Chapter 6
General Discussion
This dissertation explored another view on students’ needs because the traditional paradigm of deficits falls short in reflecting today’s practice in mainstream primary education, as was argued in Chapter 1. This different perspective addresses students’ additional support needs as alterations within classrooms, rather than students’ deficits, and includes students from a broad perspective, rather than based on a categorical distinction by diagnosis. Although the suggested viewpoint seems promising, empirical-based arguments to support this viewpoint remain scarce. Therefore, this dissertation aimed at empirically addressing how teachers perceive students’ additional support needs, what the value of this perspective is and how teachers perceive their capacity to meet their students’ needs. This chapter will discuss major findings from the studies that were reported in Chapters 2 to 5, in light of the dissertation’s aims. Moreover, this chapter will reflect on limitations of this dissertation, explore implications for practice, provide suggestions for further research and draw overall conclusions.

**Major Findings**

**Characteristics of Teacher-Identified Students**

Because it remains unclear how teachers perceive their students’ additional support needs in terms of alterations in the classroom, we explored characteristics of teacher-identified students and dimensions of teacher-perceived students’ additional support needs in Dutch mainstream primary education. Teachers were asked to identify their students in need of additional support to meet set educational goals. Then, teachers provided data on these identified students regarding academic attainment, task-oriented behaviour, behavioural and emotional problems, and self-concept, using standardised instruments.

It was observed that teachers designate a heterogeneous group with respect to students’ gender, level of achievement and presence of clinical diagnosis. Approximately two-thirds of teacher-identified students were male, in accord with our expectation (c.f. Van der Veen et al., 2010; Croll & Moses 2003; McCoy et al., 2012; Lundervold et al., 2008).

Unexpectedly, approximately 40% of identified students scored higher than the Dutch national average on mathematics and comprehensive reading, whereas 60% scored below average. These findings regarding school attainment contrast with those of previous analyses (Anders et al., 2011, Van der Veen et al., 2010) suggesting low attainment scores or learning difficulties (Croll, 2002) to be sole indicators of teacher-identified additional support needs. More than three-quarters of the identified students had not received a diagnosis of any kind (boys 76.4%, girls 82.3%). This result confirms our expectation that teachers would have a broader
view on students with additional support needs that would go beyond identification based on diagnosis of any kind.

As a group, few elevated or decreased scores were observed with respect to the mentioned students’ characteristics, compared to norm-reference groups when using group mean scores. However, there are two interesting exceptions; the group of students with additional support needs scored significantly lower on self-perceived competence and higher on the depression scale (e.g., ‘is being indifferent, absent-minded or not motivated’). Meijer et al. (2006) already reported that teachers’ estimated need for emotional support of students with special educational needs was related to students’ withdrawal, emotional instability and anxiety. These findings underline the notion that emotional characteristics could be indicators of additional support needs.

Although few differences were found when group means were compared, the results indicated that rather than presenting a homogeneous group, teacher-identified students with additional support needs are characterised by large variations and individual differences in performance within the group of identified students. Using cut points of the standardised measures described in Chapter 2, we found that more female teacher-identified students were perceived to have problems coping with changes, monitoring emotions and being close to the teacher and more of these students felt anxious and depressed than female students in the norm-referenced group. Additionally, more individual male teacher-identified students were perceived to have problems with ignoring stimuli, being dependent on the teacher and feeling anxious than male students in the norm-referenced group. Within-group analysis (i.e., within the group of teacher-perceived students) showed that students exhibiting low performance in mathematics and comprehensive reading were perceived to have more often problems with working memory, planning their work and taking initiatives than their high-achieving peers.

