Fostering the learning potential of at-risk students in the classroom
Tiekstra, Marlous

IMPORTANT NOTE: You are advised to consult the publisher's version (publisher's PDF) if you wish to cite from it. Please check the document version below.

Document Version
Publisher's PDF, also known as Version of record

Publication date:
2016

Link to publication in University of Groningen/UMCG research database

Citation for published version (APA):

Copyright
Other than for strictly personal use, it is not permitted to download or to forward/distribute the text or part of it without the consent of the author(s) and/or copyright holder(s), unless the work is under an open content license (like Creative Commons).

Take-down policy
If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

Downloaded from the University of Groningen/UMCG research database (Pure): http://www.rug.nl/research/portal. For technical reasons the number of authors shown on this cover page is limited to 10 maximum.
Chapter 3

Can didactic resistance be measured by using the Response-to-Instruction model?

A pilot study

This chapter is based on:
Abstract

Didactic resistance is viewed as an important criterion in the definition of learning disabilities. This study explored whether the Response-to-Instruction (RTI) model can be an instrument to measure didactic resistance. Using Curriculum Based Measurements (CBMs) the interaction between teacher and students can be monitored. This qualitative multi-method study (N = 11 schools) demonstrated that in order to be an instrument to assess didactic resistance, several aspects need to be taken into account before, after and during the process of implementing the RTI model. Data triangulation, illustrated by quotations from the field, revealed the interrelatedness of process and content on the one hand, and change of beliefs and behaviours of all educational staff members on the other hand. The results showed that there is an urgent need for a dynamic view on learning and instruction when regarding the RTI model as an instrument to measure didactic resistance. Besides, didactic resistance should be measured at both student and teacher level. Theoretical and practical implications will be discussed.
Introduction

The diagnosis of learning disabilities has been a major issue in debates over the years (Hallahan & Mock, 2003). Not only the way to define, but mainly how to diagnose and how to respond to the diagnosis of a learning disability in practice is still surrounded by vagueness (Büttner & Hasselhorn, 2011). Traditionally, the discrepancy between IQ and actual (school) achievement was the decisive factor. In this, generally, a child is identified as learning disabled when scores on achievement tests at school show a large discrepancy with a child’s IQ (as a result of a standardised intelligence test). A child which does not perform according to its potential (operationalised as IQ score) should be identified as learning disabled (Hallahan, Kauffman, & Pullen, 2012, p.140). This approach of learning disabilities has been criticised for inaccurate judgments (Francis et al., 2005; Stuebing, Barth, Molfeše, Weiss, & Fletcher, 2009) and can be seen as a “wait-to-fail” model (Hallahan et al, 2012). In an attempt to overcome these difficulties with identification of learning disabilities and to provide more early identification, the Response to Instruction model (RTI) has been developed in the United States. According to Fuchs, Fuchs, and Vaughn (2008) the discrepancy between estimated response to instruction and actual response to instruction is examined in RTI. Progress and results of each student are monitored systematically, which provides an insight to specific difficulties of the individual child. In this, teachers are able to estimate whether falling performances of a student are due to either a deficit in the student or inappropriate (i.e., not tailored to student’s capacities) instruction of the teacher. Although criticised by several authors (e.g., Kavale, 2005; Reynolds & Shaywitz, 2009) because of its lack of demonstrated empirical effectiveness, the RTI model can be seen as an alternative model to identify learning disabilities. But, in line with Kavale (2005) together with Spaulding and Beam (Kavale et al., 2009, p.39) the model does not provide a definition of learning disabilities. However, the RTI model can officially be used to identify children as learning disabled in the United States since 2004.

Consequently, the definition of learning disabilities needs to be adapted, as is the case in the new edition of the Diagnostic and Statistical Manual of Mental Disorders (5th
ed.; DSM-5; American Psychiatric Association, 2013). More attention will be drawn to clinical based data instead of the discrepancy criterion. It remains, however, unclear what the definition is exactly (Scanlon, 2013) and how it will be applied in practice. Generally, a somewhat broader definition of the IQ-achievement discrepancy approach is used to diagnose learning disabilities. This definition encompasses three criteria for identifying learning disabilities (see also Tannock, 2013). Firstly, student’s performances are below what is expected. In this, a measure of IQ is included, but in contrast to what was mentioned before, background variables are taken into account when interpreting IQ scores. Secondly, a criterion of didactic resistance is included. This means that students who do not profit from tailored instruction show a certain persistence of difficulties. And thirdly, the criterion of exclusivity, problems are not caused by other impairments like hearing or visual impairments. This broader definition, which has been adopted by the DSM-5, thus, reflects an extension to the endorsement of individual differences in one classroom instead of general, one-pattern-fits-all, group wise education. It remains, however, unclear how the above-mentioned three criteria should be measured (Cavendish, 2013).

