Literacy development of low-achieving adolescents: The role of engagement in academic reading and writing

de Milliano, I. I. C. M.

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Summary and discussion

This thesis aimed to deepen our insights in the impact of motivational and educational factors on literacy proficiency and development of low-achieving adolescents. The construct of engagement was used to explore factors that can explain literacy proficiency and development of low-achievers. Three studies into low-achieving students’ engagement in reading and writing tasks in language arts and social studies curricula were conducted involving 63 students who were followed for three academic years (grades 7 to 9). In the first two studies (Part I) the role of engagement was explored whereas in the third study (Part II) the role of literacy instruction was investigated. In addition, two in-depth studies were conducted into self-regulated reading and writing of 51 8th grade low-achieving adolescents, using think aloud methods with video observations (Part III).

In this chapter, the findings of the five empirical studies will be reviewed and discussed. We start with summarizing the main findings of the studies, followed by a discussion of some general conclusions concerning the impact of engagement on literacy proficiency and development of low-achieving adolescents. Next, suggestions for future research into the role of engagement in fostering literacy development of low-achieving students will be discussed. The chapter ends with some implications for educational practice.

Summary of main findings

Although a great deal of research has focused on factors that enhance reading and writing proficiency, few studies have focused on the group of low-achieving adolescents; adolescents who are not disabled but have many difficulties with text comprehension and text composing. As a consequence, there is little understanding of the educational (e.g. instruction, curriculum) and psychological (e.g. knowledge, engagement) factors that can improve literacy proficiency and development of these low-achieving adolescents. One concept that recently has received increased attention as an important factor is engagement.

In the first two studies (Part I), we examined the impact of low-achieving adolescents’ engagement in reading and writing in school contexts in relation to reading and writing proficiency and development of a group of 63 students. Based on current definitions, we included affective, cognitive and behavioral aspects to measure the multidimensional construct of student engagement. In the course of grades 7 to 9, students’ self-efficacy beliefs, intrinsic values, utility values, reported effort and reported self-regulation were investigated. In addition, the time students were on-task
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in literacy activities in language arts and social studies lessons was observed. Furthermore, students’ reading comprehension and writing proficiency was measured in each grade. Results showed that low-achieving adolescents participating in this study showed more signs of engagement in reading and writing than one would expect. Although the students are low-achieving, they expressed quite some confidence in their literacy abilities. The students also saw literacy as quite useful. Reading and writing seemed important to them for getting a job and for being successful in- and outside school. In regard to the intrinsic value of reading and writing, they had neither positive nor negative views. In regard to their efforts spend in reading and writing, students reported quite a moderate stance (neither much nor little). In response to questions about their use of strategies, students indicated to use them quite regularly. The positive self-beliefs concurred with quite positive time-on-task behavior of the students in the lessons for language arts and social studies. On average, they were on task for two thirds of the time that activities were literacy related. In general, our data show that, although students participating in this study do not read and write well, that does not mean that they have low self-efficacy beliefs, do not like reading or writing at all, do not see the value of these activities or are not willing to put mental effort in reading and writing and are not engaged in literacy activities at school.

Furthermore, results showed that intrinsic value and behavioral engagement in social studies explained differences both in reading comprehension and in writing proficiency among our group of low-achieving adolescents, whereas self-efficacy beliefs, utility value, reported effort, reported self-regulation and behavioral engagement in language arts did not explain either reading or writing proficiency. More importantly, it appeared that although the adolescents in our study are low-achieving; they improved significantly in reading comprehension proficiency as in writing proficiency from grades 7 to 9. However, not all low-achieving adolescents progressed to the same degree. Although in the literature engagement is regarded as an important predictor of literacy proficiency, none of the affective, cognitive and behavioral engagement aspects investigated could explain differences in reading and writing development among our low-achieving adolescents.

