

Chapter 6

A Knowledge Base for Teachers on Teacher-Student Relationships

Theo Wubbels

6.1 An Interpersonal Perspective on Teaching

Throughout the past three decades a research programme at Utrecht University in the Netherlands has been aiming to improve teaching and teacher education by building a knowledge base about teacher-student relationships through studying beginning and experienced teachers teaching. In the study of teaching a variety of perspectives can be employed, including for example views of effectiveness based on methodology, discourse, moral positions and orientations toward gender and ethnic diversity. Because of the importance of human relationships in education we have chosen to analyse teaching from an interpersonal perspective that describes and analyses teaching in terms of the relationship between teacher and students. We analyse the perceptions of students and teachers regarding their interpersonal relationships according to the Model for Interpersonal Teacher Behaviour that originally was based on Timothy Leary's research on the interpersonal diagnosis of personality (1957) and its application to teaching (Wubbels et al. 1985). The Leary model has been investigated extensively among others in clinical psychology and psychotherapeutic settings (Strack 1996) and has proven effective in describing human interactions (e.g., Foa 1961; Lonner 1980). Two significant dimensions emerged from Leary's research, which he named 'Dominance-Submission' and 'Hostility-Affection'. According to interpersonal theory (Fiske et al. 2007; Judd et al. 2005) these two dimensions are primary to all interpersonal perceptions and are nowadays usually named Agency and Communion.

Following interpersonal theory we now present the Model for Interpersonal Teacher Behaviour a bit differently from the presentation in the early days of the model as a circle with eight titles placed equidistantly on the circumference (see

T. Wubbels (✉)

Faculty of Social and Behavioural Sciences, Utrecht University, Utrecht, The Netherlands
e-mail: t.wubbels@uu.nl

Fig. 6.1 The Interpersonal Circle for the Teacher (IPC-T; Mainhard 2015)

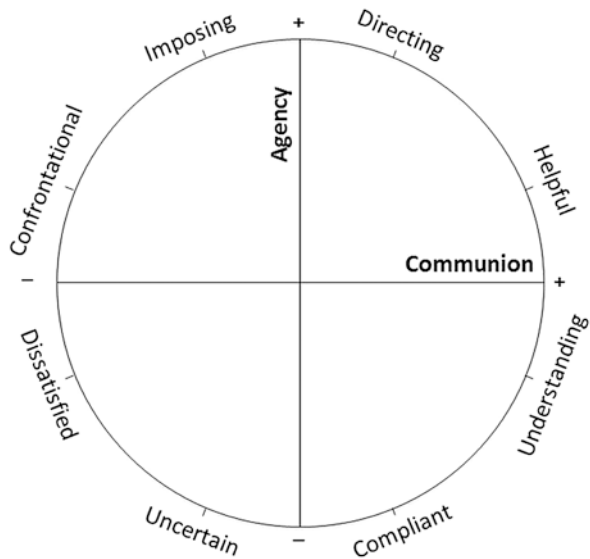


Fig. 6.1; Mainhard 2015). These titles represent a blend of Agency and Communion. For example, directing and helpful teacher behaviour are both characterized by positive Agency and Communion. In directing Agency prevails over Communion and includes behaviours such as teacher enthusiasm, motivating strategies, and the like. Helpful behaviour includes more Communion and less Agency perceptions in which the teacher demonstrates helpful, friendly and considerate behaviour.

6.2 The Questionnaire on Teacher Interaction

The perceptions of teachers and students of the teacher-student relationship can be measured with the Questionnaire on Teacher Interaction (QTI). To map interpersonal teacher behaviour, the QTI was designed according to the two-dimensional Model for Interpersonal Teacher Behaviour and the eight sectors (Wubbels et al. 1985, 2006a). It was originally developed in The Netherlands, and a 64-item American version was constructed in 1988 (Wubbels and Levy 1991). The original Dutch version consists of 77 items that are answered on a five-point Likert scale ranging from 'Never/Not at all' to 'Always/Very'. The items are divided into eight scales corresponding with the eight sectors of the Model for Interpersonal Teacher Behaviour. Since its development the QTI has been translated and administered in over 30 countries, including Australia, Canada, Cyprus, Israel, Korea, Poland, Singapore, South Africa, Turkey, Thailand and the UK. Several studies have been conducted on the reliability and validity of the QTI. They have included

