The Summer Learning Effect in Germany

Home and school contributions to summer learning patterns in the communities of two primary schools

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Abstract

The 'summer learning effect' (SLE) is known as a stall or drop in achievement over summer in schools which serve poor or 'minority' communities. There has been little research in Germany on the effect in general, and only limited research internationally on home literacy practices that influence the SLE. The present research employed a short-term longitudinal design to examine the extent and nature of the SLE in Germany. Firstly, the study sampled second grade classrooms from two primary schools, situated in contrasting socio-economic communities. Secondly, an ecological inquiry explored variables from students' immediate environments, home and classroom, and aimed to identify literacy practices in these environments which could be associated with sustained learning over summer. The study employed a mixed method design, incorporating both quantitative and qualitative measures. Measures included: achievement tests at four time points before and after summer in reading comprehension (n = 77) and writing (n = 78), parents' questionnaires (n = 53), student literacy logbooks (n = 49), student interviews (n = 16), parent interviews (n = 16), teacher logs (n = 5), teacher interviews (n = 5), and classroom environment observations (n = 6).

The findings provide evidence of a summer learning effect in reading and writing in Germany. Repeated measures ANOVAs showed that students progressed considerably in their achievement over school periods, but made no statistically significant gains over summer. Overall, students stalled in reading comprehension and lost in writing over summer. Regression analysis did not support the hypothesis of a differential SLE moderated by socio-economic background. The data, however, indicated substantial variations in gain scores over summer across socio-economic lines. Through the qualitative analysis, specific family literacy practices could be identified that were associated with sustained learning over summer. Furthermore, in reading, classroom practices could be identified which were associated with sustained reading development over summer. However, writing development over summer seemed less susceptible to classroom teaching before summer.

The findings have implications in terms of research on summer learning, teaching practice and policy and offer possible ways to design interventions which can result in sustained literacy learning for students at times when school is not in session.

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List of Abbreviations

Abbreviation	Meaning
ANOVA	Analysis of variance (univariate)
B	Unstandardized regression coefficient
β	Standardized regression coefficient
d	Cohen's measure of effect size
df	Degree of freedom
ELFE	Ein Leseverständnistest für Erst- bis Sechstklässler [German standardised reading comprehension achievement test]
ES	Effect Size
F	Fisher's F ratio
HSP	Hamburger Schreib-Probe [German standardised writing achievement test]
HISEI	Highest Socio-Economic Index of Occupational Status
ISEI	Socio-Economic Index of Occupational Status
M	Mean (arithmetic average)
n	Number in a sample
p	Probability
R	Multiple correlation
R^2	Measure of strength of relationship
SE	Standard error (of measurement)
SLE	Summer Learning Effect
t	Computed value of t test

1 Chapter One: Introduction

Both reading and writing are essential cultural tools in today's society and are vital to the educational success of children. Major international studies repeatedly identify issues relating to inequalities in the attainment of literacy skills for certain groups of students (OECD, 2010b, 2011). In Germany, the correlation between students' socioeconomic status and achievement is one of the strongest in the OECD countries (OECD, 2012). In the latest PISA study, 18% of German students scored below Level 2 in reading which signalled a lack in basic literacy skills. Students from a low-income family or whose parents had a low education level were those most at risk (OECD, 2010b, 2012).

In North America, research has identified the summer break as a major influential factor in differential attainment of low and high-income students. Seasonal comparisons of achievement over the school year and summer have shown that low-income students tend to learn at the same rate as their more affluent peers while in school. However, over summer, they stagnate or loose ground in their learning while high-income students tend to continue to gain (Entwisle & Alexander, 1992, 1994; Entwisle, Alexander, & Olson, 1997; Heyns, 1978). Cooper, Nye, Charlton, Lindsay, and Greathouse (1996) reported in their meta-analysis that the summer break created on average an annual achievement gap of about three months between low and high-income students – favouring the economically more advantaged students. Longitudinal data showed summer losses accumulated and thus widened the achievement gap over the years (Alexander, Entwisle, & Olson, 2007a). This *summer learning effect* (SLE) has received considerable policy attention in the United States. A growing movement is calling for more summer schools and shorter summer holidays, a national summer learning day has been declared to call attention to the issue, and the TIME magazine ran a cover article in 2010 ''The case against summer vacation'' (von Drehle, 2010, August 2).

To date, most research on summer learning has been conducted in North America. Little research has been done to investigate the summer learning effect in Germany, or in other European contexts, as a contributing factor to achievement disparities and the widening achievement gap between low and high-income students. Only five studies could be identified to date that have

investigated summer learning patterns in European contexts (Becker, Stanat, Baumert, & Lehmann, 2008; Coelen & Siewert, 2008; Lindahl, 2001; Stanat, Becker, Baumert, Lüdtke, & Eckhardt, 2012; Verachtert, Van Damme, Onghena, & Ghesquière, 2009). They had varying results, which are summarised in more detail in chapter 2.1.6. It seems that the current body of research on the summer learning effect in European contexts is yet too small to answers certain issues in these contexts, and too diverse internationally to provide a comprehensive understanding of the effect.