The first two studies (Part I) showed that the extent to which our low-achieving adolescents improved in literacy proficiency could not be explained by their observed engagement in reading and writing activities in language arts and social studies lessons. As engagement is considered to be responsive to variation in learning contexts, it is necessary that special attention is given to the different types of instructional activities within these subject domains. Therefore, the third study (Part II) examined the nature of instruction contexts in which low-achieving adolescents are
engaged, in a more detailed manner. Using insights from prominent theories about successful language and literacy instruction, six instruction contexts were distinguished using the focus (explicit skills instruction or content-oriented instruction) and setting of literacy activities (whole-class, group or individual seat work). The behavioral engagement (time-on-task) of our group of 63 low achieving students in these specific literacy activities was observed from grades 7 to 9 and was related to their development in reading and writing proficiency. The same measures of students’ reading comprehension and writing proficiency were used as in the first two studies.

Results showed that literacy instruction was dominated by individual work consisting of explicit skills instruction in the language arts and content-oriented activities in social studies. More importantly however, it appeared that development in literacy proficiency of low-achieving adolescents was hardly associated with engagement in any of the specific literacy practices in the observed period. The degrees of engagement in neither of them contributed to explaining reading development among low-achieving adolescents. For writing proficiency, however, small amounts in students’ growth could be explained, especially between grades 8 and 9. Engagement in whole-class explicit skills instruction in language arts lessons explained writing development to a small degree. Students who were more frequently engaged in this type of instruction showed larger improvements in writing proficiency. Explorations of the more specific activities underlying this relation showed that particularly engagement in explicit instruction directed at metacognitive knowledge was associated with students’ improvement in writing proficiency.

Although studies have shown that good readers and writers employ a diversity of self-regulatory activities in contrast to poor readers and writers, not much is known yet from in-depth studies of how low achieving adolescent readers actually approach reading and writing tasks at school. There is little knowledge of their approaches of such tasks and the self-regulative activities they use. In the first two studies, reported self-regulation of 63 low achieving students was measured as an indicator of cognitive engagement. Results however showed that reported self-regulation could explain differences in neither reading development nor writing development. In the fourth study (Part III), we therefore examined the relationships between types and sequences of self-regulated reading activities in a concrete reading assignment with the quality of performance on that task of 51 low-achieving readers in grade 8. The study used thinking aloud combined with video observations to analyze the students’ approach of a content area reading task in the stages of orientation, text reading and answering questions. The results showed clear relations between types and sequences of self-regulated reading activities and task achievement. The low-achieving readers showing a straightforward linear approach to the task (orientation, reading the whole text and
finally answering questions) yielded more success than students who adopted a more scattered approach, jumping from one stage to another in a less predictable way. In addition, readers demonstrating more activities directed at connections between text contents and prior knowledge during reading showed better task achievement.

In the fifth study (Part III), relations between types and sequences of self-regulatory activities and the quality of texts produced by the same 51 adolescent low-achievers was examined. A think-aloud study with video observations was conducted involving analyses of self-regulatory activities concerning planning, formulating, monitoring, revising, and evaluating. The results showed that the writing processes of low-achieving adolescents have much in common with “knowledge telling”. This process involves the retrieval of contents relevant to the topic from long-term memory and writing it down while paying little attention to rhetorical goals, constraints imposed by the assignment, needs of intended readers and text organization. Nevertheless, interesting differences among the individual sequences were found. It appeared that students who put more effort in planning and formulation succeeded in writing better texts than their peers. Furthermore, self-regulation of these better-achieving writers was quite varied in comparison to the others. The findings suggest that within this group of low-achievers, types and sequences of self-regulation did make a difference for the quality of texts produced.

**General conclusions and discussion**

**Literacy proficiency: the role of students’ engagement**

This thesis aims to deepen our insights into the roles of affective, behavioral and cognitive aspects of low-achieving adolescents’ engagement in the classroom for improving their literacy proficiency. The findings of the first two studies showed that of the different aspects of student engagement studied, one aspect of affective engagement, intrinsic value, was positively related to differences in literacy proficiency of low-achieving adolescents. The more pleasure the low-achieving students experienced in reading and writing, according to their own reports, the higher were their scores for reading and writing proficiency. This finding supports the idea that what you like are the activities you also achieve in well and vice versa (Baker & Wigfield, 1999; Eccles, 2005; Guthrie & Wigfield, 2000).