Didactic resistance
As mentioned, the construct didactic resistance is one of the three main elements in the determination of learning disabilities. This is an interesting construct, however, little research has been published about the interpretation and measurement of this construct as was revealed by a recent search in the EBSCO host database. It seems that a grounding for a thorough understanding of this construct is lacking, as is the empirical grounding for the psychometric characteristics: how should we interpret and measure didactic resistance? In practice, students are regarded as didactically resistant if they are unresponsive to quality instruction, i.e., the problems persist despite tailored teaching. As such, the problem is stated at the student level, as are the measured outcomes. Since an indication of the quality of the teaching provided remains unmentioned, this seems a rather limited interpretation of the concept of didactic resistance. To illustrate, one could state that didactic resistance not only implies a deficit in the student, but also
a deficit in the teacher (or the teaching method), since the teacher is not capable to adapt instruction to a level that fits the level of the student. In practice, regrettably, instruction is not as dynamically interpreted or implemented as assumed in the criterion on didactic resistance. Instruction, after all, involves multiple partners, as is emphasised by the theory of Vygotsky (1978), and should be regarded from a dynamic perspective in which teacher and student play reciprocal roles (Steenbeek, Jansen, & Van Geert, 2012). Timperly and Parr (2009) underlined the importance of a rather dynamic view on instruction, as was demonstrated by their research on the influence of different teaching strategies on students’ learning. Additionally, from a more general point of view, Chak (2001) emphasised the importance of reflection upon adults’ sensitivity to children’s learning in optimising one’s zone of proximal development. This applies for teacher-student interactions as well. Hence, didactic resistance should not only be measured at student’s level, but also at teacher’s level.

According to the above-mentioned, the criterion of didactic resistance could be measured during a RTI approach. Due to regular adaptation of their instruction to the specific needs of their students, teachers are able to monitor progress and highlight problems of each student. Moreover, the careful progress monitoring provides an insight in needs and, consequently, tailored instruction can be developed. In this way, teachers should be more aware of their own teaching practices on students’ learning. In contrast to intervention programs aiming at individual outcomes, for example a certain instruction method to deal with learning difficulties, the RTI model can be seen as an organisational model. It includes an adaptation of administering and teaching, which, in turn, demands an adaptation of the whole organisation (in this: school). The core assumption of the RTI model is that every child reacts differently to whole-class teaching. Due to progress monitoring of each student, the extent to which each student is sensitive to instruction can be estimated. When a child does not show enough progress (compared to the mean progress of the group) this child is offered a kind of intervention. The model consists of three levels of instruction (Fuchs & Fuchs, 2006). In the first tier, students are offered general evidence-based classroom wide instruction. Students that
do not show enough progress compared to their classmates receive extra instruction in small groups several times a week; this is tier two instruction. If extra instruction does not provide enough progress, an individualised route is set up for these students (tier three). Other RTI models exist, though, with variations in the number of instruction levels. These models, however, are still based on the core model of Fuchs and Fuchs (Kavale & Spaulding, 2008). The progress-monitoring is carried out with curriculum-based measurements (CBMs; Espin, Wallace, Lembke, Campbell, & Long, 2010). CBMs are closely related to the curriculum taught, and, therefore, provide insight into a student’s response to current instruction in a specific domain. Due to several aspects of the model, such as progress monitoring by CBMs and the differentiation of instruction in tiers, the model delivers valuable information for planning instruction.

In practice, also when working with the RTI model, didactic resistance is often interpreted as a static feature of the student. However, it should rather be regarded as a dynamic concept of the interaction between student and teacher. In the RTI model, theoretically, the interaction between teacher and student is monitored by the CBMs. Since the CBMs are closely related to the current instruction, effects of the instruction on student’s outcomes can be measured. Nevertheless, the instruction component in the interpretation of the CBMs is often ignored and an emphasis is placed upon the outcomes of the student solely. This results in, again, a rather static interpretation, and resembles the IQ-discrepancy approach in identifying learning disabilities. Therefore, contrary to the more standardised approach as favoured by many researchers, CBM outcomes should not only be interpreted quantitatively, but also qualitatively. The errors made in the CBM should not only be counted, but also analysed by the teacher to gain insight in the mistakes that were made. Only in this way quality teaching can be warranted, because instruction is tailored to a student’s needs.

