

## Research Programme

### Social interaction in educational settings

#### Detailed description of the Research Programme

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## 1 Abstract

### Social interaction

The main task of the teacher is, in social interaction with the pupils, to create a favourable learning environment, to trigger learning processes, and to support the learners in the acquisition of social skills. These include, in particular, the ability to maintain sustainable relationships with other people, to constructively resolve conflicts, to reduce aggressive behaviour and to build up prosocial behaviour. Designing successful social interactions is a major challenge for teachers. The focus of the planned Research Programme is to understand how psychological, social and pedagogical factors can interact in creating favourable educational conditions for successful social interactions and how to overcome obstacles in social interaction. Various theoretical and methodological perspectives are integrated for a better understanding of social interactions in the classroom. It investigates how biological and psychological characteristics of individuals as well as material and social characteristics of the educational situation mutually influence each other.

Relevant research questions include the social interactions and relationships between teachers and students and peers: how do social interactions take shape in different relationships? What are the key elements in creating positive relationships between the teacher and students or peer relationships? How can teachers help children to constructively resolve conflicts? How can aggressive behaviour of students be reduced and prosocial behaviour be promoted? How can teachers be supported in dealing with difficult teaching situations and prevent disruptions in the classroom through social-psychological and didactical measures? Which coping patterns prove to be beneficial in dealing with difficult teaching situations?

**Keywords:** social interaction, teacher-student relationship, peer relationships, aggression, conflict, prosocialism, classroom disruptions, class leadership, teacher stress, intervention

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## 2 Social interaction in educational contexts

### Positively create social interactions

The orientation framework of Bern University of Teacher Education (2012) indicates that the design, staging and implementation of lessons is a core task for teachers. "Teaching and learning processes [are] triggered in the interaction between teachers and students as well as between the learners" (ibid., p. 9). "In addition to the didactical teaching design, a favourable classroom atmosphere and successful social interactions are [...] important prerequisites for students to devote themselves intensively to learning" (ibid., p. 10). In order to teach successfully and achieve learning progress among the learners, teachers need to be able to positively shape their interactions as well as students' interactions, while at the same time creating a classroom atmosphere in which disruptions are prevented, social interaction, and in which students perceive individual behaviour, actions and thoughts from a variety of perspectives and explain, interpret and critically reflect on their own actions. In doing so, the teacher should be able to design lessons in such a way that learning processes are impaired by disruptions as little as possible and that the learning group promotes social learning, positive peer contacts and constructive conflict resolution.

### Use and supply

The teacher alone does not bear sole responsibility for the learning success of their students, however. Teaching can be understood as a social system in which two types of actors encounter one another: teachers arrange learning situations and create learning situations by designing lessons. However, this offer must also be used by the students. The success of lessons is therefore dependent on both sides. Teachers and students must work together to achieve the aims. The teacher must be able to persuade the students to participate actively. Teaching is therefore an interaction system (Helmke 2009; Herzog 2009; Fend 2002). We rely on a framework model that is specifically tailored to school education. The **use-and-supply** model of Fend (1998; 2008). This model does not imply a unidirectional influence of the teacher on the students, but examines the interactions that occur in the classroom. In the use-and-supply model, lessons are conceived as a reciprocal social event in which both teachers and students are involved. The teachers supply lessons which can be used by the students. Teaching is therefore a collective achievement of the teacher and students and is an offer which requires a minimum of commitment from the learner. This relieves the teacher from the sole responsibility for the learning success of their students, at least to some extent. The model emphasises the likelihood of lesson effects. Teachers cannot directly affect the students, but at best shake them up (Luhmann 1984). This puts mediation processes between supply and use in the foreground. How is the teaching provision selectively perceived and filtered? Which subjective interpretations, coding and evaluations do the students make? What do their attention processes look like? Teachers can make an important contribution to successful social interactions through their class leadership and relationship design. According to this view, "good education" is primarily a matter of a successful fit (Eccles, Lord & Midgely 1991).

### Social interactions – theoretical perspectives

Successful social interactions are essential for successful teaching and learning processes. **Social interaction** refers to the interrelated verbal and non-verbal actions of two or more persons who perceive one another (Cottrell 1955; Kieserling 1999). The participants try to coordinate their actions and influence others through social interaction. As a result of repeated interactions, **relationships** develop. These new structures in turn influence social interaction on a micro level (Hollenstein 2007).