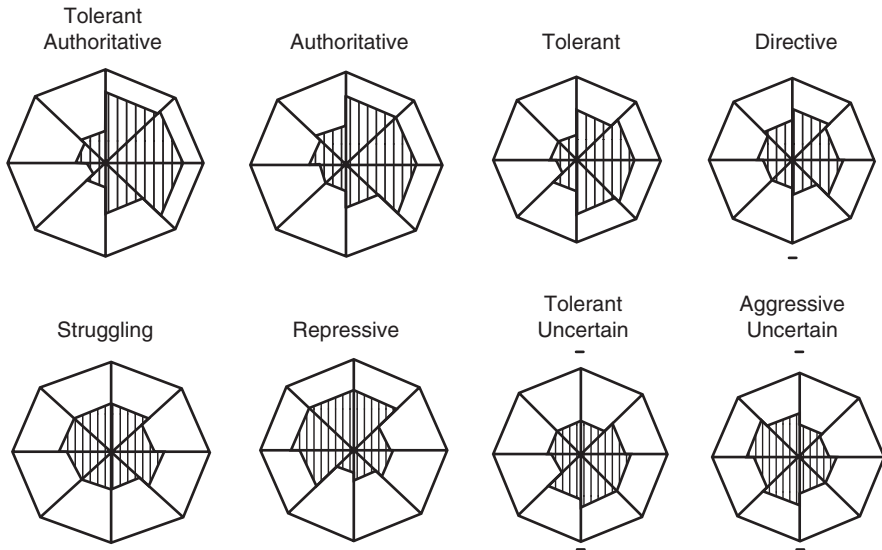


Fig. 6.2 Profiles of the eight types of patterns of interpersonal relationships

research on Dutch (e.g., Brekelmans et al. 1990; den Brok et al. 2006a; Wubbels et al. 1985), American (Wubbels and Levy 1991), Australasian (den Brok et al. 2006b; Fisher et al. 1995) and Turkish samples (Telli et al. 2007), among others. A less time consuming version with improved consistency of item formulation, in the Netherlands has led to a selection of 24 items (Pennings et al. 2014). A similar refining process on the English version is underway. The questionnaire can be administered to students about their perception of the relationship with their teacher and to collect data from teachers on their self-perceptions and how they perceive the ideal teacher. Results of administering the QTI for feedback purposes usually are displayed in profiles such as presented in Fig. 6.2. In student perceptions several profiles have been found in Dutch and American classes (Brekelmans 1989; Brekelmans et al. 1993), named Directive, Authoritative, Tolerant/Authoritative, Tolerant, Uncertain/Tolerant, Uncertain/Aggressive, Struggling, and Repressive; Fig. 6.2). In Fig. 6.3 we summarize each of the eight types on the basis of the two dimension scores (Agency and Communion) of the profiles by means of a main point indicated by the first letters of their names in the co-ordinate system. Although we characterize these profiles in terms of the teacher's style, it is important to remind that these are descriptions of a teacher in a particular class: a teacher-class combination. Classes of experienced or veteran teachers usually have the same type of interpersonal pattern, but there can be differences between classes (Brekelmans et al. 2002). For beginning teachers the variation across classes can be considerable (Brekelmans et al. 2002; Somers et al. 1997).

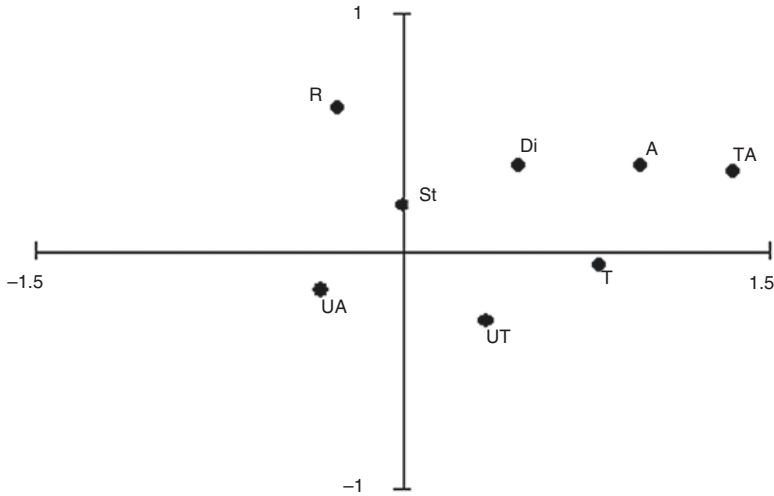


Fig. 6.3 Main points of the eight types of patterns of interpersonal relationships. (*A* authoritative, *Di* directive, *St* struggling, *T* tolerant, *R* repressive, *TA* tolerant/authoritative, *UA* uncertain/aggressive, *UT* uncertain/tolerant)