**Process of implementing the RTI model**

In theory, the RTI model seems a very promising instrument to measure didactic resistance. However, when implementing a model to practice multiple factors come into
play (for an overview see Prince, Tiekstra, & Minnaert, 2014) that influence the outcomes of the implementation process. A lot of (US) literature describes the core principles, ideas, features, promises of, and experiences with the RTI model. It is still, however, difficult to find literature about the effectiveness of implementation of the model (Fuchs & Vaughn, 2012). This results in different models and different operationalisation of each model in each context, which contributes to confusion surrounding RTI (Fuchs, Mock, Morgan, & Young, 2003, p.159). Research often focuses only at one aspect of the RTI model and the enormous amount of literature is difficult to overview in order to get guidelines for practitioners with respect to its implementation (Jones & Ball, 2012). Information for teachers on how to effectuate differentiated instruction in tiers remains generalised and ambiguous (Fuchs & Vaughn, 2012). Moreover, specific information about training or coaching during implementation of the RTI model is hard to find. Ikeda (2012) stressed the fact that the focus is rather on decision making processes in the model than on the content and effectuation of support for teachers.

The way information is implemented plays an determining role, next to the content of what is implemented (see also Prince et al., 2014). In their qualitative case study, Datnow and Castellano (2000) described the process of implementation of a school wide program and illustrated the different outcomes between teachers. They touched upon this important distinction between process of implementation and the content of the model that is implemented. Generally it is underlined that engagement of teachers in developing the program favours the implementation process. Although this was not the case in Datnow and Castellano’s research, teachers still implemented the program since they appreciated its content.

Furthermore, a main aim of implementation lies in the change of behaviour and belief of participants. The Theory of Planned Behavior (Ajzen, 2005) describes the interrelatedness of changing belief and behaviour. Beliefs have their influences on intentions that precede behaviour. More particular to the classroom practice, Bandura (1993) highlighted the importance of teachers’ beliefs and the influence of these beliefs
on their behaviour in the classroom and quality of their teaching: “teachers . . . beset by self-doubts construct classroom environments that are likely to undermine students’ sense of self-efficacy and cognitive development” (p. 140). Teachers’ beliefs, in turn, are affected by experiences. This illustrates the interrelatedness of belief and behaviour when implementing new models into the classroom. Moreover, as underlined by Van de Ven, Polley, Garud, and Venkaraman (1999), implementation is a cyclic process. The above-mentioned factors have an impact on the methodology used for this study. In the Method section, therefore, the used methodology will be carefully described.

**Aim of the present study**

Whilst theoretically grounded the RTI model seems to be a promising instrument to measure didactic resistance, this article deals with the issue whether the RTI model can function as an instrument to measure didactic resistance in practice. Thence, the implementation of the RTI model will be studied carefully, as the way of implementation will have a major influence on the outcomes of the study. As was mentioned before, the RTI model can be regarded as an organisational model. This has several consequences for the implementation of the model. One could state that it can only be implemented school wide and on all levels, from teacher to educational support staff. Since the goal of this study is to provide detailed qualitative information about the possibility to assess didactic resistance, rather than information about the implementation, the model has been implemented at one academic grade only.

**Method**

**Participants and setting**

In 2011 a pilot study has been conducted which attempted to implement the RTI model partially at a cluster of schools in the Netherlands. Care for children having learning problems is organised in a stratified manner in the Netherlands, which implies (theoretically) clear roles and responsibilities for all involved. In practice, decisions
are usually made democratically. In this particular cluster of schools the care process involved one school psychologist who led 11 senior coaches, of whom each worked at multiple schools. These senior coaches supported remedial teachers (one remedial teacher per school). Remedial teachers supported the teacher and supplied information and advice when the teacher asked for it. It was decided that one school per senior coach participated in the study, resulting in a total of 11 schools that participated initially.