Furthermore, it appeared that the level of engagement in literacy activities in social studies lessons was positively related to students’ literacy proficiency, while being on-task or off-task in language arts lessons was not. The in-depth investigation of the instructional practices showed that the opportunities teachers offer in language arts and social studies differ. Literacy instruction in language arts was characterized by
a focus on explicit skills instruction, whereas literacy practices in social studies were predominantly content-oriented and instrumental for learning content knowledge. These findings are in accordance with claims that the role of students’ engagement is sensitive to variation in learning contexts (Appleton et al., 2008; Finn & Rock, 1997; Fredricks et al., 2004; Furlong et al., 2003; Guthrie et al., 2012). It seems likely that the focus of activities is influencing the different associations between engagement and literacy proficiency. Literacy practices that are instrumental for obtaining knowledge about contents in the social studies may be more challenging and engaging for better readers and writers than for the poorer readers and writers in our classrooms, resulting in more time on-task in such practices of the better achievers. However, the positive association between engagement in social studies and literacy proficiency does not directly point to instrumental literacy practices causing progression in literacy proficiency. As explained above the direction of the relationship might be the reverse: more proficiency resulting in more engagement in instrumental literacy practices in social studies lessons. This explanation points to the premises of content-oriented language learning as proposed by the approaches of Content-Based Language Learning (Brinton et al., 1989; Bygate et al., 2001) and Concept-Oriented Reading Instruction (Guthrie & Wigfield, 2000; Guthrie et al., 2004). These approaches emphasize the importance of instrumental reading and writing experience for achieving higher levels of engagement.

Next to the positive relation found between intrinsic value and students’ literacy proficiency, the findings showed that other aspects of affective engagement, including utility values and self-efficacy, were not related to differences in literacy proficiency of our low-achieving adolescents. Although the low-achieving students in our sample on average endorse the idea that reading and writing is important for success at school and in the workplace and have much confidence in their reading and writing abilities, affective engagement in reading and writing was not related to differences in reading and writing proficiency. These findings do not concur with the importance attributed to self-efficacy beliefs (Bandura, 1997; Chapman & Tunmer, 1995) and task values (Eccles, 2005) in the literature. The findings are neither in line with results from previous research in which students’ self-efficacy beliefs and subjective task values of reading have been shown to be related to their performance (Anmarkrud & Bråten, 2009; Baker & Wigfield, 1999; Boscolo, 2012; Chapman et al., 2000; Graham et al., 2007; Greene et al., 2004; Guthrie et al., 1999; Guthrie et al., 2007; Katzir et al., 2009; Klassen, 2002; Lipstein & Renninger, 2007; Pajares, 2003; Pajares & Valiante, 2006; Wang & Guthrie, 2004). Most of these studies are directed at younger students and at students with broad ranges of proficiency. Our findings suggest that results from these studies may not hold true for the particular situation of low-achieving adolescents’
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literacy development (Baker & Wigfield, 1999; Logan et al., 2011). It may be that low-achieving adolescents, who are motivated by the utility of literacy, do not consider their present level of literacy as something to work on. In combination with their quite high levels of self-efficacy it seems likely that they do not have much reason to worry whether they will be able to profit from their literacy abilities, now or in the future. In respect to our low-achieving students’ high self-efficacy beliefs, it is appropriate to point at the Dutch tracked school system, in which all low-achieving students are brought together in classes for vocational education from grade 7 on. As a result, these students are surrounded by classmates with similar low literacy abilities. Moreover, literacy tasks are adapted to their abilities and their teachers intend to increase students’ confidence. In such a learning environment, low-achieving adolescents may find themselves quite competent in reading despite the fact that they are poor readers compared with students with higher academic skills. Consequently, students’ self-efficacy beliefs may not match their actual performance. At high levels of self-efficacy, students may feel overconfident resulting in a lack of effort needed for learning (Salomon, 1984; Sawyer, Graham & Harris, 1992). To conclude, our findings raise questions about the role of self-efficacy beliefs and utility value concerning literacy for the group of low-achieving adolescents targeted in this study. In particular, there are some indications that these aspects of affective engagement relate differently to literacy proficiency than expected from heterogeneous groups of students studied in the literature.

