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Peer learning in higher education: Patterns of talk and interaction in skills centre simulation

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ABSTRACT

This study conceptualises patterns of peer talk and interaction and the potentials for learning inherent in a peer tutoring setting in an undergraduate nursing education skill centre. Third-year students are responsible for training first-year students in performing nursing procedures. The paper identifies patterns of peer interaction as they occur in a pre-training reflection setting where students prepare for practising the procedures. Three interaction patterns are identified: a tutor-led question-and-answer pattern and two exploratory patterns: cumulative-exploratory and dispute-exploratory. The analysis additionally uncovered three ways of dealing with the object of learning: recitation, re-contextualisation and thematic errors and sloppiness. We suggest that analyses of peer learning need to go beyond the level of interaction and also address its content. Furthermore, interaction patterns might afford an expansive or more restrictive way of framing and dealing with the object of learning.

1. Introduction

There has been increasing interest in learning inherent in peer–student interaction, often referred to as *peer learning* (Boud et al. 2001; Falchikov, 2001; Havnes, 2008; O'Donnell & King, 1999; Topping, 1996, 2005). Many researchers that see peer–student interaction as one of the richest learning resources (Slavin et al. 2003; Topping, 1996, 2005; Wiliam, 2011; Arendale, 2015); Slavin (1999, 74) understand collaborative learning as 'one of the greatest success stories in the history of educational innovation'. When successfully organised and carried out, it can endorse high-level cognitive processes (King, 2002; Khosa & Volet, 2013; Orsmond et al. 2013); Boud et al. (2001, 8–9) that highlight five commonly shared outcomes: working with others; critical enquiry and reflection; communication and articulation of knowledge, understanding and skills; managing learning and learning to self- and peer-assess. A recent review of studies on collaborative learning across primary, secondary and tertiary levels (Kyndt et al. 2013) shows the strong positive effect of peer interaction on students' achievements (ES = .54). 'Students indeed learn more when they work together than when they work alone' (134).

However, research indicates that peer learning is often organised and used by students in ways that run contrary to research-based knowledge about how interaction among peers can support learning (Antil et al. 1998; Johnson et al. 1998; Slavin, 1995, 2011). Topping (2005, p. 632) suggests that there is a risk that teachers might 'think they are implementing peer tutoring or cooperative learning, when all they are really doing is putting children together and hoping for the best.'

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In their review of the literature on peer–tutor learning, Roscoe & Chi (2007) found that peer-tutoring takes diverse form in terms of student interaction, with a particular attention on knowledge delivery in terms of tutor instruction and preparation for exams (see also Ashwin, 2002). There is a tendency, according to Roscoe & Chi (2007, p. 534) that: 'Peer tutors, even when trained, focus more on delivering knowledge rather than developing it." There has been great interest in implementation, guidelines for group interaction and documentation of improvement of exam results. Less attention has been on documenting what goes on in these interactions, for instance, group dynamics and communication patterns.

On this background Roscoe & Chi (2007) suggest that, a key to understanding the learning potential of peer learning, and also further developing such initiatives, lies in understanding the details of peer interaction. In particular, they encourage 'process-outcome evaluations' (p. 561). While learning data mostly is collected from large numbers of students, Roscoe and Chi (p. 562) propose that 'process data can be drawn from a smaller set of "representative students" in specific locations', thus suggesting 'direct examination of peer tutors' instructional and learning activities (p. 539).

Taking these views of situating the potential of peer learning in the details of peer interaction and local settings, the aim of the article is to describe at a general, conceptual, as well as concrete, case level, strengths and pitfalls of designing peer learning activities. There are two aspects of this aim: Firstly, identifying core dimensions of the relationship between peer interaction and learning, based on a literature review. Secondly, exploring peer learning in a concrete, local practise in which third year students tutor first year students. The design did not allow for comparing peer interaction and learning outcomes. Instead, the link between peer interaction and learning is addressed in terms of how knowledge is included in, or attended to, in peer interaction.

