Interpersonal adaptation in teacher-student interaction☆

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ABSTRACT

Teacher-student relationships play a crucial role in the quality of teaching and learning. Daily interpersonal interactions in classrooms are the building blocks of teacher-student relationships. With the aim to add to insights on teaching and learning, we specifically explored *interpersonal adaptation* in daily interactions. Adaptation, i.e., how people respond to each other's actions and reactions, is a defining characteristic of interactions.

We studied 35 classrooms in secondary education. Although the degree and nature of interpersonal adaptation was in general consistent with interpersonal theory, degree of adaptation varied considerably between classrooms. In classrooms with a more preferred teacher-student relationship, behaviour of teachers and the adaptation to the behaviour of their students was more in accordance with professional standards, compared to classrooms with a less preferred relationship.

Conceptualizations and results of the present study contribute to theory on teacher-student interaction, as well as the practice of teacher professional development (e.g., video coaching).

1. Introduction

A crucial role of teacher-student relationships in the quality of teaching and learning has been demonstrated in many studies. Results showed teacher-student relationships to be associated with student cognitive learning outcomes and motivation (e.g., Cornelius-White, 2007; Den Brok, Brekelmans, & Wubbels, 2004; Pianta, 2006; Roorda, Koomen, Spilt, & Oort, 2011; Wubbels, Brekelmans, Den Brok, & Van Tartwijk, 2006), and with teacher well-being (e.g., Spilt, Koomen, & Thijs, 2011; Veldman, Van Tartwijk, Brekelmans, & Wubbels, 2013).

Daily interpersonal interactions in classrooms are the building blocks of teacher-student relationships (e.g., Granic & Patterson, 2006; Kiesler, 1996; Ramseyer & Tschacher, 2016; Vallacher, Nowak, & Zochowski, 2005). The present study focused on these interactions with the aim to add to the understanding of teaching and learning. More specifically, we explored *interpersonal adaptation* (e.g., Burgoon, Stern, & Dillman, 1995; Cappella, 1996), i.e., how teachers and students respond to each other's interpersonal actions and reactions.

According to Burgoon et al. (1995), adaptation of behaviour in interactions is essential for effective communication. Cappella (1996) characterized adaptation as "the defining characteristic of interpersonal communication" (p. 354). He drew a strong distinction between two major components, arguing that both are necessary to understand interaction: (1) *mutual influence*, referring to correlated adjustments of overall levels during the course of interactions, and (2) *mutual adaptation*, referring to the dynamic process by which partners respond to changes in one another's behaviour during interactions. We focussed on the second component, as time-dependent interpersonal dynamics is understudied in education (e.g., Schmitz, 2006).

In the present study, we used a process oriented approach, providing a detailed description of daily classroom interaction. This micro-level investigation may add to outcome-oriented, macro-level investigations of teacher-student relationships (e.g., Lavelli, Pantoja, Hsu, Messinger, & Fogel, 2005; Schmitz, 2006). Furthermore, the present study concerns adaptation in the affective, social-emotional domain of educational processes, and thereby expands

the current attention to adaptation in the cognitive domain (scaffolding, contingency; e.g., Van de Pol, Volman, & Beishuizen, 2010). Practical implications of the study appertain to teacher professionalization. Given that interactions are seen as the building blocks of relationships (Granic & Patterson, 2006), knowledge about fine-grained analysis of those interactions may be useful, in particular for the diagnosis of (problematic) interactions, but also for the designs of effective interventions that make use of (video-taped) classroom interaction data.

To explore interpersonal adaptation in daily classroom interaction, we largely followed the approach of Sadler, Ethier, Gunn, Duong, and Woody (2009), who combined insights from interpersonal theory (e.g., Carson, 1969; Horowitz & Strack, 2011; Kiesler, 1983, 1996) and literature on mutual adaptation in social interaction (e.g., Burgoon et al., 1995; Cappella, 1996; Warner, 1998). With a multiple case study of 35 classrooms, we explored (1) the degree of interpersonal adaptation and differences between classrooms, and (2) the assumed relevance of interpersonal adaptation, by studying the association of interpersonal adaptation with the quality of the teacher-student relationship in these classrooms.

1.1. Interpersonal theory

In the present study, we used two key principles of interpersonal theory to conceptualize interpersonal adaptation: (1) the principle of two interpersonal dimensions, and (2) the principle of interpersonal complementarity.

The first principle states that the most important aspects of human behaviour in interaction with other people can be captured by means of just two dimensions: *Agency*, which connotes ideas of dominance, power, status, and control, and *Communion*, which suggests love, affiliation, union, and friendliness (Gurtman, 2009). Agency and Communion are used as meta-concepts to label the two interpersonal dimensions (Bakan, 1966; Fournier, Moskowitz, & Zuroff, 2011; Wiggins, 1991). In specific contexts, alternative names, such as Control/Affiliation, Dominance/Friendliness, or Influence/Proximity are used (e.g., Sadler et al., 2009; Wubbels et al., 2012). Each word to describe the behaviour of a person (e.g., friendly, demanding) can be regarded a specific blend of Agency and Communion. The interpersonal meaning of the words is represented by their angular position on a circular continuum called the Interpersonal Circle (IPC; Fabrigar, Visser, & Browne, 1997; Gurtman, 2009; Horowitz & Strack, 2011; Kiesler, 1996).