To conclude, our results indicate that characteristics of teacher-identified students with additional needs vary enormously and that the specific identified additional needs should be addressed when accounting for their cognitive and social-emotional competences. It appears that only some aspects of emotional development (i.e., self-concept, depression) are to be considered. Moreover, the results indicate that teacher-identified students with additional support needs should be viewed as a heterogeneous group. These findings illustrate that teachers indeed have a broader view of students with additional support needs than the narrow frame of reference suggested in the traditional diagnostic paradigm; having a diagnosis or low attainment are not of central relevance, as indicated by the absence of a diagnosis in most of identified students, as well as their distribution across the full range of academic performance.
Dimensions of Teacher-Perceived Students’ Additional Support Needs

In Chapter 3, we reported that factor analyses of responses to a teacher questionnaire on support needs of identified students presented four dimensions, the need for (a) instructional support, (b) (on-task) behavioural support, (c) emotional support and (d) peer support.

The need for instructional support consisted of 30 items regarding repetition, remediation, modelling, structuring activities and relating previous lessons to other lessons. The need for (on-task) behavioural support consisted of 20 items regarding behaviour support, rules, support to stay on-task and structuring the work place of the student. The need for emotional support consisted of 12 items regarding the increase of (self) competence and feedback on product and process. Finally, the need for peer support consisted of 11 items regarding acceptance and support by peers. Teachers reported the highest level of need in the domain of emotional support, followed by the need for instructional support, the need for peer support and the need for (on-task) behavioural support.

These results, with respect to the four dimensions of needs, are novel because only a few studies have empirically addressed this topic to date. One previous study in the Netherlands (Meijer et al., 2006) reported two dimensions of students’ needs: the need for structure and the need for emotional support. Similarly, the teachers in our study sample underlined the need for emotional support and the need for structure. However, the latter need was split into structuring the activities (need for instructional support) and structuring the work place (need for (on-task) behavioural support). The dimensions regarding instructional support and peer support identified in our study have not previously been observed. Together, these identified, reliable dimensions of students’ additional support needs provide us with a broad framework reflecting cognitive, social, emotional and behavioural domains.

The finding that elementary school teachers clearly distinguish between different types of students’ additional support needs raises the question regarding whether specific pedagogic approaches are required to meet these needs. Several literature reviews (Lewis & Norwich, 2001; Nind & Wearmouth, 2006; Rix et al., 2009; Sheehy et al., 2009; Tomlinson et al., 2003) reject this idea due to a lack of evidence that specific pedagogies are needed by or applied to various students with special needs. Rather, these reviews argue that with these students common teaching strategies are to be used but in a more intensive, frequent or explicit way. This reasoning is supported by the finding reported in Chapter 3 that teacher-identified students with additional support needs scored significantly higher on all dimensions of additional support needs than non-identified students from the same classrooms. The fact that the identified dimensions were
applicable to both groups of students suggests that teachers addressed identified students’ additional support needs. This finding, however, does not imply that teacher-identified students have different needs than their peers but should be interpreted—in line with the aforementioned reviews—that teachers perceive these students’ needs to be more intense, frequent, explicit or systematic.

To conclude, the study reported in Chapter 3 empirically substantiated the viewpoint that teachers are well able to define the needs of students they identify as being in need of additional support in terms of alterations needed within classrooms. In addition, the perspective of teachers appears to be a differentiated one, as cognitive, social, emotional and behavioural domains were reflected in the four factors identified in the items indicating students’ needs, instructional support, (on-task) behavioural support, emotional support and peer support. The finding that scores on these dimensions were much higher for students identified as being in need for additional support than for non-identified students in the classroom enhances the relevance of these dimensions.

**Associated Student- and Teacher Level Factors**

In addition to describing the dimensions of students’ additional support needs and the characteristics of teacher-identified students with these needs, it is important to evaluate this viewpoint by exploring student- and teacher-level factors associated with these teacher-perceived needs. Therefore, the studies reported in Chapter 2, 3 and 4 addressed determinants of teacher-perceived students’ additional support needs on both the student- and teacher level. In the next section, we will discuss the results of these studies by describing characteristics of teacher-identified students with additional support needs and address associated factors at the student level and the teacher level.