6.3 Teacher-Student Relationships and Student Outcomes

Classroom environment studies that have included the interpersonal perspective on teaching usually indicate a positive relationship between perceptions of Agency and Communion or their related subscales and cognitive and affective student outcomes (Wubbels et al. 2016). The first study on such relationships between student outcomes and students' perceptions of teacher interpersonal behaviour by Brekelmans (1989) investigated the relationship in terms of the interpersonal profiles as shown in Figs. 6.2 and 6.3. In Table 6.1, estimations for the (statistical) effects of the eight different profiles of students' perceptions of interpersonal profile type on physics achievement and attitude scores are presented (after correction for the influences of other variables).

The results of Table 6.1 show that, on average, the teacher with a Repressive profile has the highest achievement outcomes. Teachers with disorderly classrooms (Profiles Uncertain/Tolerant, Uncertain/Aggressive, Struggling) reflect relatively low student achievement, whereas Directive, Authoritative and Tolerant teachers have relatively high outcomes. The Authoritative and Directive teachers have the highest student attitude scores. Students of the Struggling, Uncertain/Aggressive and Repressive teachers have the worst attitudes towards physics.

The Brekelmans' study and others (e.g., Goh and Fraser 1998, 2000; Henderson et al. 2000; Georgiou and Kyriakides 2012; Zijlstra et al. 2013) show that the higher a teacher was perceived on Agency, the higher the student cognitive outcomes and

Table 6.1 Effects on achievement and attitudes of students' perceptions of the interpersonal profile of their physics teachers

Interpersonal profile type	Effect on achievement	Effect on attitude
Directive	0.17	0.62
Authoritative	0.07	0.79
Authoritative/tolerant	Missing ^a	Missing ^a
Tolerant	0.23	0.53
Uncertain/tolerant	-0.17	0.51
Uncertain/aggressive	-0.15	0.20
Repressive	0.40	0.38
Struggling ^b	0	0

^aToo few cases to include in the analyses

^bReference group

these associations were usually moderate to small (Wubbels et al. 2016). Generally, effects of Communion are somewhat stronger than effects of Agency. Some studies found that only one of the two dimensions was related to student achievement: either Agency (den Brok et al. 2004; Sivan and Chan 2013) or Communion (Bacete et al. 2014; Gupta and Fisher 2011). “Also, some studies have indicated associations with only one side of a dimension. For example, Rawnsley (1997) found that negative Communion was negatively associated with student achievement, but no association was found for positive Communion. The study by Gupta and Fisher (2011) reported a negative association of Agency with student outcomes, where other studies reported mainly positive associations” (Wubbels et al. 2016, 137). In some studies the relationship between Communion and cognitive outcomes was not linear but curvilinear (i.e. lower perceptions of Communion go with low outcomes, but intermediate and higher values with higher performance until a certain ceiling of optimal Communion has been reached (den Brok et al. 2004). Studies on associations between the teacher-student relationship and affective outcomes are more consistent in their results than studies on the relationship with cognitive outcomes. All studies find a positive relation of both Agency and Communion with affective outcome measures, usually measured in terms of subject-specific motivation. The higher the perception of Communion is, the higher the motivation of the students. Associations may differ for ethnic minority and mainstream students. We found in a study using report card grades as outcome measures a positive association between teacher Agency and report card grades for Surinamese students in Dutch multicultural classes, but negative associations for Dutch and Moroccan students and no association for Turkish students (den Brok et al. 2010). In this study, no direct effects were found for communion on report card grades, but indirect effects were found for communion, with student motivation as a mediator. Teacher-student communion showed strong associations with positive attitudes towards subject content among all cultural groups. However, higher levels of teacher agency did not correlate with subject attitude among students with a Dutch background. For students with a Moroccan, Turkish or Surinamese background (but born in the Netherlands), higher