Finally, the relation between cognitive engagement and literacy proficiency of low-achievers was examined. The results showed that both reported effort and reported self-regulation were not significantly related with literacy proficiency (both reading and writing). Given the strong body of research demonstrating positive links between self-regulation and literacy achievement (Bereiter & Scardamalia, 1987; Duke & Pearson, 2002; Graham, 2006a; Kucan & Palincsar, 2011; McCutchen, 1995; Oakhill & Cain, 2007; Pearson, Roehler, Dole & Duffy, 1992; Trabasso & Bouchard, 2002) these findings were unexpected. Our findings may be explained by the way self-regulation was measured in the first two studies; we used self-reports and asked students to reflect on their reading and writing behavior. As discussed in the literature, self-reports may not always be interpreted as reliable information about actual behavior because students have limited awareness of many aspects of their behavior (Cromley & Azevedo, 2006; Veenman et al., 2006). It may be that the low-achieving students participating in this study are not very well aware of the self-regulative activities and strategies they use while reading and writing. Moreover, the self-reports concerned quite general indications of students’ self-regulation of reading and writing. As self-regulation in many cases can be task and situation specific, such general questions
probably do not reflect students’ actual self-regulation in reading and writing tasks as school. Results from the two think-aloud studies (part III) in which actual self-regulatory behavior of our group of low-achieving adolescents in specific reading and writing tasks was analyzed support this interpretation. These analyses showed that specific types and sequences of self-regulation were significantly related to successful reading and writing task performance. Low-achieving adolescents’ more engaged in activities directed at making connections between text contents and their own prior knowledge or in critical review of their own writing during formulation episodes, obtained higher scores on the reading task and wrote texts of significantly better quality. In addition, in both the reading and the writing tasks, there were clear indications that students adopting a straightforward and thoughtful approach of these tasks were more successful than students with a more unpredictable approach, suggesting a lack of task planning. For these reasons, we can conclude that for our group of low-achieving students there is a clear association between the types and sequences of self-regulatory activities adopted and the quality of achievement in reading and writing tasks. Researchers should pay special attention to the instruments and methods they use to analyze self-regulative activities and strategies (low-achieving) students use when reading and writing.

**Literacy development and student engagement: a complex relationship**

This thesis also investigated whether low-achieving adolescents progress in literacy proficiency from grades 7 to 9 and to what degree literacy development can be explained by the abovementioned aspects of affective, cognitive and behavioral engagement in literacy. It appeared that although the adolescents in our study are low-achieving, they improved significantly in literacy proficiency from grades 7 to 9. On average there were no signals of stagnation or declination. This is an important finding, because it shows that students improve in reading and writing proficiency in the first grades of prevocational secondary education, despite that they are low-achieving. These findings are encouraging in light of the importance of literacy proficiency for youngsters’ academic, professional and societal careers. Together with the insights on students’ level of engagement, they help to nuance the stereotype of low-achieving adolescents as poorly engaged readers and writers whose literacy development has come to a halt. These conclusions are an important addition to insights yielded by research directed at heterogeneous student samples in which the achievements of low-achieving students appear in a quite negative perspective. In addition, our results counter a quite general belief about low-achieving students, often referred to as the “Matthew Effect” (the rich get richer and the poor get poorer). As we have found,
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Quite the reverse is the matter: our low-achieving adolescents make substantial progress in reading and writing proficiency from grades 7 to 9.

Furthermore, the findings showed that differences in literacy development among low-achieving adolescents could not be explained by any of the affective, cognitive or behavioral aspects of engagement investigated. In other words, more engaged low-achieving adolescents do not yield more progression in literacy proficiency in the first three grades of secondary education than their less engaged peers. These findings are similar to some results from earlier longitudinal research into the role of engagement for reading development. Several studies did not find effects of self-efficacy on reading development as well (Aunola et al., 2002; Chapman & Tunmer, 1997; Guthrie et al., 2007; Retelsdorf et al., 2011). In contrast however, studies into the impact of reading enjoyment on reading development in elementary schools showed that intrinsic value is positively related with students’ growth in reading (Becker et al., 2010; Taboada et al., 2009; Guthrie et al., 2007; Retelsdorf et al., 2011). The predictive power of aspects of engagement for students’ literacy development in elementary schools is also indicated in studies of Baker and Wigfield (1999) and Logan et al. (2011), but may not hold true for low-achieving students in secondary vocational schools.