**Student level.** Chapter 3 showed that students’ low academic performance was a reason to consider students’ need for additional instructional support. The more students were perceived to have problems regulating themselves or their work, showing conflicts with teacher, problems behaviour and were indifferent, absent-minded or not motivated, the more they were perceived as requiring need of (on-task) behavioural support. Students’ difficulties in class pertaining to school task regulation, social interaction with teachers as well as behavioural or emotional regulation were perceived as reason to score students higher on additional need for emotional support. No relations were found between need for peer support and students’ characteristics. It could well be that these needs are related to, for instance, peer rejection rather than specific student characteristics measured in this study. Several studies have already stressed the
importance of supporting social development of students with special educational needs because they could experience problems with friendships (Frostad & Pijl, 2007) or social participation (Koster, Pijl, Bakken, & Van Houten, 2010). However, measures for these student characteristics were unfortunately not included in this study.

**Teacher level.** As indicated previously, teachers are considered key-informants in the process of addressing students’ additional support needs and our results show that teachers do have a differentiated view on students’ additional support needs. However, teachers’ perceptions might be biased by teachers’ characteristics, such as level of training, years of experience, personality or self-efficacy beliefs. Therefore, the study reported in Chapter 4 of this dissertation addressed the association of these characteristics with teacher-perceived students’ additional support needs.

The results of our study show that teachers’ perceptions of their students’ additional support needs are not biased by the level of training or years of experience of the teachers. Moreover, none of the subscales of teachers’ self-efficacy beliefs or personality traits addressed in the study were significant predictors of teacher-perceived students’ additional support needs after controlling for years of experience. Thus, no evidence was found in this study for bias by personal efficacy or personality when teachers estimate their students’ additional support needs. This result is in contrast to our expectation derived from the extant literature that teachers with higher self-efficacy beliefs would generally be more attentive to students’ additional support needs (Geogriou et al., 2002; Almog et al., 2007; Hutzler et al., 2005; Brady & Woolfson, 2008). Also, we did not find expected overall positive effects of teachers’ openness on perceived needs (Unruh & McCord, 2012), nor the assumed specific relationships between teachers’ personality traits and their perceptions of students’ needs, such as agreeableness and neuroticism with emotional support (Mainhard et al., 2008; Kokkinos, 2007). These important findings support the idea that teachers are able to gauge their students’ needs objectively rather than subjectively.

To conclude, perceptions of different dimensions of students’ additional support needs are linked to different external reference points regarding students’ academic attainment, task-oriented behaviour, behavioural and emotional problems. However, no links were found on the teacher level. Teachers’ perceptions of students’ additional support are independent of their self-efficacy beliefs and personality traits and are not a sheer reflection of their level of training or years of experience as a teacher. These findings support the assertion that teachers’ perceptions are well-founded because they are related to students’ characteristics and unlikely to be seriously biased by their personal and professional characteristics or preferences, i.e., the result of biased judgments.
Teachers’ Capacities to Meet Students’ Additional Support Needs

Up to this point, this dissertation has demonstrated that teachers’ perceptions of students’ additional support needs are indeed to be viewed in terms of their estimates of needed educational alterations within classrooms, from a broad perspective, and that these insights hold water. However, it remains unclear to what extent teachers think of themselves as capable of meeting their students’ additional support needs. Therefore, the study discussed in Chapter 5 addressed the third central question: How do teachers perceive their capacity to meet their students’ additional support needs?

The results of the study reported in Chapter 5 indicate that Dutch mainstream primary school teachers perceive themselves, on average, as being fairly capable of meeting all types of their students’ additional support needs. This is an important and reassuring finding regarding teachers’ perceptions of their own students and thus is of immediate relevance for daily practice. Not only do teachers differentiate their students’ needs, they also assess themselves as being fairly capable of meeting them. A remarkable finding is that perceived capacity was significantly higher for the need for additional emotional support needs than the other dimensions. This is an important finding because, in general, students’ emotional development (e.g., self-concept regarding school attainment; depression) also appears to be a significant characteristic of students being identified as requiring additional support (see Chapter 2).