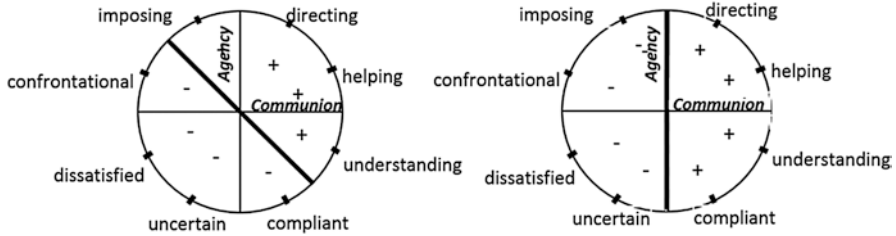


Fig. 6.4 Sign of correlations between QTI scales and cognitive student outcomes (*left*) and affective outcomes (*right*)

levels of teacher agency had small to medium positive effects on subject attitude. A potential explanation might be that most multicultural schools in the Netherlands are situated in the major cities, where teaching is often rather challenging for teachers from a classroom management perspective (van Tartwijk et al. 2009). Low success in classroom management may result in low agency in student perceptions of the teacher-student relationship indicating disorder, that is negatively related with student motivation (Wubbels et al. 2016). Overall these results indicate that ethnic minority students might be a bit more dependent for outcomes and motivation on the teacher-student relationship than mainstream students.

Figure 6.4 summarizes the findings for student outcomes and teacher-student relationships on the scale level. All scales on the right side of the model are positively related to student affective outcomes such as subject specific motivation and all scales on the left side negatively. For cognitive outcomes the results are rotated one scale counter clockwise: imposing is positively related to cognitive outcomes whereas it is negatively related to affective outcomes. Similarly compliant teacher behaviour is negatively related to cognitive and positively related to affective student outcomes. The results show that for six scales the relationships with student cognitive and affective outcomes are the same and lead to straightforward recommendations for practice. In order to get positive student outcomes teachers should aim for student perceived relations that are high on directing, helpful and understanding and are low on confrontational, dissatisfied and uncertain.

6.4 Relationships Over Time

Several studies (e.g. Wubbels and Brekelmans 1997) have investigated changes in the teacher-student relationship over the years comparing the mean scores for a sample of teachers in different years. Brekelmans (2010) showed in a large Dutch database that these relationships are remarkable stable over time (see Fig. 6.5). Also the Wubbels and Brekelmans' (1997) study showed small differences in the behaviour of physics teachers over a 10 years period.

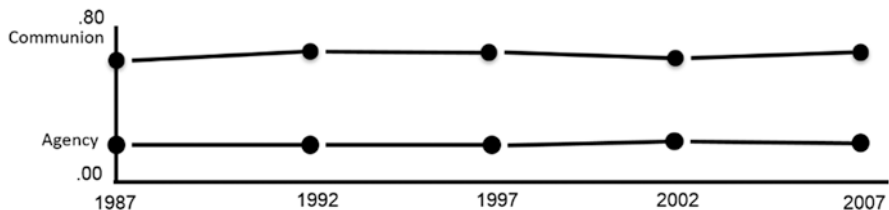


Fig. 6.5 Agency and Communion between 1987 and 2007 in a large Dutch database of student perceptions of the teacher-student relationship (Brekelmans 2010)

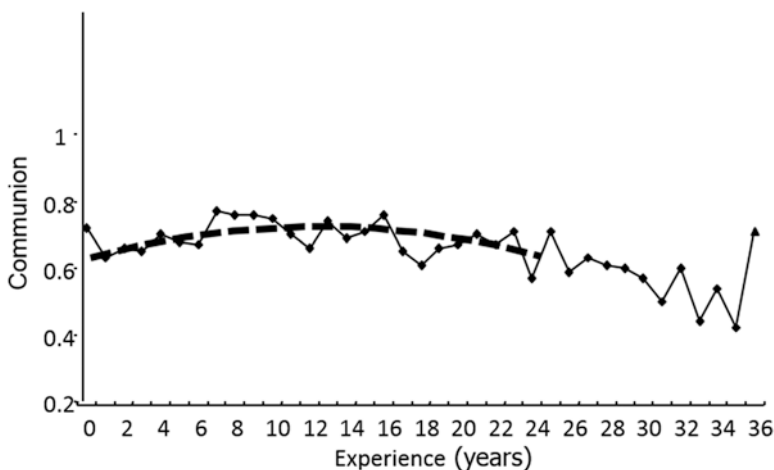


Fig. 6.6 Teacher Agency with experience in cross-sectional and longitudinal (dotted) data set (Brekelmans 2010)