Our findings suggest that engagement is a predictor of low-achieving adolescents’ level of literacy proficiency while their literacy development is not predicted by their affective, cognitive or behavioral engagement. It seems as if the influence of these aspects of engagement at younger ages, that has been demonstrated in studies mentioned above, has somehow ‘crystallized’ by the time our low-achieving students enter the 7th grade of (prevocational) secondary education. This is a possible explanation for our failure to find effects of engagement on these students’ continued literacy growth. This of course, raises questions about why such engagement ceases to be of significance for literacy development. Our findings showed that literacy proficiency in former grades (7th and 8th) turned out to be strong predictors of students’ literacy proficiency in subsequent grades (8th and 9th respectively), but still there was sufficient room (at least 50% of variance) for other factors to be of influence. This calls into question whether the schools’ contexts of literacy learning contain sufficient challenges for our low-achieving adolescents to be of influence. If students are not sufficiently challenged to put effort in their learning to comprehend texts and to produce comprehensible texts, it may not matter how engaged they are in these activities at school for their progress in reading and writing. In addition, other challenges may take over in the period of adolescence, competing with school challenges, such as important peer group activities outside school, leisure time hobbies, and awaking sexual interests. Given these ‘distractions’ for school learning,
probably the school contexts for literacy learning have to be much more pressing, meaningful, and relevant for low-achieving adolescents than they were used to in elementary schools. For that reason we will go into the different roles engagement in school literacy can play in fostering literacy development of low-achieving adolescents, in the following sections.

**The role of literacy instruction**

In order to understand the impact of low achieving students’ behavioral engagement in two subject domains (language arts and social studies) on their literacy development, several instructional features recommended for effective literacy instruction were identified. The insights point to features such as an emphasis on cross-disciplinary coordination between language arts and content area lessons, interactive learning opportunities, content-oriented instruction of reading and writing and explicit skills instruction. In line with other studies (Creese, 2005; Elbers, 2011; Raaphorst, 2007), the results of this thesis showed that the literacy practices for low-achieving adolescents do not show much of the abovementioned features. In addition, it was found that the degree of students’ observed engagement in all literacy practices in language arts and social studies lessons did not contribute to explaining reading development among low-achieving adolescents. For writing, however, a small part of students’ growth in proficiency could be explained (in particular by whole class metacognitive skills instruction in language arts). Overall, remarkably little variance in literacy development could be explained by observed engagement in literacy instruction across the curriculum. This does not imply, however, that engagement in literacy instruction cannot contribute to low-achieving adolescents’ literacy development in general. In fact, it is believed that engagement can play a distinct role, both for reading and for writing development of low-achieving adolescents (Edmonds et al., 2009; Graham & Harris, 2012; Guthrie et al., 2012; Pressley et al., 2009). For engagement to play such a distinct role, a balanced mix of cross-disciplinary, interactive, content-oriented and explicit literacy instruction seems demanded. We therefore call for more research to test these assumptions. Special attention should be given to the impact of low-achieving students’ behavioral engagement in various contexts in which literacy activities are enacted at school, including features that are recommended for effective literacy instruction.

**Limited metacognitive knowledge and skills**

Results of the two in-depth studies into self-regulated reading and writing of low-achieving adolescents showed that, although all students did put some effort in self-regulating their reading and writing, their repertoire of self-regulatory strategies was
quite limited. Especially, self-regulatory activities that enable deeper processing such as questioning, summarizing, and making inferences (for reading) and monitoring, formulating, revising and evaluating (for writing) were rarely observed. Most low-achieving adolescents lack the expertise to apply advanced self-regulatory strategies that are needed to deepen text comprehension and to enhance their proficiency in transferring ideas through written communication. A study conducted by one of our partner projects with the same sample of low-achieving adolescents (Trapman et al., 2012, and Trapman et al. submitted) showed that metacognitive knowledge about reading and writing strategies of low-achieving adolescents is quite limited. The students participating in the study had severe difficulties in indicating what is needed to succeed in text reading and writing and what can be done when task achievement breaks down. Students need this type of knowledge and expertise to get beyond the basic literacy skills often emphasized in the elementary grades, to the more elaborate literacy demands of the secondary school years (such as learning from textbooks and writing answers to essay questions). If students lack metacognitive knowledge and skills, it may hinder them in taking the next step in their literacy development. This emphasizes the important role metacognitive knowledge and skills may play in the literacy development of low-achieving adolescents, next to student engagement and literacy instruction in subject domains.