Fig. 1 presents typical descriptions of classroom interpersonal behaviour of teachers (IPC-T) and students (IPC-S). For example, the descriptors *helpful* and *confrontational* in IPC-T, and likewise *supportive* and *confrontational* in IPC-S, share the same degree of Agency, but are opposite regarding the degree of Communion.

The Interpersonal Circle can also be used to describe (differences in) behaviour of persons at different time-scales: moment-to-moment behaviour (e.g., Mainhard, Pennings, Wubbels, & Brekelmans, 2012), average behaviour over the course of an interaction (e.g., Mainhard, Brekelmans, & Wubbels, 2011), and behaviour as it is generally consistent over a longer period of time, such as a school year. A person's habitual interpersonal behaviour is often referred to as *interpersonal style* (e.g., Sadler & Woody, 2003; see also Fig. 4). With the Interpersonal Circle differences in frequency and intensity of behaviour can be mapped in terms of dimensions (i.e., Agency and Communion, see Fig. 4) or typical descriptions (like imposing or helpful, e.g., Wubbels et al., 2006).

According to the second key principle of interpersonal complementarity (Kiesler, 1983), a person's interpersonal behaviour is not random, but contingent upon the interpersonal behaviour of the other person(s) with whom he or she is interacting. Behaviour of people in interaction includes a specific interpersonal bid that tends to initiate, invite, or invoke specific behaviour from others. The interpersonal bid tends to elicit *oppositeness* regarding Agency, and *sameness* regarding Communion (Kiesler, 1983, 1996; see also; Sadler et al., 2009). For example, imposing behaviour of a teacher tends to invite withdrawn student behaviour and helpful teacher behaviour tends to invite collaborative student behaviour (see Fig. 1). Earlier research has shown the importance of complementarity for stable and healthy relationships (e.g., Kiesler, 1996; Sadler, Ethier, & Woody, 2011).

According to Kiesler (1996) the formulated direction of complementarity "primarily applies to naturally occurring, relatively unstructured interpersonal situations, the extent to which it applies in various structured situations or in other environmental contexts remains to be determined" (p. 49). For example, in classrooms, the specific role and status of teachers and students (e.g., Carson, 1969; Cothran & Ennis, 1997; Pomeroy, 1999) provide a specific structure to their interaction. Teachers, with far more education and experience of life than their students, have a different set of behavioural resources, and, as professional educators, also a different set of responsibilities. They are expected and trained to act in the best interest of their students. Therefore, they will be motivated to sometimes inhibit the tendency to react in complementary ways to student behaviour (Thijs, Koomen, Roorda, & Ten Hagen, 2011). For example, when faced with hostile student behaviour (e.g., confrontational, dissatisfied, see Fig. 1), teachers may refrain from responding with hostility, and instead may respond with neutral, or even friendly behaviour (e.g., helpful, understanding, see Fig. 1). For example, to set the stage for favourable classroom processes for all students, a teacher may in specific situations 'override' agentic behaviour of (individual) students. When faced with this student behaviour, a certain degree of teacher Agency, especially together with teacher Communion, may support classroom structure, thereby affording all individual students to foster their learning process. While studying interpersonal adaptation in the present study, we explored these refinements of the general tendencies of the principle of interpersonal complementarity.

1.2. Insights from literature on mutual adaptation in social interaction

In the literature on mutual adaptation in social interaction (e.g., Cappella, 1996), interpersonal adaptation is conceptualized similarly to interpersonal theory. Authors conceptualize interpersonal adaptation as associations between (a) behavioural patterns of partners in interaction (i.e., moment-to-moment behaviour), and (b) as overall levels over time (i.e., interpersonal styles). What the literature on mutual adaptation especially adds to insights from interpersonal theory is the attention to rhythmicity in interpersonal behaviour. This rhythmicity refers to temporal cyclical patterns "in which behaviour progresses repeatedly from a point of origin, through a pattern, and back to the same or very similar point of origin" (Werner & Haggard in VanLear, 1996, p. 46). For example, a teacher may be leading, when introducing a class of students to new concepts, and students may follow and try to comprehend. When students start to understand the new concept, the teacher may become less leading, implicitly encouraging students to play with and assert their newfound understandings. When the teacher subsequently supplies further information or steers students to specific strategies, the more and less leading cycle in teacher behaviour may repeat. Likewise, student behaviour may form a repeating cycle, in which their behaviour first is relatively submissive, then increases to be more assertive, and then lowers again, only to increase again. In this example, teacher and students' recurrent cycles are highly synchronized. As a metaphor, one could visualize high synchrony in dancing, when there is flowing, agile,