6.5 Interpersonal Relations Across the Teaching Career

Whereas mean student perceptions of the teacher-student relationship collected in different years in a sample of teachers do not differ much across the years there are differences according to teacher experience. In earlier studies (Wubbels et al. 2006a) teachers’ ideal perceptions during the teaching career appeared to be rather stable for both dimensions. Throughout their careers, teachers seem to agree on the amount of Agency and Communion desired in the classroom. Figures 6.6 and 6.7 plot the mean Agency and Communion scores based on a more recent study (Brekelmans 2010) for students’ perceptions based on cross-sectional and longitudinal data. Students’ perceptions of actual teacher-student relationships, noticeably varied for teachers across experience levels. It appeared that Agency grew for most teachers, which means that it comes in the first 8 years of their careers every year closer to their ideal and towards high Agency levels that are good for student outcomes. The differences between individual teachers however can be rather big. For Communion it appeared that there is a slight tendency for lower communion levels

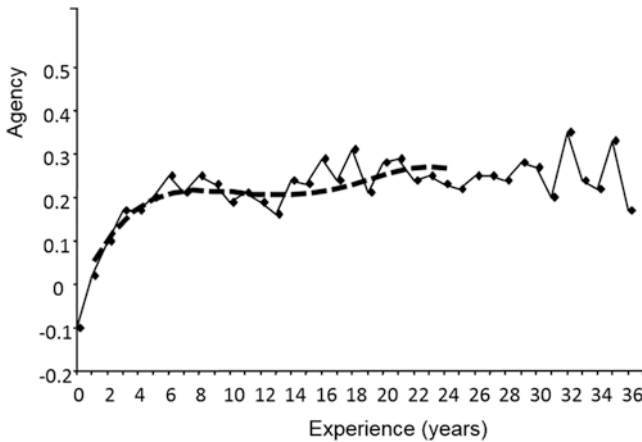


Fig. 6.7 Teacher Communion with experience in cross-sectional and longitudinal (*dotted*) data set (Brekelmans 2010)

at the end of the career. Such a decrease in Communion is detrimental for student outcomes and a movement away from the teacher ideal perception of the teacher-student relationship.

From the outset of our research programme it appeared that a considerable number of teachers is not sufficiently able to create positive learning environments. Beginning and experienced teachers encounter (different) problems in this domain. These problems can be described with the help of results of cross-sectional and longitudinal studies on the teacher-student relationship and teacher experience level.

For many beginning teachers it appears to be difficult to create and maintain order in class (e.g. Veenman 1984), and this can be seen from the relatively low students' perception score on Agency at the beginning of the career presented in Fig. 6.6. It appears that most teachers learn to cope in the first years of their career with these problems. "At the start of their careers, most teachers are about twenty to twentyfive years old and have not, to any large degree, as yet provided leadership to other people. From this point of view, the professional role does not coincide very well with their stage of personal development. Beginning teachers are often confronted with a lack of behavioural repertoire and inadequate cognitions in this area. This can result in students' perceptions of their interpersonal style as Uncertain/Tolerant and Tolerant, styles with a relatively low Agency score" (Wubbels et al. 2006a).

The lower level of Communion of the end of the career is also problematic in light of the earlier reported relationships between student outcomes and teacher-student relationships. A decrease in Communion may lead to lowering of student affective and cognitive outcomes. The decrease of Communion shows that experienced teachers tend to become stricter when they get older, perhaps becoming sometimes unreasonable in their demands.

“Because of the distance, both emotion ally and in age, older teachers may be less connected with the students’ life style. Therefore, these teachers may become more and more dissatisfied with students behaviour, thus becoming a problem for themselves as well as for their students. These high demands on and low connection with students can provoke student protest that at first can be handled easily, but gradually can become a real threat for a good classroom atmosphere. Thus the teachers are faced with a difficult problem and they may feel required to act even more demanding and admonishing, stimulating a negative communicative spiral: the teacher showing ever more oppositional behaviour as a reaction on the students protest behaviour. So the origin of the decrease in co-operative behaviour may be an inadequate repertoire in and inadequate cognitions about strict behaviour and lack of skills to give students responsibility. Giving responsibility to students is inherently risky, because it ‘naturally’ very often is accompanied by uncertain teacher behaviour. This kind of behaviour will provoke student disorderly behaviour and shape undesirable classroom situations. Teachers need to be able to show behaviours suited to give students responsibility for their own work without showing uncertain behaviour, or being a demonstration of the teacher’s weakness. Training to give students freedom and responsibility thus may be a prominent part of in-service education for very experienced teachers. In addition, training on setting norms and standards in a clear, but not provocative way may be useful” (Wubbels et al. 2006a).