**Suggestions for future research**

This thesis makes a contribution to the knowledge base on literacy development and the role of engagement for enhancing literacy proficiency of low-achieving adolescents by providing in-depth insights in their literacy learning. The results and research methodology reveal a number of questions and issues that can provide suggestions for future research. In this section we discuss possible directions for future research.

**The need for validation**

This thesis investigated to what degree literacy proficiency and development of low-achieving adolescents can be explained by different aspects of affective, cognitive and behavioral engagement in reading and writing. By focusing on the particular situation of low-achieving adolescents, this thesis contributes to our current understanding of the role of literacy engagement. Our current understanding is primarily based upon research directed at students with broad ranges of proficiency or at students from elementary education. Together, the results of this study suggest that the role of engagement for students’ literacy is different for low-achieving adolescents, compared to younger and heterogeneous groups of students, in several respects. However, the small sample size calls for caution in generalizing our conclusions to the whole group of
low-achieving adolescents. Therefore, replication of this study using larger or other samples of low-achieving adolescents is certainly needed to generalize our findings. Furthermore, future research is needed focusing on differences between low-achieving and high-achieving adolescents in secondary education. It is, for example, interesting to know to what degree students’ engagement in literacy practices in vocational education (MBO in Dutch) or pre-university education (VWO in Dutch) is related to their literacy development. To explore such issues, research with multiple focused samples should be conducted. Findings from such research can provide more insight into the different roles of engagement in literacy for different groups of adolescents.

**Literacy proficiency level and development: two sides of the same coin?**

Our longitudinal studies have provided us with in-depth insights into the relationships between low-achieving students’ engagement, their level of literacy proficiency and development. The results showed that, although some aspects of engagement were associated with level of literacy proficiency, differences in literacy development among low-achieving adolescents could not be explained by any of the affective, cognitive or behavioral aspects of engagement investigated. These findings suggest that different types of relationships may exist between students’ engagement and literacy proficiency on the one hand and student engagement and literacy development on the other. In other words, correlations between proficiency and its predictors may help to understand why some students are more proficient than others, but they do not help us to predict students’ progress in literacy. Although, there is some empirical evidence suggesting that better achieving students are more engaged than lower achieving students, there is no clear understanding yet of how students who yield more progression differ from students who yield less progression or stagnate, and how literacy development is related to engagement. Too often correlations between proficiency level and aspects of engagement are interpreted by scholars in terms of development, while our findings emphasize the importance of making a distinction between proficiency level and development in examining relationships between engagement and academic achievement. To bring our knowledge of adolescent literacy development another step forward, more longitudinal research is needed that explores different aspects of student engagement across grades, and relate them to students’ literacy proficiency level and their literacy development separately.

**Exploring the nature and dynamics of engagement**

Based on contemporary definitions of engagement, three facets of the multidimensional construct of student engagement were investigated, including
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affective, behavioral and cognitive engagement. Engagement is considered to be the joint functioning of motivational processes, cognitive strategies and behavioral activities. Affective engagement is what energizes students’ behavior, whereas behavioral engagement indicates whether students are actually engaged. Cognitive engagement indicates the depth of students’ engagement (the degree of cognitive effort invested). Although engagement is considered to be the joint functioning of motivational processes, cognitive strategies and actual participation, explorations of the joint effects of multiple facets of engagement on students’ literacy development are not systematically examined in the literature. In our study, however, two-way interaction effects between the aspects of affective (intrinsic value, utility value, self-efficacy), cognitive (reported effort and reported self-regulation) and behavioral engagement (time-on-task in language arts and social studies lessons) and the dependent variables (reading and writing proficiency and development) were analyzed. As none of the interaction effects appeared to be significant we did not report these analyses in the first chapters (Part I). Given our small sample size, we cannot conclude that such interaction effects on literacy proficiency or development do not exist. The results do suggest, however, that such effects in the case of low-achieving adolescents are probably not large. More research, using larger samples and diverse instruments for measuring engagement is needed to explore the size of interaction effects between multiple aspects of engagement on students’ literacy proficiency and development. We recommend that more attention is paid in the measurement of engagement to the situation-specific nature of engagement, as it is considered to be quite variable across learning contexts.