The article is part of a project that had three foci. One addressed the learning potential of peer tutoring for the tutors (Bjørk et al. 2015), another addressed the learning potential for tutees in the concrete, peer-tutored hands-on simulation practise of nursing procedures (Christiansen et al. 2011). Here, the focus is on the learning potential of peer interaction in pre-training peer-group supervision, that is, in discursive, knowledge- and experience-based talk about nursing procedures. The key questions are: How do students, in this peer-tutored group setting, interact and attend to the learning of nursing procedures in a pre-practise supervision setting? Are there patterns of interaction and diverse ways of attending to the object of learning that potentially transform what students attend to and, thereby potentially afford diverse learning outcomes?

The context is peer student interaction in simulation learning in nursing education where students practise nursing procedures in a clinical skill centre. Through detailed analysis of videotaped student interaction, the article attempts to document peer learning practises in a cross-level (Falchikov, 2001) peer-tutoring setting, focusing on learning processes as aspects of peer interaction. More precisely, clinical skill centre simulation training is the setting, the content is nursing procedures, peer tutoring is the structure, peer interaction is the activity, and peer learning is a potential aspect — and outcome — of peer interaction. The focus of our observations was on observing and identifying patterns of content-related peer interaction. The analytical focus has been on learning potentials embedded in peer interaction. Hence, there might be interaction going on that was not of interest for our analysis, for instance, diverse forms of off-task talk and interaction. We will first address the key notion at stake here — peer learning as an aspect of peer interaction. Secondly, we provide a short description of the learning context and the methodology before turning to results and discussion. While the analysis empirically is based on a cross-level tutor setting (Falchikov, 2001), it is conceptually enriched, in that, the analysis draws on research on peer learning across its diverse forms and contexts and learning in peer interaction more generally, including schools. The analysis is grounded in brief literature reviews and observation data, yet it is anticipated to be exploratory. As will be shown later, there is a vast literature that is of relevance for the analysis. We will draw on samples of relevant literature from a potentially large pool of references. As it will become clear in the Results section, a detailed analysis of student interaction to some extent necessitates the use of content- and discipline-specific terms. However, the framing and the final analytical elaborations are more general and expected to be of relevance in higher education generally.

The article contributes to the field of research on peer learning by examining and systematising the learning potential of peer tutoring based on a spectrum of empirical research and theoretical positions beyond peer tutoring and higher education. The data analysis provides new insights to the relationship between peer interaction and learning.

2. Peer learning

Peer learning—defined as 'students' learning from and with each other in both formal and informal ways (Boud et al. 2001, 4)—has probably existed in higher education since the inception. Students have lent support to each other with or without the involvement of teachers (Havnes, 2008; Orsmond et al. 2013; Topping, 1996). Topping (1996, 322) traces the practise back to the ancient Greeks. More recently, the emphasis has been on organising peer learning in a more structured way that includes all students (Boud et al. 2001; Falchikov, 2001; Khosa & Volet, 2013; Topping, 2005). There is increasing interest in 'deploying helpers whose capacities are nearer to those helped, so that both […] find some cognitive challenge in their joint activities' (Topping, 2005, 632). While peer interaction is also part of students' becoming academically and socially integrated in a higher education culture (Tinto, 1997; Havnes, 2008), the focus here is on peer learning as didactic initiatives organised as part of the educational programme. However, insights from peer learning generally, and across age groups, might advance the implementation of didactic models.

A series of partly overlapping didactic models for students learning together have developed across higher education and primary and secondary schools, mainly from around 1990 onwards, for instance; collaborative learning and cooperative learning (Slavin, Johnson and Johnson), group mentoring (Huizing, 2012), peer tutoring (Topping, 1996; Roscoe & Chi, 2007), supplemental instruction (Centre for Supplemental Instruction, 1998; Rust & Wallace, 1994), peer assisted learning (Arendale, 2014), peer assessment (Dochy et al. 1999), dialogical pedagogy (Nystrand, 1997), reciprocal teaching (Brown & Campione, 1990) and classroom talk (Mercer, 1995). In the context of these examples of didactic initiative, peer learning is a more abstract concept, referred