Furthermore, countries differ on a number of important and relevant characteristics of their demographic situations and educational systems. These differences in regard to aspects that might influence the results of summer learning research make it necessary that studies systematically explore the phenomenon of the summer learning effect in different countries. Country analyses add to the existing understanding of the summer learning effect and help explicate social contextual aspects of summer learning. For example, German children enjoy a summer break of six weeks, which is shorter than in most North American states, German education does not have a tradition of providing summer learning programs, and social disparities tend to be smaller in Germany than in North America (Ehmke & Jude, 2010).

The present research intends to add to the existing body of research by investigating the effects of summer on student learning in Germany. The first research question is therefore:

1. What is the extent and nature of the summer learning effect in literacy, both reading and writing, in the communities of two primary schools in Germany?

Most summer learning effect studies have examined the effect in reading or reading comprehension, yet little is known about summer learning patterns in writing. To provide a more comprehensive picture of students' literacy development over summer, the present study examined reading comprehension and writing achievement. Given speculation by Entwisle et al. (1997), developmental patterns in writing achievement are likely to be as strong as for reading, it was therefore hypothesized that summer learning patterns in reading comprehension and writing will be similar.

The second strand of the present research examines literacy practices at home and in classrooms to identify possible mechanisms underlying the summer learning effect. The present research

uses a socio-cultural and ecological lens and therefore regards literacy development as a process which is co-constructed by the learner and a guiding person through activities which comprise valued socialisation practices. These practices take place in classrooms and homes, which are seen as main settings of socialisation for young children. Practices in these settings play such a pivotal role in literacy development (Bronfenbrenner, 1979, 1986; Bronfenbrenner & Crouter, 1983; Bronfenbrenner & Morris, 1998; McNaughton, 1995). Consequently, the summer learning effect is seen as being influenced by home literacy practices, literacy practices at school and the relationship between home and classroom literacy practices. Families as well as classrooms might provide different literacy activities which might include differential exposure and access to literacy materials over summer. Analyses of learning patterns over the school year and summer provide a means of extending our understanding of these ecological connections, but also our understanding of how variability in the social and cultural practices in families contribute to sustained learning and variability in learning over summer. Slates, Alexander, Entwisle, and Olson (2012) pointed out that although it seems well established in North America that, on average, students from low-income families loose ground over summer, little research has investigated the variability of the effect and whether all low-income students are prone to suffer from a summer learning effect. The present research thus examined literacy practices at home and in classrooms, through qualitative and quantitative measures, to gain a more in-depth understanding of these practices, and challenged the notion of socio-economic status per se being the most influential factor in summer learning. The second research question therefore asks:

2. What kind of literacy practices can be identified at home and in the classrooms which are associated with continued learning over summer?

The present research used a short-term longitudinal design and a mixed method approach to answer these two research questions. Two schools were sampled from contrasting socio-economic communities to investigate the hypothesis drawn by previous research of differential effects of summer for the contrasting student populations. The second grade students in these schools were tested at four time points over the course of six months to examine reading comprehension (n = 77) and writing achievement (n = 78) over school periods, as well as over summer. Careful attention was paid to the testing dates, as previous research mostly used data from standardized testing cycles, which in most countries occur in spring and fall. The measured

summer break in those studies was thus confounded by a reasonable amount of school time, thus overestimating the summer learning effect and underestimating how much learning occurred during school periods (Cooper et al., 1996; Downey, von Hippel, & Broh, 2004). Only the more recent summer effect research adjusted data statistically to allow for a more precise picture of summer learning. The present research, in contrast, sought to capture a more genuine picture of student development over school and summer periods, and took a close measure of summer learning. Students were tested a week before and after the summer break. Thus, the summer period in the present research was not compounded by several weeks of school time, and data did not need to be statistically adjusted.

Data on home and classroom literacy practices were gathered in multiple ways. Students reported their reading and writing activities over the first two weeks of summer in a literacy logbook. Additionally, sixteen students and their parents were interviewed retrospectively after summer to explore more in depth their summer literacy practices. Data on classroom literacy instruction and the classroom literacy environment were collected through a teacher logbook and literacy environment observations. In addition, teachers from the six classrooms were interviewed, again retrospectively after summer, to gain a further understanding of teachers' literacy practices in their classrooms and possible activities in relation to the summer break. The exploration of the multiple settings with different measures increased the ecological validity of the analyses (Kainz & Vernon-Feagans, 2007).