Teacher-perceived capacities to meet their students’ needs did not differ by level of teacher training. However, perceived capacity to meet instructional support and emotional support needs were related to years of experience as a teacher and thus appears to increase somewhat over a teacher’s career. Furthermore, teachers who feel relatively competent appeared to attribute this feeling primarily to their own resources and to factors at the school level for virtually all need dimensions. These results differ from findings obtained from vignette studies (Ho, 2004; Mavroupulou, & Padeliadu, 2002), which have reported that teachers attributed their shortcomings in adaptive teaching to student- and family-related rather than to teacher- or school-related factors. This dissertation addressed teachers’ capacity towards meeting needs of real students in their own classrooms instead of hypothetical cases. It could therefore be that teachers feel more secure about meeting the needs of their own students compared to teachers in the cited studies, in which teachers had to imagine meeting the needs of an imaginary student.
Teachers’ sources of help or hindrance identified in this study are likely to be more important when aiming to improve teacher’s capacities to meet students’ additional support needs than when aiming to improve teachers’ general self-efficacy beliefs. We found hardly any evidence that general teacher self-efficacy beliefs account for their self-perceived capacities. This result is remarkable because in previous studies teacher self-efficacy beliefs were associated with a better treatment for students who face difficulties, more effort to improve students’ low levels of performance (Georgiou et al., 2002) and providing helping strategies (Almog et al., 2007). Teacher-perceived capacities of meeting students’ additional support needs appear to be rather student- and/or context-specific; it could be that general self-efficacy beliefs are not specific enough to reflect teachers’ capacity to meet needs of this particular group of students.

To conclude, Dutch mainstream primary teachers perceive themselves to be fairly capable of meeting students’ additional support needs. Teachers’ own competencies are perceived by them as being helpful in all dimensions of students’ additional support needs. These teachers’ sources of help or hindrance are likely to be more important when aiming to improve teacher’s capacities to meet students’ additional support needs than when aiming to improve teachers’ general self-efficacy beliefs.

Reflections on Major Findings

The starting point for this dissertation was the need for another view on students’ needs. Although this view-point has appealed to many throughout Europe, it has remained unclear how to appreciate its significance. This dissertations’ main goal was to determine whether given arguments for this perspective, i.e., that teachers perceive students’ needs in terms of alterations—rather than deficits—and view them from a broad perspective—rather than as a categorical distinction by diagnosis—could be underpinned empirically. This dissertation provided a detailed investigation, and several contributions were made to our body of knowledge.

First, teachers indeed have a broad perspective on students’ needs, rather than using categorical distinctions in the traditional paradigm (i.e., need or no need). In addition, the multifaceted nature of teacher perceptions on students’ needs was demonstrated. Students identified as requiring additional support differ in the likelihood of scoring deviantly across several different domains, rather than being different as a group. Within-group differences between low- and high-achieving student depended on level of initiative, working memory and organisation. Thus, teachers’ perceptions are broad, that is, beyond diagnosis—in line with
expectations—and at the same time refined and differentiated regarding specific needs and accounting for a number of student characteristics.

Furthermore, the results of this dissertation underline the fact that teachers are able to address needs in terms of alterations within classrooms rather than addressing students’ deficits; the results discern four dimensions of students’ additional support needs and distinguish students’ needs from additional support needs.

In addition, teachers are to be taken seriously as key informants regarding students’ additional supports needs; their perceptions are professional judgments, relate to relevant characteristics of students regarding their learning processes, surpass professional experience and are not biased by personal teacher characteristics.

Furthermore, Dutch mainstream primary teachers perceive themselves as fairly capable of meeting their students’ additional support needs. This finding implies that teachers’ perceptions of students’ needs are not a reflection of their own incompetence or professional support needs; rather, they are to be viewed as indicative of students’ needs.