In the region where this cluster was situated, people generally speak a strong dialect, which might influence students’ outcomes. The cluster of schools, however, can be regarded as an ordinary cluster of public schools (comprising religious and non-religious schools), with a non-deviant proportion of minority students. Participation to the pilot study was voluntary. A notable fact was that educational staff (all participants) defined themselves as being progressive teachers, since they attended professional courses frequently. Attending professional courses is one of the requirements of inspectorate and government. Next to this, quality of schools is assessed by students’ outcomes on nationwide tests and visits in the classrooms by inspectorates.

**Instruments**

This study had a multi-method qualitative design. Questionnaires, learning reports, interviews, and observations were qualitatively interpreted to provide data and are described in detail below.

Questionnaires were constructed for senior coaches, remedial teachers and teachers. The questionnaire for senior coaches and remedial teachers (SQ) was based on the questionnaires that Meijer and Tijhaar (1995) developed in their studies around teacher consultation and professionalisation. It described six phases in the implementation process of the RTI model; introduction, problem identification, analysis of problems, solution seeking, implementing solutions, evaluation. Participants had to rate on a 5-point scale to what extent they felt competent about each phase. The questionnaire for teachers (TQ) differed, since items were more related to the classroom level, such as
“at the beginning of the school year, I do a screening to assess each student’s reading level.” Ratings were also on a 5-point scale. The aim of the questionnaire was to get an idea of the current situation (with regard to RTI) at the schools and whether participants knew how to translate knowledge.

The learning report (LR) consisted of five open questions. The learning report was administered to senior coaches and remedial teachers during one training session to detect possible bottlenecks in the implementation process. Moreover, we wanted some insight in the opinions and experiences with the model until that moment.

Interviews took place with some of the senior coaches (SI), remedial teachers (SI) and teachers (TI). Interviews were unstructured, but focused at gathering personalised information about the implementation process and the strengths and weaknesses of the RTI model. Some took place during training sessions, others in the schools, others at the moment that a school dropped out of the project.

The first author (an educational psychologist) observed every training session and additional meeting (OT) in order to monitor the implementation process closely. She also visited three schools to observe how the RTI model was implemented. The observations in the classroom (OC) took approximately 30 minutes in which the teacher had planned reading instruction. In this way, some insight could be provided in how the different tiers were organised in one class and how the RTI model was implemented on a classroom level. The observations, thus, were only completed at the schools that finished the project.

**Procedure**

The planning was to provide participants with a training of two consecutive days at the start of the academic year. Furthermore, several additional meetings were planned during the project. For this, a training of several days was developed in order to provide senior coaches and remedial teachers with knowledge about the RTI model and tools.
to translate this knowledge to their teachers. During the six months project, every four weeks a meeting was organized to coach, assist and encourage the senior coaches and remedial teachers. In this way, the implementation process could be monitored carefully.

The questionnaire (SQ) was administered prior to the first (and after the last) training session in order to measure the participants’ knowledge of the RTI model. Teachers’ questionnaires were distributed via remedial teachers and were collected between second and third additional meeting. Next to the questionnaires, the learning report was administered to remedial teachers in order to detect potential struggles during the course of the project.

Data collection took place at certain fixed points in time (T1 to T6) that were planned beforehand, but also in between (not planned). An overview is presented in Table 1.

Table 1 | Sequence of data collection during the pilot study

<table>
<thead>
<tr>
<th>Instrument</th>
<th>T1</th>
<th>T2</th>
<th>T3</th>
<th>T4</th>
<th>T5</th>
<th>T6</th>
</tr>
</thead>
<tbody>
<tr>
<td>SQ</td>
<td></td>
<td></td>
<td>x</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TQ</td>
<td></td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LR</td>
<td></td>
<td></td>
<td>x</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SI</td>
<td></td>
<td></td>
<td></td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TI</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>OT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>OC</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. T1: Start training (2 days); T2: additional meeting 1; T3: additional meeting 2; T4: additional meeting 3; T5: additional meeting 4; T6: additional meeting 5
CHAPTER 3

**Information input: training**

Training was provided for senior coaches and remedial teachers, due to pragmatic reasons: since it already took a great effort to assemble them, it would have been even more difficult to assemble all teachers. It also resembles the way in which care is organised in schools in the Netherlands: these people support teachers and provide them with new insights during the school year. The goal of the training was to provide knowledge about the RTI model and to provide tools and skills to facilitate the implementation process. The participants needed to translate their knowledge to their teachers, which, again, resembles the normal process in the Netherlands. Training took two days prior to the whole RTI project, and had five additional meetings.