Social interaction can be examined against the background of a **variety of disciplinary and methodological perspectives**. The Research Programme is based primarily on psychological and educational research approaches, but also draws on approaches from related disciplines: systems theory (Kieserling 1999; Luhmann 1984); symbolic/interactionist social-anthropological (Geertz 2003; Goffman 1971); ethnological (Eibl-Eibesfeldt 2008; LaFreiniere & Charelsworth 1983) social behaviourist and developmental psychological theory (Havighurst 1982, Youniss 1994). Research on social interaction

in the classroom is connected in contrast to experimental laboratory research with a high degree of complexity and can therefore not be limited to an isolated phenomenon or a single tradition of research, but must take into account various lines of psychological and educational research in social interactions for the purposes of diagnostics and interaction: **aggressions** (Anderson & Bushman 2002; Coie & Dodge 1983; Crick & Dodge, 1994; 1996; Dishion & Patterson 2006; Vitaro, Brendgen & Tremblay, 2002) and **conflict research** (Berkel 2006; Granic & Patterson 2006; Laursen, Finkelstein & Betts 2001; Shantz 1987; Shantz & Hartup 1995), research on **pro social behaviour** (Axelrod 1984; Bierhof 2009; Clarke 2003; Eisenberg 1982; Staub in 2003; Trivers 1971), **classroom disturbances** (Pfitzner & Schoppek 2002), **classroom management** (Emmer, Evertson, Clements & Warsham 1994; Kounin 1976), **teacher/student relationships** (Pianta 1996; Pianta, Hamre, & Stuhlman 2003; Raufelder 2007; Tausch & Tausch 1965; Wentzel 2010; Wubbels & Brekelmans 2005), **peer relations** (Bukowski 2003; Cohen & Prinstein 2006; Dishion & Dodge 2005; Hartup 1996; 2005; Hawley 1999) and **teacher stress** (Hancock & Schmitz 2004; Rothland 2013; Rothland & Klusmann 2012).

### **Teacher-student interaction and peer processes**

Successful teacher-student interactions and positive interactions between students form the basis on which successful teaching and learning processes can be built. The teacher must therefore pay attention to their a.) interactions with the learners as well as b.) peer processes.

a.) **Interaction with the learners:** pedagogical and didactical action can only succeed if teachers and learners enter into an egalitarian (symmetrical) relationship (Herzog 2006). Although the teacher undoubtedly occupies a leadership position, they have to base their pedagogical activities on reciprocity, recognition and trust (Herzog 2009) and prevent disruption in the classroom at an early and low threshold through preventive teaching and class leadership (Kounin 1976; Emmer, Evertson, Clements & Warsham 1994). A good teacher-student relationship, adaptive class leadership, and an inspiring classroom design can help prevent problems (Wettstein 2010). A good relationship with the teacher increases the learning motivation of the students (Wentzel 2010) and their performance at school (Pianta, Hamre & Stuhlman 2003). Adaptive class management includes, among other things, effective monitoring, low-threshold interventions, clear rules and an efficient use of time, and should increase the learning time actively used and therefore also the learning success (Helmke 2009). Furthermore, a stimulating, individual and cognitively activating classroom design helps to prevent disruption (Wettstein, Thommen & Eggert 2010).

b.) **Peer processes:** peers are important developmental partners in early adolescence and offer many learning opportunities (Rubin, Bukowski & Parker 1998; Wettstein 2011). However, peer relationships can also have a negative impact. Peer groups can form negative peer norms in their classes, in which aggressive behaviour is viewed as normal in the peer group and contributes to a high social status among adolescents (Alsaker 2004). This is not only stressful for the students, but also for the teacher, who in turn has to try to create appropriate interactions and relationships within the peer group through interventions.

### **Classroom disruptions**

Lessons and social interactions in the classroom are never completely predictable and hardly ever run smoothly. **Classroom disruptions** are defined against the background of an interactional perspective as disruptions in the teaching/learning process (Winkel 2005). Classroom disruptions can arise both from students and from the teacher. Non-aggressive (restlessness and agitation, gossip) and aggressive student disruptions (threats, exclusion), a lack of teaching organisation or even aggressive behaviour of the teacher (exposure, ridicule) affect teaching and learning processes. Classroom disruptions can extend to the entire methodological didactical setting, and lead to a working atmosphere which is characterised by a lot of interruptions and restlessness.

### **Classroom disruptions cause stress to teachers and endanger pupils**

Classroom disruptions are closely related to burnout among teachers (Brouwers & Tomic 1999; 2000; Evers, Tomic & Brouwers 2004; Friedman 2006) and are considered by them as the main motive for

leaving the profession (Herzog, Herzog, Brunner & Müller 2005; Ingersoll 2001; Lewis, Romi, Qui & Katz 2005; Makarova, Herzog & Schönbächler 2014) and for taking early retirement (Helmke 2009). Classroom disruptions seem to be especially stressful to teachers when they are accompanied by aggression (Lehr 2004). Classroom disruptions, especially if they arise in combination with time pressure and a lack of rest periods, prove to be predictors of negative consequences such as emotional exhaustion (Krause 2004). It can be assumed that an unfavourable and stressful experience of the teacher also has a negative effect on the quality of teaching, and therefore also on the students. A study by Klusmann, Kunter, Trautwein and Baumert (2006) shows that stressed teachers place a one-sided focus on maintaining trouble-free teaching and avoid the risks of adaptive, individualised, cognitively activating teaching; however, this is at the expense of the quality of their instruction in the long term. Classroom disturbances also affect the cognitive and social development of the students. Classroom management with a focus on preventing disruption, a good teacher-student relationship (Hattie 2009; Wentzel 2004) and learning time which is used effectively (Helmke 2009) are considered essential factors for the learning motivation and the learning success of students. Classroom disruptions place stress on the teacher-student relationship, reduce the effective learning time (Wettstein 2010), and in some cases even lead to early school exclusion (Vitaro, Brendgen & Tremblay 1999).