The following thesis, reporting on this research, is organized into seven chapters. While the first chapter presents the introduction to the thesis, Chapter Two gives an overview of the relevant literature. Literature is drawn from different fields of research to cover the underlying complexity of the phenomenon of the summer learning effect. Based on the reviewed literature and the resulting research questions, Chapter Three outlines the study design and describes the procedures utilized in the data collection and data analysis. Furthermore, methodological decisions and considerations are explained.

The findings are subsequently presented in Chapter Four, Five and Six. Chapter Four firstly reports on the results from the quantitative achievement data. It secondly presents the findings about students' literacy practices at home recorded in the literacy logbooks in relation to the

achievement data. Chapter Five describes the sample of sixteen students who were ascribed to different profile groups on the basis of their achievement patterns over summer – gain, stall and drop - and reports on students' and families' summer literacy practices based on the interview and summer literacy logbook data. Literacy practices were identified which could be associated with sustained literacy learning over summer. The findings are reported separately for reading and writing. Subsequently, Chapter Six offers a description of classroom literacy practices before summer, but also of specific guidance and preparation the teachers gave their students in view of the preceding summer break. For these analyses, student achievement data for the six classrooms were drawn on to recognize summer learning patterns on a classroom level. For reading, one classroom could be associated with sustained gains over summer, in comparison to the other classrooms where students on average stalled or dropped in their reading achievement. The analysis thus describes the classroom practices of the different classrooms, and also compares specific practices in the 'outlier' classroom to practices in the other five classrooms. For writing, student achievement in all classrooms on average stalled or dropped, thus no 'outlier' classroom could be found and no further analysis or comparison of the data in regard to classroom writing practices took place.

In Chapter Seven, the results of this study are discussed, and implications in terms of research on summer learning, teaching practice and policy are outlined. The findings offer initial evidence of a summer learning effect in reading and writing in Germany. However, they also indicate a great variability of the effect across socio-economic groups, challenging the notion of a summer learning effect being especially prevalent for low-income students. Furthermore, practices at home and in the classroom are identified that potentially support summer learning. The findings thus offer possible ways to design intervention which can result in sustained literacy learning for students at times when school is not in session.

2   Chapter Two: Literature Review

The following literature review summarises and discusses the relevant research in regard to the present study. Literature is drawn from different fields of research to cover the underlying complexity of the phenomenon of the *summer learning effect*.

In the first part of the review, the seminal studies on summer learning are outlined, which have revealed the extent and impact of the summer learning effect in North America. Furthermore, studies are examined which describe attempts to overcome the summer learning effect by changing school calendars, investigate summer learning in different subject areas, in regard to gender differences and explore differences between high and low-income students. In contrast to the North American research, the few studies that have been undertaken on the summer learning effect in other contexts (Australia, New Zealand and Europe) are summarized.

The second part of the review depicts research findings to date on the sources of summer learning differences in literacy. Drawing on a model of literacy development based on socio-cultural and ecological concepts, this research sees literacy development as influenced by practices at home and in the classroom, as well as by the relationships between these two immediate environments of the child. Thus, research on family as well as classroom literacy practices is reviewed in this section.

The final section provides a short summary and identifies the gaps apparent in the research literature to date. The resulting research questions for the present research are given, which capture questions unaddressed by previous research.

2.1   Seasonal variations in learning – the summer learning effect

In most countries, the summer holidays are the longest school break in the year. In North America, the summer break constitutes on average a period of just under three months, whereas the average school year lasts 180 days. In comparison, New Zealand students spend 193 (full) days in school and have a summer break of 30-37 days. Leading the field is Japan with 243 school days and Germany with 244-266 school days (Alexander, Entwisle, & Olson, 2007b; Cooper, Charlton, Valentine, & Muhlenbruck, 2000). Studies in the United States looking at the effects of summer as a period of non-schooling have found that the majority of students learned

less rapidly over summer than during the school year (Entwisle & Alexander, 1992, 1994; Entwisle et al., 1997; Heyns, 1978). Overall, students' test scores tended to be at least one month lower after the summer break (Cooper et al., 1996).

The most influential study on the summer learning effect, even though it was not the first one, was Heyns' research in 1978, as she conceptualized 'summer learning' (Heyns, 1978, see p. 11). Heyns argued that learning during school periods was determined by non-school and school factors. Conversely, she reasoned that by comparing school and no-school periods through biannually administered achievement tests, one could isolate the influence of non-school factors. Hence, summer was the time when not the school but only family and neighbourhood impacted on a child's learning.