This dissertation did not address how teachers implement adaptive teaching to meet their students’ additional support needs on a daily base, neither did it unravel the value of this perspective reflected in students’ learning outcomes. Nonetheless, it did demonstrate that teachers’ perceptions can be viewed professional judgments, which are differentiated and thorough. Teachers indeed have a broad view on students with additional support needs, rather than the traditional standpoint of diagnosis. Moreover, it was shown that teachers distinguish between four dimension of additional support needs in term of alterations within the classroom, and teachers’ perceptions of dimensions of students’ additional support needs are to be considered meaningful and thorough professional judgments; they are not sheer reflections of teachers’ incapacities and are not measures of teachers’ support needs, are supported by observed relations with relevant student characteristics and surpass personal and professional teacher characteristics.

The added value of this dissertation lies in finding these empirically based arguments to support the assumption that the additional support needs viewed by the teacher reflect teaching practice in mainstream primary education, in addition to previously raised intuitive and practice-based arguments. This finding implies that a radical change in direction from considering students’ needs in terms of deficits towards considering students’ needs in terms of needed alterations within classrooms is a worthy goal.

Limitations
This dissertation is a valuable first step towards a better understanding of students’ additional needs, since the reported studies were among the first to provide empirical insight into the structure and value of teachers’ perspectives on these needs. Nevertheless, several limitations of this dissertation should be noted in order to value these outcomes in terms of generalizability.

The first limitation regards the samples of teachers included in the studies. These were not representative samples of the Dutch population of teachers at large (e.g., regarding urbanization, denomination, age, gender, experience, level of training, etc.). Also, only teacher information on students’ needs was obtained. For that reason, it remains unclear how the views of significant others including parents, experts, and students themselves relate to these teacher-perceived additional support needs. Finally, only two teacher-identified students per teacher were studied. Because our studied samples consisted of a subset, i.e., a specific group of students within the classroom, not all assumptions for parametric tests could be met, as using parametric rather than non-parametric tests (if needed) may increase type I error (Aron & Aron, 2003) results should be interpreted with caution.

A second restriction relates to the method of data collection. It took several years to collect all data, and during this time, different teachers (and students) participated in the study. Samples were not the same in all studies, which limits comparison across presented studies. However, one of the main instruments used in the studies to obtain teacher perceptions of students’ needs appeared to be well applicable across samples. In addition, measurements were performed at only a single moment in time. A longitudinal design would have provided opportunities to determine how students’ needs evolve over time. All data were collected through surveys and/or self-reports. We also included only limited objective criteria to assess the value of the teachers’ view, although standardised instruments were used as much as possible. Observations could have provided more insight on both the students’ needs and how teachers actually meet their students’ needs. Thus, no conclusions could be drawn regarding teachers’ performance in classes; the findings only reflect perceptions of capacity.

Implications for Practice

This section discusses implications for practice of the major findings, as discussed previously, taking into account given limitations in terms of generalisability of findings and methods used, and focuses on practice as addressed in educational policy and teacher training.

*Educational policy.* Although meeting a variety of students’ needs has been the
subject of attention in educational policy, this attention has mainly focused on facilitating teachers and schools based on a diagnosis-driven model of student needs for many years. This dissertation argued that this is not the most relevant approach nor does it reflect teachers’ practice in mainstream primary education. The studies reported in this dissertation employed teacher perceptions of students’ additional support needs as an alternative perspective and found that additional support needs as perceived by teachers themselves are hardly related to students’ diagnostic features. The findings described in this dissertation provide strong support for the view that takes teachers’ perspectives on students’ additional support needs seriously.

**Teacher training.** Teacher training prepares teachers for their professional task of teaching tomorrow’s classrooms. Although teachers discern four dimensions of students’ additional support needs and perceive themselves to be fairly capable of meeting these in classrooms, some measures could be adopted by teacher trainers to improve their student-teachers’ potential.