The RTI-training was developed by commercial training experts in collaboration with an educational psychologist (the first author) to guard scientific input and to watch over the implementation process as a whole. The RTI model is an abstract model and one of the difficulties in developing the training was translating the information to such a practical level that participants would understand the core ideas of the RTI model. This implied the selection of one grade in which the model would be implemented instead of a schoolwide implementation (multiple grades), since constructing CBMs for all grades would take too much time. Grade 2 was selected to implement the RTI model, since severe learning difficulties can be detected at these ages.

CBMs were constructed in advance by the trainers, to relieve teachers of another task. Once a week, students were administered individually a CBM by their teacher or support staff (i.e., remedial teacher or classroom assistant). The CBM consisted of a one-minute reading out loud test and each week another part of the same story (with reading level appropriate for end grade 2) was used. The number of correct words could then be calculated and the errors made could be identified. A quantitative as well as qualitative analysis of the errors was emphasised. An Excel-tool was developed to register progress and calculate dual discrepancy.
Data analysis

A qualitative data analysis was used, since the method should be sensitive to contextual and situational characteristics in order to determine implementation effectiveness. In line with the principles of Interpretative Phenomenological Analysis, data analysis took place in two stages (Bazeley, 2013). First, data have been categorised with the help of the ATLAS.ti program (version 6.2) in order to establish thematic analysis. Second, from a more phenomenological point of view, the researcher (first author) interpreted the data subjectively and in line with participants’ experiences.

For the trustworthiness of data (Lincoln & Guba, 1985) the data has been triangulated from the multiple data sources mentioned above. In each step of the data analysis peer debriefing was established by the second and third author to obtain objectivity and reliability. Subjectivity of first author, however, remains important, and has been highlighted in the Results section when needed (Altheide & Johnson, 2011).

Results

In this section the researcher’s perception of the data and data of the researcher’s perception will be listed with an emphasis on data and perceptions that are needed to answer the research question *Is the RTI model an instrument to measure didactic resistance?* The results have been structured according to the chronological sequence of events during the project. Therefore, a division has been made between initial training, the five additional meetings as follow up sessions, and eventually, observations at the schools that completed the project. Each description of these phases comprises a short description of core events, highlighted by quotations from the field, and the authors’ reflections based upon these. Generally, these reflections relate to the division between *implementation process* and *content* of the RTI model and the division between change in *belief (point of view)* and *behaviour* which appeared to be core elements as revealed by the thematic analysis with ATLAS.ti.
Initial training

It can be stated that the content of the RTI model and the process of implementation are two separate factors in this pilot study. As pictured below, the training needed to be adapted to the specific needs and situation of the targeted schools. This is a rather common situation while implementing interventions. However, after the concessions to participants’ needs (principally dictated by logistical situations), the implementation process of the RTI model still appeared to be problematic during the follow ups.

Observations during the initial training revealed that participants did not agree with a new screening at the beginning of the school year as several of them remarked: “this takes too much time, and we have already done this at the end of previous grade”. Due to this refusal of participants, the training reached at an impasse. Although the questionnaires showed that there was little knowledge about the RTI model beforehand (scores 1 and 2, out of 5), there was no need for knowledge about the RTI model during the training session. In order to continue the project, the implementation of the RTI model had to be adapted to some requirements of the participants. The first condition of the participants was “no extra screening at the beginning of the school year”. Secondly, “differentiation of instruction right at the start of the school year instead of first 6 weeks of same instruction to all students”. The researcher states that, as a consequence, the idea of differentiating between responding and non-responding students to the current teacher’s instruction could not be determined. However, she hoped that several weeks of implementation and working with the model would change participants’ view and, thus, understanding of this idea.

After their first refusal and the concessions towards their requirements, some participants started to see the additive value of the RTI model in such way that poor readers would be detected earlier in the instruction process. These participants highlighted the need for support of school administrators when implementing the model. The researcher thinks that this illustrates rather a focus on implementation than on content of the training, since this aspect never played an explicit role during the rest of the project. Although, 8 schools agreed to continue the pilot study after this impasse, the researcher still had some doubts whether
the participants shared the view about the RTI model as was aimed for at the start of the training.