Studies by Wubbels et al. (2006b) and van Tartwijk et al. (2009) reported on the problems teachers experience in classroom management and related to that the levels of Agency and Communion in multicultural classrooms. Their results indicate that competence in teaching a multicultural class generally can be considered to be an aspect of generic teaching competence. The aspects of good teaching the teachers mentioned in these studies have been mentioned before as important for good teaching in every classroom. This applies for example to the importance of clear and structured lessons, of giving feedback and of correcting students. Teachers mentioned that they felt it was of particular importance for them in multicultural classes to show being in control, to respond to small student misbehaviour with early and small corrections and to re-establish rapport with students after corrections or problems. The latter is of specific importance because of the danger that students from ethnic minorities more easily might feel losing face when being corrected by the teacher. Although these teacher opinions align with more generic advice for teachers on classroom management (e.g. Wubbels 2011) it seems that the multicultural classroom puts heavier demands on the teacher competence than a less diverse classroom; this might be a result of the fact that so many difficult factors play a role simultaneously in multicultural classrooms (Wubbels et al. 2006b).

6.6 Complementarity in Interactions

Teacher-student relationships can be understood as the generalized interpersonal meaning students and teachers attach to their interactions with each other. These interactions take place at a short time scale and the behaviour varies from moment

to moment. Not only teacher-student relationships, but also interactions can be mapped with the two dimensions Agency and Communion. On the level of moment-to-moment interactions the interpersonal valence of teacher behaviour can change from second to second. An important characteristic of interactions is the tendency to show complementarity. Complementarity describes the behaviour in interactions that most probably invites specific reactions (e.g., de Jong et al. 2012). Research on human interactions has shown that for the Communion dimension, behaviour of one party in the interaction most probably invites similar responses of the other person. For example, friendly behaviour triggers a friendly reaction, and angry behaviour evokes anger (Tracey 1994, 2004). Such a response may lead to a positive spiral in interactions in class, where teacher and student become more friendly to each other creating a warm, supportive and pleasant classroom environment (Wubbels et al. 1988). On the other hand this complementary response at the Communion dimension also can lead to a spiral of increasing aggressive reactions of the teacher towards students and vice versa. Confrontational behaviour of the teacher invites aggressive behaviour of the students that in turn may evoke teacher aggression and so on. Thus an aggression spiral may evolve with destructive implications for the classroom atmosphere.

Behaviour of one person on the Agency dimension most probably invites responses with opposite interpersonal valence of the other involved in the interaction: dominant teacher behaviour, for instance, might invite a submissive student reaction, and submissive behaviour can lead the recipient to try and take control (Dryer and Horowitz 1997). For example, a person might be talking (high Agency), while the companion responds by listening (low Agency). A teacher might be explaining for a long time and then ask students a question. Often the students will not quickly respond because they have to come out of the submissive position that the teacher talking has reinforced. When then the teacher answers his or her question her or himself the escalated hierarchical teacher and student positions are even further strengthened with negative implications for student learning opportunities.

Sequences of communication are called complementary if they proceed according to these patterns. Complementarity is theorized to be the most probabilistic pattern, but other responses may occur (Estroff and Nowicki 1992; Markey et al. 2003; Tiedens and Fragale 2003; Tiedens and Jimenez 2003; Tracey 1994, 2004, 2005). This probabilistic character of responses is one of the reasons that we do not know very well how moment-to-moment interactions of teachers and students add up to the more general conceptual level of teacher-student relationships. Dynamic systems theory (e.g., Thelen and Smith 1994) may provide a framework for analysis of the relationship between these two levels in communication by connecting the two separate time scales of development: the micro-social or moment-to-moment scale (i.e., teacher-student interaction) and a macro-social or outcome scale (i.e., the teacher-student relationship). According to Bronfenbrenner and Morris's (1998) the moment-to-moment time scale (teacher-student interactions) is the primary engine of development and outcomes (e.g., teacher-student relationships). Self-stabilizing feedback, of which complementarity is an example is the mechanism by which

moment-to-moment processes determine macro-level outcomes. In turn, macro-level factors feed back on and restrict moment-to-moment interactions: teacher-student relationships influence the way messages in interactions are interpreted by the other party. When a teacher and class have a friendly relationship the students may interpret a teacher correction of student behaviour for example as a necessary act because of the undesired student behaviour. This can be very different in a hostile relationship in which the students might see such a correction as another sign of the bad temper of the teacher.