The viewpoint that meeting a variety of students’ (additional) support needs is a self-evident part of the professional challenges of today’s teachers (Florian & Black-Hawkins, 2011; Black-Hawkins & Florian, 2012) is essential. Teachers should therefore shift their mind-set during teacher training from ‘I cannot teach this student, because the student causes too much disturbance’ into ‘This student needs additional support to help him focus during classroom instruction’. Though this shift seems a simple task, it must be taken into account that the traditional paradigm is still strongly rooted within our society (e.g., media and parents) and schools system and training, and teacher training should empower teachers to cope with this obstacle.

Second, teacher training should ascertain that teachers develop skills to recognise students’ additional support needs and to proactively provide differentiated instruction (Smit & Humpert, 2012; Tomlinson et al., 2003) to achieve adaptive education (Vogt & Rogalla, 2009). This dissertation shows that teachers need not only address students’ instructional needs and implement differentiated instructions but should also be able to recognise needs in emotional, behavioural and social domains. It would be relevant to discuss how teachers could differentiate their instruction to meet students’ emotional, peer and (on-task) behavioural support needs. It is important to stress that this does not imply that students should be trained simply to identify students’ needs; the task is more comprehensive. It entails an understanding of educational goals to be met, how to adapt learning environments and how to organise these within a given context (e.g., in clusters, tiers, or subgroups; needs for all, for some, for individuals; Lewis & Norwich,
because teachers are mostly not working in a one-on-one individual setting but are teaching classrooms with up to 35 students.

Third, when focusing improvement of teachers’ potential to meet students’ additional support needs, it appears to be important to take into account the specific context of the teacher and the needs of the student he or she is teaching, rather than urging the focus on general capacity in teaching and/or general support for teachers. This implies that time should be spent discussing specific interactions between the student-teacher and students with additional support needs and reflecting on how this teacher could provide specific alterations (e.g., instruction, tasks and materials) within the possibilities of the given working context (i.e., classroom, school).

**Suggestions for Future Research**

Given the fact that this dissertation reports on one of the first series of studies on this topic and many more questions are left open than answered, much more research must be covered in future studies. Studies could focus on the validation of teacher perceptions of students’ needs in mainstream primary education by studying larger and representative samples of teachers. Exploring the perspectives of significant others (e.g., parents, experts, students themselves) on students’ additional support needs and collecting observations of student’s performance in the classroom context would provide the opportunity to validate teachers’ views. In addition, questions regarding additional support needs of students with specific diagnoses or problems could be addressed to determine whether the idea of a continuum of needs would be supported. Researchers could consider studying all identified students with additional support needs in a class or school setting, rather than just two selected per teacher. Moreover, longitudinal studies could focus on how students’ needs evolve over time and whether teacher perceptions are sensitive to these changes.

Another step would be to study how teachers implement their perceptions and organise their education efforts in response to these additional support needs within their classroom. Ultimately, if their perceptions are valid, they should lead to effective educational interventions. It is likely that some work must be done to translate these perceptions into effective educational actions. The dimensions of needs are rather broad and general (e.g., ‘the need for visual support during instruction’) and need to be operationalised in terms of teachers’ approaches or strategies suitable for each student and goals (e.g., the need for visual support during instruction, by using …).
It is helpful to consider these approaches of adapting the learning environment. This could help teachers to differentiate their classrooms, by giving adaptive tasks to students, accompanied by differentiated instructions or suggestions by the teacher (problem-solving strategies) that students can use, and feedback given by the teacher during the learning process. Observations could provide more insights on how and to what extent teachers actually are able to meet their students’ needs. Moreover, large-scale studies could address whether these alterations within classrooms have an effect on students’ learning processes and outcomes.

Concluding remarks

The added value of this dissertation lies in finding empirically founded arguments to support teachers’ perceptions of additional support in addition to the intuitive and practice-based arguments that are already available. The empirical building blocks, as presented in this dissertation and discussed in this final chapter, have the potential to take this perspective on students’ additional support needs in terms of alterations within the classroom one step further. This dissertation did not simply explore another view on students’ needs; it provided the (first) contours of an alternative to identify and meet these needs.


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