**Follow ups**

In addition to the two days of initial training 5 meetings were planned in which, originally, key moments during the process could be discussed in order to monitor the implementation process. It appeared, however, that these meetings needed to be used for more explanations and information input to the participants. Apparently, the core principles of the RTI model were, still, not understood.

**Process of implementation: unchanged behaviour and unchanged belief.**

During the follow ups, serious discussions emerged about the general instruction and screening of all students, and even caused some drop outs of the project. The researcher thinks this is a remarkable fact, since decisions and agreements had been made about these points during initial training. By the third additional meeting, already three schools had refrained from participating in the project, of which only one school informed the trainers officially. One of the reasons this school mentioned while quitting the project was: “we did not want to stop our own instruction and intervention method”, and it appeared that after four weeks of tier 1 instruction (and CBMs) they had already stopped the whole project. Several weeks later, after additional meeting 4, another two schools dropped out, of which one mentioned their problems with the general classroom instruction: “we’ll never going to abstain children from extra instruction again”. According to the researcher, this reflected the severe resistance to change and a certain fear to adapt their current instructions to outcomes of the CBMs. It is likely that participants stick to their own (safe) intervention method. These participants dropped out of the implementation process since they did not (want to) change their behaviour. The quotations illustrate their unchanged beliefs about the role of the teacher in didactic resistance. Since they continue with their current differentiation in reading instruction and extra interventions, based on outcomes of the previous grade with instruction from another teacher, it can be stated that they had a rather static view of didactic resistance.
Process of implementation: changed behaviour but unchanged belief. First things to implement were the CBMs, i.e. progress monitoring. Due to the precise instruction of one of the trainers, the researcher expected that administration of CBMs could be effectuated easily. However, a returning point in discussions with participants during the additional meetings and interviews was the planning of the administration and the time it took. These issues relate to the implementation process, rather than discussion regarding the content of the RTI model. For instance, one participant remarked that “administering CBMs takes too much time, what is the added value of this? We already knew which students needed extra instruction.” The administration of the CBMs, appeared, thus, a rather negative assignment than an information tool for teachers to adapt their instruction to the specific needs of their students. Later on in the project participants became more positive about the CBMs, as the graph provided by the CBM tool was rated as “useful” and “motivating for students as well as teachers” according to the learning reports and interviews. For the researcher it remained questionable whether the discussions can be attributed to the real negative experiences in practice with the CBMs or rather to a resistance to change or refusal of the participants. These participants implemented the CBMs in their classroom practice, and changed their behaviour. The hesitations of participants and quotations, however, reflect a lack of dynamic view on didactic resistance, since, again, the decisions based on the previous grade remain very important. The changes in behaviour are more related to the process of implementation, rather than to the content of the RTI model. These behavioural changes will be highlighted in the next section, whereas belief remains unchanged.

RTI content: changed behaviour but unchanged belief. Aspects of the RTI model that are crucial in determining whether it can be used for measuring didactic resistance needed to be examined in detail. With regard to the interpretation of CBM outcomes, none of the participants had problems, as was demonstrated in the learning reports and in the observations during training. The researcher was surprised by this fact, since she estimated that the selection moments would be crucial moments, and maybe might cause problems as she experienced during the development of the training. As demonstrated in interviews and observations, the interpretation of the CBM outcomes by the participants, however, focused mainly on students. Besides, although never explicitly mentioned, the connection
to teacher’s instruction appeared to be very difficult. Observations, learning reports and interviews revealed that it was unclear which interventions one should use, when to effectuate these interventions next to the current (tier 1) instruction, and how to link these interventions to the errors made in the CBMs. Participants were, for example, unsure about the content of tier 2. They expected the RTI model to provide interventions, but the model rather aims at activating the teacher to search for appropriate interventions that suit the outcomes of the CBMs. The mentioned examples reflect a change in behaviour, but unchanged view on didactic resistance. This is best illustrated by the focus on students’ outcomes solely instead of the link to quality of instruction. The researcher thinks that participants (senior coaches and remedial teachers), perhaps, tried to avoid any accountability on behalf of their teachers or themselves, as a kind of self-protection. The change in belief, still, stays behind. Despite these negative experiences, there were still some schools that continued the project and, even, finished it in a very promising way.