6.7 Coercive and Supportive Behaviour and Teacher-Student Relationship

A challenge for future research is to learn the type of moment-to-moment interactions that lead to profitable teacher-student relationships at the macro-social level. On this topic, one study investigated the effects of students' perceptions of coercive and supportive teacher behaviour in one lesson on the relationship in the same and in following lessons (Mainhard et al. 2011). The occurrence of supportive and coercive incidents were measured with the Teacher Behaviour Observation Checklist; an example of a coercive incident item is "In this lesson the teacher yelled at us", and an example of a supportive incident is "In this lesson the teacher said we were doing well".

Overall, for supportive behavioural incidents the relationship improved and for coercive episodes it declined. It appeared that when teachers exhibited supportive behaviour repeatedly in consecutive lessons they were perceived by students as demonstrating a high level of Communion compared with teachers showing such supportive behaviours less frequently. Such effects of frequent supportive behaviours in one lesson led to greater Communion up to lessons 2 weeks later and then had faded away. Frequent supportive behaviour was not significantly associated with the level of teacher Agency.

Coercive teacher behaviour incidents in one lesson (e.g., using sarcasm, yelling at students, or punishing students during a classroom lesson) were associated with lower teacher Communion, both during the same lesson and in a lesson a week later. Thus, using coercive behaviour immediately disrupted the relationship between teacher and class, and unfortunately the effect remained for a week. However, if no new additional coercive behaviour occurred in the subsequent two weeks after the incident, the Communion level was re-established. There was not a straightforward link between coercive behaviour and the level of student perceived teacher Agency in the teacher-student relationship. The use of coercive behaviour in one lesson was associated with somewhat more Agency in class, but acting coercively in two consecutive lessons appeared to diminish Agency. This finding contrasts more general theories on interpersonal power (French and Raven 1959; Schrodt et al. 2008) that assume that coercive behaviour strengthens interpersonal influence. It is plausible

that teachers use coercion based on this general assumption that coercion strengthens power, and expect this will also apply in the classroom. Unfortunately this use of coercion seems to work differently in the hierarchical class context and may have an opposite effect. In class the use of coercion in the long run may even lead to lower control of the teacher. This result is in agreement with some studies showing that coercive strategies are associated with more student misbehaviour (Lewis et al. 2005; Miller et al. 2000). Further, coercive behaviour also seems unproductive given its effect on the Communion dimension. Although teachers who engage in coercive behaviour may understand that this is not beneficial to their Communion with students they perhaps deliberately sacrifice Communion assuming that it will ultimately be re-established or be replaced by greater control of the class. The results of our study do not support this assumption. We want to emphasise, however, that on the other hand it is clear that disciplinary actions are necessary at times because we cannot expect students to be compliant all the time. It is a challenge for teachers to do this in such a way that it doesn't ruin the classroom atmosphere and to make as few disciplinary interventions as possible.

6.8 Conclusion

Teachers should create classroom environments where students perceive high teacher Agency and Communion in the teacher-student relationship. How teachers can do that is not yet very clear from the research available until now. However there is support for the recommendation that teachers should use small rather than intense corrections, behave as unaggressively as possible (Evertson and Weinstein 2006), and apply increased intensity of disciplinary actions only for seriously disruptive student behaviour (Créton et al. 1989). Such advice seems to be even more important for teachers in multicultural than in mainstream classrooms. In our teacher education programme we train student teachers to prevent student misbehaviour rather than correct it and to catch disturbances early with as small interventions as possible. For example they have to design a list of ever more intensive interventions for the case one or more students disturb the lesson or do not pay attention. Such a list can have over 20 items starting with low intensities such as looking at a student, move one step toward a student, stop talking for a half a second and so on before really addressing a student and say something about the undesired behaviour. We also have them practice such interventions in microteaching situations and in real classes. For teachers in multicultural classrooms we specifically train different ways of re-establishing the relationship with a student after having corrected a student. These are some examples of how the knowledge base on teacher-student relationships and interactions can inform practice.

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