Although this thesis focused on the most important aspects of engagement, not all distinguished aspects covered by the umbrella of engagement were included (Wentzel & Wigfield, 2009). We therefore call for more research to unravel the contribution of other aspects of engagement, such as students’ perceived autonomy, goal orientations, extrinsic motivation, and social support (Deci & Ryan, 1985; Furrer & Skinner, 2003; Van Steenkiste, Lens & Deci, 2006; Pintrich, 2000; Wigfield, Eccles, Schiefele, Roeser & Davis-Kean, 2006). As most research has focused on affirming motivations, future research on the literacy development of low-achievers should also provide more insights in undermining motivations, such as task avoidance, lack of control and task difficulty. Studies found, for example, that when students believe that they are externally controlled in reading (feeling coerced), they are likely to find reading aversive and report high levels of work avoidance for reading and other school activities (Guthrie et al., 2007; Assor, Kaplan, Kanat-Mayon & Roth, 2005).

Finally, the relationship between engagement and competence are claimed to be reciprocal (Morgan & Fuchs, 2007). Although we believe that our longitudinal studies
have made an important contribution to our understanding of low-achieving adolescents’ literacy development, the design and analyses used in our study do not make it highly unlikely that the effects found on literacy proficiency can be interpreted as unidirectional causal. Reciprocity is certainly the more plausible interpretation in our case. Future studies should address this issue by using more (quasi) experimental designs in which engagement is optimized. By doing this, these studies may help to increase our understanding of the dynamic nature of student engagement and its consequences.

**Teacher-student interactions**

In exploring the role of behavioral engagement for literacy development of low-achievers, we focused on features of effective literacy instruction in two subject domains. This thesis did not examine the role of overall classroom quality and interpersonal relationships between teachers and students, which are also likely to influence students’ engagement and the impact of instruction offered (Appleton et al., 2008; Brekelmans, Sleegers & Fraser, 2000; Den Brok, 2001; Guthrie & Wigfield, 2000; Fredricks et al., 2004). A significant body of research has shown that the quality of teacher-student relationships affects both students’ attitudes towards subjects taught and their achievement (Brekelmans, 1989; Den Brok, Levy, Brekelmans & Levy, 2005). Moreover, a recent research synthesis on the effects of interpersonal relationships between teachers and student has shown that for low-achieving students a good relationship with their teachers is even more crucial for their engagement and achievement than for high-achieving students (Roorda, Koomen, Spilt, & Oort, 2011). More research is therefore needed to explore the impact of interpersonal relationships on engagement and literacy development of students and how interpersonal relationships are related to engagement in literacy instruction across the curriculum. Findings from this research can add to our insights in educational factors explaining literacy development of low-achieving adolescents.

**Implications for educational practice**

For literacy engagement to be effective in daily school practice it is necessary that learning environments fit the specific needs of low-achieving adolescents and challenge them to spend effort in their reading and writing activities in school. Our study of students’ engagement in language arts and social studies lessons indicated that such challenges may not be sufficient in the current learning situations. Therefore, we suggest aiming at creating more realistic self-efficacy beliefs, raising students’ intrinsic values for reading and writing and expanding their repertoire of self-regulatory knowledge and skills for reading and writing. Although students’ showed
progression in literacy proficiency through the grades, our results may indicate that by confronting them with more meaningful and relevant occasions for reading and writing low-achieving students have potential for much more gains in literacy.

Our exploration of the instructional practices using features of effective literacy development provides a list of points for improvement that seem promising. In a nutshell, the above explanations for not finding significant associations can serve as a first agenda. More attention to cross-disciplinary collaboration between language arts and content area teaching and more use of, interactive, content-oriented and explicit (but not isolated) literacy instruction, but also more challenging and relevant literacy tasks in the classrooms (for example by embedding such tasks in larger projects) are the most important recommendations that come across. Offering this type of literacy instruction, demands for a more flexible and creative use of existing textbooks. The key to success is dependent of how well curricula fit to the specific needs and attributes of students, and of the choices teachers make collectively within and across subject domains.