**Observations in practice**

Finally, three schools completed the whole project. These three schools have been paid special attention to, manifesting in observations in the classrooms, and extra interviews with participants in the field, i.e., teachers and remedial teachers. One school implemented the RTI model, but still under some resistance. In the classroom it was observed that the teacher had difficulties in combining the current reading method with different interventions, and, thus differentiating between students. Afterwards the remedial teacher mentioned that she did not see the value of the RTI model: “Our current reading method functions well, why should we replace something that is going well? Why do we need to do this pilot study?” As mentioned before, maybe this resistance has to do with the different implementation levels: if the remedial teacher does not understand the core message of the RTI model, then, it will not be communicated to the teacher and it will not be executed in the field properly. Bearing the research question in mind, the RTI model does not function as an instrument to measure didactic resistance in this school.
Another school implemented the RTI model properly, but according to the observations and interviews it can be noticed that there was only a change in behaviour and not yet a change in belief. The quotation “we are very positive about the RTI model, since students are more engaged during instruction”, indicates that outcomes are focused at a student level, rather than at student and teacher level. The CBMs were administered and interpreted by a classroom assistant. The remedial teacher made decisions, while the teacher looked for interventions that match these outcomes herself. But, to what extent are these outcomes representative for the instruction the teacher gives? In order to provide real tailor-made teaching, the communication between these partners should be good and regular. In this situation, according to the research question, the RTI model can be a tool for didactic resistance, but communication should be open and honest, in order to achieve congruence between CBMs interpretation and tailored instruction.

The third school was an excellent example of a well-implemented RTI model. The teacher interpreted the CBMs herself, and was supported by the remedial teacher in searching for appropriate interventions. Although, this had caused some uncertainty in the teacher at first, she mentioned afterwards that she felt more capable in providing instruction that fits her students. The teacher reported that she was more aware of what students learn and how she effectuates her instruction. Furthermore she remarked “I leave the instruction method in order to search for instruction that the specific student fits.” Next to these outcomes on teacher level, the teacher observed “a large progress in students and a greater engagement during instruction.” The teacher concluded “I am going to use the graphical representations of student’s progress in parental consultations and I will continue working with the model in future. I am going to develop CBMs by myself.” This demonstrates a change in behaviour and belief, since the teacher related the effects of her instruction to the progress of students. In this example, the RTI model is used as an instrument to measure didactic resistance.
Discussion

This study investigated whether the RTI model could be an instrument to assess a student’s didactic resistance. It appeared that it can be a valuable tool, if several conditions are met. These conditions relate to the implementation of the RTI model, and focus especially at the dynamic view which is needed in order to estimate a student’s didactic resistance. As demonstrated by this pilot study, the implementation and the content of the RTI model are two separate factors, but are intricately related. For example, the schools that dropped out of the project did not support or understand the ideas of the RTI model, but also showed a high resistance to change which occurs frequently during implementation of any kind of new model or method. Next to these factors, the change of behaviour and change of belief are important aspects to take into account when implementing the RTI model. Belief and behavioural change can be seen as separate factors, but at the same time are interrelated. This can best be illustrated by great differences in the group of schools that finished the project. The schools that implemented the RTI model only superficially did change their behaviour, but did not change their belief in line with the RTI model. These participants still had a strong focus on students’ outcomes and experienced great problems in linking the CBM outcomes to their instruction. The change of behaviour and belief is of utmost importance when implementing the RTI model, as demonstrated by the third school, in which the teacher recognised her role during the teaching process and tried to reflect on her teaching. In this case only, the RTI model can be used as an instrument to assess didactic resistance. The interrelatedness between change of belief and change of behaviour demands, however, further investigation. Longitudinal studies should focus on the development and nature of the relationship between behaviour and belief change. This is important when translating abstract models to practical skills and should be taken into account when developing (RTI) training procedures.

The pilot study showed the necessity of a dynamic view on instruction and learning when implementing the RTI model. Teachers can only adapt their instruction if they
recognise their influences on learning of students. It is important not to rely only on outcomes of standardised tests when identifying learning disabilities. The amount and quality of teaching a student receives and has received in the past is a more determining factor. After all, from a Vygotskian perspective, learning occurs when teaching takes place in the zone of proximal development (ZPD). If teachers do not teach in a student’s ZPD, one could state that instruction is not tailored to the student’s needs and learning problems occur. Hence, the resistance criterion should not only be measured at the student level, but also the received teaching should be assessed carefully. Consequently, with respect to the interpretation and measurement of the concept didactic resistance, a dynamic view on instruction is needed. Teachers influence the results of their students, and students influence the way of teaching (Steenbeek et al., 2012). With Curriculum Based Measurements these interactions can be monitored, on the condition that these will be interpreted quantitatively and qualitatively.

