasks in comparison to non-diverse groups. It is assumed that culturally diverse small groups represent social forums where differences in prior knowledge, experiences and understandings are stretched further. This provides increased opportunities for members to question each other's assumptions, which is an essential feature of productive collaborative learning environments (Cohen, 1994; King, 1992).

Furthermore, such groups may also be expected to experience greater diversity in communication styles, which has the potential to foster the need for more cognitive elaboration during exchange of ideas, another learning-enhancing activity (van Boxtel et al., 2000). But the extent to which diverse groups are able to capitalize on these learning opportunities and do not feel overwhelmed by socio-emotional and socio-cultural challenges has received little empirical attention. More fine-grained pictures of how affordances and constraints shape students' group work attitudes in culturally diverse group configurations are needed for a richer and deeper understanding of the context-sensitive nature of group work experience. Overall, it is evident that a broad range of factors can impact on students' group work experiences and ultimately on their attitudes towards group work, pointing to the criticality of conceptualising group work as a multi-dimensional and contextualised experience.

1.2. Attitudes towards group work

The notion of attitude towards group work does not represent a unidimensional construct but rather a composite of inter-related dimensions. Yet, empirical studies have tended to focus on specific dimensions of group work, such as assessment (Gatfield, 1999), cognitive and psychological factors (Cantwell & Andrews, 2002), or affective and motivational outcomes (Boekaerts & Minnaert, 2006), with limited attention to the

multi-dimensional aspects of students' experiences of group work in combination, an issue we have attempted to address in our own work (Volet, 2001a). Our instrument for measuring Students' Appraisals of Group Assignments (SAGA) is conceptually grounded in theories and research that underpin each dimension (e.g., the cognitive scale contains items reflecting Piagetian and Vygotskian concepts) but also incorporates ideas that have emerged from descriptive studies of students' own accounts of learning in group projects (Bosworth & Hamilton, 1994; Burdett, 2003). The main idea is that the activity of group work is multi-faceted and includes not only cognitive but also motivational, affective and social dimensions, with an underlying assumption that each dimension may play out differently in relation to other variables of study. This was found to be the case in regard to attitudes towards group work in general (Volet, 2001a) as well as appraisals of a specific group assignment (Wosnitza & Volet, 2009). In this study, in addition to students' group work appraisals we also included measures of (meta)cognitions and final reflections on group processes to gain a better and more holistic understanding of the collaborative enabling or inhibiting nature of the small group context.

1.3. Context and group work

The literature on cooperative learning widely acknowledges that cognitive, motivational and affective benefits of group learning activities are more likely to be achieved under specific contextual circumstances. Important elements to promote successful collaborative learning identified by a range of researchers are, for example, task interdependence, teacher support, task instructions and small group characteristics (Cohen, 1994; Johnson & Johnson, 1990, 1999; Johnson, Johnson, & Smith, 1998). Learning environments incorporating these key elements are expected to foster the active involvement of all students in the learning process and in turn lead to higher cognitive gains, motivational levels and student satisfaction.

The positive implications of task interdependence on group communication and collaborative actions have been supported by a range of studies on group work (van den Bossche, Gijsselaers, Segers, & Kirschner, 2006; Gillies, 2003; Wageman, 1995). While the benefits of teacher support are also well documented in the literature (Lizzio & Wilson, 2005), these authors found that intra-group characteristics (e.g., collaboration, equity) may play an even bigger role for task and socio-emotional processes than teacher support. Research on the significance of task features has pointed to group size as a relevant contextual characteristic. Johnson et al. (1998) found groups between two and four members to be more effective than larger groups in promoting meaningful and rewarding face-to-face interactions, a finding that has been validated by other empirical work (Gillies, 2003; Lou et al., 1996).

It can also be argued that the effects of cooperative learning on achievement are strongly mediated by the cohesiveness of the group, leading to the idea that students may be more inclined to help each other when the group has developed

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