First, provide challenging literacy practices in the content areas to teach about reading and writing. Students should be supported in executing these practices by paying explicit attention to academic language and discipline-related idiom, and discuss text characteristics and self-regulatory strategies when they need to read and write in challenging tasks (Edmonds et al., 2009; Graham & Harris, 2012; Kintsch & Kintsch, 2005; Langer, 2001; Pressley et al., 2009; Van Gelderen, 1994; Wong et al., 1996). As content area teachers are no language teachers, this instruction should be coordinated with the language arts teachers, literacy coaches, and other subject-area teachers. Tools as graphic organizers, prompted outlines, structured reviews, guided discussions and other instructional tactics that help students understand and remember content teaching, can be used to support cross-disciplinary literacy development (Biancarosa & Snow, 2006).

Second, connect literacy instruction in language arts lessons to students’ interests and activities (Brinton et al., 1989; Bygate et al., 2001; Guthrie et al., 2004; Hajer & Meestringa, 2004; Langer, 2001; Pressley, 2006). For example, exercise writing application letters when students are really in search of traineeships or holiday jobs. Or give students texts to read and write about related to topics that they perceive as interesting and relevant at the time they are working on these tasks in the classroom. These activities provide a meaningful context to teach about self-regulatory strategies, vocabulary and to pay attention to spelling and grammar. In addition to engaging literacy tasks, opportunities for liberal and expressive literacy fostering enjoyment of reading and writing should be given as well (Gersten & Baker, 1999; Raijmakers & Remkes, 2004; Van Veen, 1996; Dumoulin, 1998). To make these practices a success, it
is important that tasks have a playful and personal character. Most textbooks contain potentially meaningful and creative literacy tasks, but they only become actually meaningful when they are executed at the right moment in the students’ life. A well-considered and timed language arts curriculum is decisive for reaching high levels of engagement.

Third, there is a world to win by expanding the repertoire of self-regulatory knowledge and skills. For reading, a focus on self-regulation directed at text comprehension such as paraphrasing, making inferences, comprehension monitoring and summarizing seems worthwhile. Also instruction directed at task orientation and planning and orderly task approach seems to be promising. Low-achieving students even seem ready for instruction in a more advanced task approach in which they alternate text reading with answering questions. Since tasks at school and outside school become increasingly long and complex, students should also become familiarized with activities such as scanning, determining importance and coordination of multiple text sources. For writing, especially attention for formulating and monitoring of written production seems recommendable. Also instruction directed at advanced ways of planning, revising and evaluating seems valuable for this group of students. Research evidence is accumulating that modeling self-regulation during reading and writing is an effective way of teaching self-regulatory knowledge and skills (Alfassi, 2004; Graham, 2006; Palincsar & Brown, 1984; Palincsar & Herrenkohl, 2002). In this approach, teachers begin by introducing a strategy to the students explaining their purpose and use. A strategy is then taught through a series of dialogues between teacher and students. The teacher is the leader of these discussions and models strategy use generally in the form of thinking aloud. As soon as students become more knowledgeable, they can think aloud themselves and learn from observing each others’ reading and writing behavior, which is referred to as reciprocal learning (Palincsar & Brown, 1984).

Finally, create sufficient opportunities for interaction between students and between students and teachers, ensuring expert behavior, stimulation, and control. (Guthrie et al., 2007; Johnson & Johnson, 2009; Palincsar & Herrenkohl, 2002; Vaughn et al., 2001; Klinger et al., 2004). Despite the fact that textbooks normally foster individual seat work, they are also suitable for use in small groups. It is important that higher achieving students work with lower achieving students. Teachers should provide support and feedback concerning students’ learning processes rather than focus only on evaluation of their outcomes, and stimulate that students observe, discuss and check each others’ work (Rijlaarsdam et al., 2008; Yarrow & Topping, 2001; Hansen & Liu, 2005, Hoogeveen, 2012).
Although this list of recommendations may not be completely new, the findings of this thesis suggest that it continues deserving our attention to improve literacy proficiency of many low-achieving adolescents. Hopefully, the combined efforts of researchers and teachers will result in this type of engaging learning situations for low-achieving adolescents at schools and bridge the gap between theory and practice.