### 3 Research requirements

The importance of successful social interactions and a good teacher-student relationship for the school's motivation and achievement is undisputed. At the same time, the research situation is still relatively sparse – especially in German-speaking countries. The constructs of the teacher-student interaction (TSI) and the teacher-student relationship (TSR) are very heterogeneous and operationalised differently. Accordingly, different aspects of interaction and relationship are recorded using very different instruments. In particular, there is a need for research tools that do justice to the dynamic transactional nature of TSI and TSR. In summary, **two major research desiderata** on social interaction in the classroom and the teacher-student relationship can be identified:

**Transactionality:** despite the aim of presenting the TSI and TSR, mutual relationships and influences, which would have to be investigated through interdependency analyses in the strictly understood interactionist sense, remain largely unnoticed. Most approaches assume a largely asymmetrical understanding of interaction and relationships, whereby the direction of action is thought of as an adult to a child. Accordingly, most of the relationship characteristics mentioned describe behaviours and personality traits of the teacher. However, education is a reciprocal process. The teachers are also influenced by the behaviour of the student (Raufelder 2007). The relationship and interaction are genuinely relational constructs. Research, therefore, must focus more on the reciprocal effects of TS relationships (Eccles & Midgley 1990) and orientate itself towards models that reflect the transactional nature of these interactions and relationships.

**Ecological context:** social interactions and relationships are integrated into the environmental context of teaching (Wettstein 2012). Here, it would be particularly important to know to what extent the design of the methodological didactical setting (choice of social forms, teaching methods, the rhythm and design of transitions) has a positive or negative influence the interaction.

Specifically, we have located research needs in three areas:

1. **Social interaction and relationship:** most research approaches use a questionnaire to examine the teacher-student relationship, requiring teachers or students to assess relatively global statements (e.g., "I like my teacher" or "I like my class"). This research has great merit and shows that relationships are important in determining well-being, motivation and school performance. However, it remains unclear how relationships express themselves in social interaction. Furthermore, it is unhelpful for teachers to know that students assess their relationship with them as critical on a global level. Especially in the case of unsuccessful TS relationships, it would be important to know which

concrete interactions have an impact on relationships. The identification of critical interaction patterns could potentially lead to intervention measures. Furthermore, there is a deficit in the research on peer relationships in the classroom, especially at the lower level.

- 2. Classroom disruptions from a teacher and pupil perspective:** questionnaire studies show that teachers and pupils perceive the lessons differently (Clausen 2002; Desimone 2009; Fauth, Decristan, Rieser, Klieme & Büttner 2014; Kunter & Baumert 2006; Wagner 2008; Werth, Wagner, Trautwein, Göllner, Voss & Schmitz 2014). Helmke and Lenske (2013) point out that teachers must be encouraged to consider more of the students' perspective too. In addition, researchers in teaching diagnostics would have to include different perspectives and focus more on deviations from the teacher and pupil perspectives.
- 3. Coping patterns in dealing with difficult teaching situations.** Previous empirical work on stress and strain in the teaching profession is based primarily on subjective self-reports of teachers, while there are hardly any observational studies on objective work situations (Krause, Dorsemagen & Meder 2013; Rothland & Klusmann 2012). This raises the problem that it is hardly possible for researchers to clarify whether different information on existing stress can be attributed to objectively different working conditions or to different subjective perceptions of the teaching staff. Both Krause Dorsemagen and Meder (2013) and Maslach and Leiter (1999) therefore called for future research to increasingly examine teacher-student interactions, including independent observers and physiological stress measurements.

## **4 Importance for science and educational practice**

### **The importance for the professional field**

Disruptions in social interactions are both a *risk factor* for teachers (teacher stress, burnout, early retirement) and for the students (school exclusion, marginalisation, formation of negative class standards) and cause high *resulting costs*. We want to raise awareness of key elements in shaping positive interactions, provide strategies for dealing with difficult classroom situations, and help stressed teachers in their coping strategies.

### **The importance for science**

The importance of successful social interactions for successful teaching-learning processes is repeatedly postulated. Surprisingly, however, relatively little research has been carried out on social interactions in concrete teaching situations. Although this is required time and again, it is rarely implemented due to methodological challenges. In recent years, our research group has been able to pick up on some of the questions relevant to pedagogical practice and is therefore perceived in German-speaking countries as a point of contact for questions on social interaction in education. Through the development of diagnostic systems for teachers (e.g. BASYS) and innovative methods (e.g. camera glasses), a small contribution has been made towards closing relevant research gaps for pedagogical practice. With projects such as the further development of the questionnaire for recording **classroom disruptions from the perspectives of the teacher and the students**, and the **recording of physiological stress reactions** in the field, we would like to go a step further along this path.

## 5 Literature

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