The RTI model is often described as a theoretical, organisational model, since specific intervention or implementation strategies remain unclear. As a consequence, different versions of the model have been implemented. These versions differ in number of tiers of instruction, but also in the way progress is monitored. Models exist in which progress is monitored on a daily base, once a week or even once a month. Moreover, the way CBMs are constructed can also be different: based on more standardised nationwide tests, or constructed by the teacher. Bearing the research question in mind, if didactic resistance needs to be measured, the CBMs should be administered at least once a week, and the CBMs should be developed by the teacher in order to be able to assess the effects of their current teaching. This is not in line with what Vaughn and Denton (2008) proposed. They stated that “Teacher-developed measures are useful to inform instruction, but they may lack the necessary precision to accurately identify students’ RTI” (p.66). Although this is completely true from a researchers’ point of view, it also reflects a standardised view of didactic resistance. A qualitative interpretation of CBMs constructed by the teacher, supported by a reading specialist or school psychologist, should provide more reliable information about a student’s didactic resistance than
standardised measures interpreted only quantitatively. Besides, as they mention “students’ RTI”, teacher-developed CBMs are important pre-eminently, since only in this case an estimation of a student’s didactic resistance can be made.

Moreover, if teachers construct the CBMs themselves, their teaching becomes visible and empowers them in their reflections upon their own teaching. In order to achieve sensitivity to a student’s zone of proximal development (which is necessary to achieve better learning outcomes due to a better fit to the student’s capacities) teachers should be open for advice and reflective upon their teaching practices (as also slightly emphasized by Chak, 2001). As a consequence, in teacher training and education teachers should acquire skills to reflect upon their own teaching, instead of only focusing at the teaching of a particular instruction method. Also, communication between partners in a team is really important. To reflect upon one’s teaching peer consultation could be a valuable tool. This is a premise for better implementation of the RTI model in future. The need for good communication between partners with a strong focus on evaluation was also demonstrated by the pilot study, in particular during the classroom observations.

One could state that the outcomes of this study are biased to subjectivity and are not generalisable at all due to the small sample size. However, by triangulation of data, extensive peer debriefing and openness to subjectivity, the outcomes became trustworthy (Altheide & Johnson, 2011; Lincoln & Guba, 1985). Subjectivism was clearly indicated when interpreting data. Triangulation allowed for reflection upon data from different perspectives. The methodology used can, therefore, be regarded as a reliable method to effectuate qualitative multi-method studies (Bazeley, 2013). Due to the fact that only a small sample of schools participated in the pilot study, generalisability has never been the main objective. Some remarks can be made, though, that do reflect general aspects.

Although the RTI model was only implemented partially (grade 2), several factors emerged that can be regarded as general factors. For example, it appeared that teachers’ beliefs played an important role. However, background variables of teachers were not
assessed beforehand. A causal relationship between background variables, belief and behaviour could, thus, not be effectuated, as was also the case in the study of Datnow and Castello (2000). Since this outcome played a role in all participants from different schools \((n = 8)\), this still can be regarded as a more general outcome of this study. If these general factors already occur during the partial implementation of the RTI model, it is estimated that a school-wide implementation will even show greater problems and drop out. Moreover, the implications for the measurement of didactic resistance on a micro level can be expected to be even more problematic. This underlines the need for an implementation of the RTI model in stages. Maybe the greatest effects of the RTI model will be effectuated while implemented bottom-up instead of the top-down implementation as is the case in the United States. If teachers understand the core principles of the model, and at the same time share the dynamic vision on instruction, only then the RTI model can be an instrument to measure didactic resistance. And only then, the RTI model is favourable in identifying learning disabilities.

With respect to the definition of learning disabilities, the concept of didactic resistance should be explored further. This study underlined the need for a thorough understanding of the concept and in-depth research into how it should be operationalised. When interpreted from a Vygotskian perspective, both teacher and student should be taken into account. As a consequence, the definition of learning disabilities should not only focus on students’ characteristics, but also on external variables, such as quality of teaching (or teaching method). After all, learning generally takes place in reciprocal situations. This study is paving the way for the exploration of the concept and operationalisation of didactic resistance by making use of the RTI model, and underlines the need for more in-depth research into this concept.