Heyns' study was undertaken at a time when the Coleman Report (Coleman et al., 1966) fuelled the debate about 'school effectiveness' and inequality in the United States. The Coleman Report was presented as evidence that school funding had little effect on student achievement. It strongly implied that student background and socio-economic status were much more important in determining educational outcomes than were measured differences in school resources (Coleman et al., 1966). The report, commissioned by the United States Department of Education and based on a sample of more than 650,000 of first, third, sixth, ninth, and twelfth grade students, had thus marked schools as ineffective. The report provoked considerable debate within educational researchers, and the study got widely criticized in regard to its methodological and analytical proceedings (Bowles & Levin, 1968; Carver, 1975). Reacting to the proposed policy implications drawn from the Coleman report, Heyns (1978) undertook her study with two foci, wanting to show that "schooling has a substantial independent effect on the achievement of children and that the outcomes resulting from schooling are far more equal than those that would be expected based on social class and racial origins of sample children" (p. 9).

Heyns' (1978) findings from a sample of almost 3,000 sixth and seventh graders did verify that schools were effective, as students had higher achievement rates on the word knowledge test

while in school than over summer[1]. Consequently, her study was seen as disproving the findings of the Coleman Report.

Besides confirming the effectiveness of schooling, Heyns (1978) also reported on the inequalities between black and white, and low- and high-income students which were apparent in the different summer learning patterns. While students from both racial groups and every income level showed a slower rate of learning during summer, differences between groups were also more pronounced during summer. Summer losses were observed for students from both racial groups with an income of less than US$9,000. White students from middle-income families (US$9,000-15,000) made modest gains over summer, while black students from the same income bracket dropped in their achievement. Only high-income students, and white students more than black students, consistently improved their achievement level.

Heyns' results were subsequently questioned by three teams of researchers using data from the *Sustaining Effect Study*. Beginning in the fall of 1976, the study had collected data in reading and mathematics from a nationally representative sample of 120,000 elementary school students over a period of three years (Carter, 1984). Ginsburg, Baker, Sweet, and Rosenthal (1981) were the first to use the study's data to re-test the results reported by Heyns (1978) on a sub-sample of 2,500 students. Ginsburg et al. (1981) found a positive effect of schooling similar to the one that Heyns (1978) had reported. Students had greater achievement gains during the school year than during summer, especially in mathematics. However, they first reported to have found no relation between summer learning and students' socio-economic background. Ginsburg et al. (1981) concluded from their analysis that although a few race and income variables proved significant, "any relationship between achievement change and socio-economic status is, at best, tenuous" (p. 21). In subsequent analyses looking at simple changes in achievement, the data however did reveal that high-income whites had larger gains in reading over summer than the other groups of students.

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[1] Achievement data was collected using the Metropolitan Achievement Test, which includes nine subject subtests: word knowledge, reading, language, language study skills, arithmetic computation, arithmetic problem solving and concepts, social studies information, social study skills, and science. However, detailed analysis relied only on the word knowledge subtest, as it was judged to be the most reliable subtest for black and white students, and to be the most highly correlated subtest in the pre- and post-test, with IQ scores and with parental socioeconomic status.

Further analyses of the *Sustaining Effect Study* data, came from Klibanoff and Haggart (1981), who used data from a larger sub-sample of over 39,000 students. They reported that black students and students participating in a free lunch programme tended to show smaller gains in reading over summer than the other groups of students. Overall, losses were more evident in mathematics than in reading.

Heyns (1987) refuted the analyses by Klibanoff and Haggert (1981). Firstly, she pointed out measurement issues in the *Sustaining Effect Study* in regard to the summer interval and critiqued the analyses processes. The study had included five weeks of school before, and three weeks of school after summer, in their summer interval. The measured summer learning thus included some school learning, which could have positively impacted on the measured effect of summer. However, Heyns (1978) had employed a similar testing interval (reported as May to October) in her own study.

Secondly, Heyns (1987) examined the data of the *Sustaining Effect Study* and the published results comparing different groups of students over similar periods of time. She argued that the data did indicate a slower rate of learning over summer in reading and mathematics at every grade level. In regard to the relationship between family income, race and summer learning, Heyns (1987) did not disagree with the interpretation by Klibanoff and Haggert (1981), but argued more vehemently for the evidence of differential rates of change over summer found in the data. She concluded that black and low-income students gained the least in reading during summer in all five cohorts. In mathematics, three out of cohorts declined in their scores over summer, and black and low-income students were again the ones most affected.

A year later, a third team of researchers, Bryk and Raudenbush (1988), published their analysis of a small sub-sample of 618 students from the *Sustaining Effect Study,* demonstrating the use of hierarchical linear modelling for statistical analysis. They reported significant declines in learning rates over summer in reading and even further declines in mathematics, where student learning seemed to literally plateau over summer. Bryk and Raudenbush (1988) included a school-poverty variable into their model and found no differences between schools in reading; however in mathematics, declines in learning rates were smaller in high-poverty schools than in

low-poverty schools. The authors ascribed this to the existence of summer school programs at the high-poverty schools.

Cooper et al. (1996) argued that the different analyses based on the *Sustaining Effect Study* "resembles an argument over whether an 8-ounce glass filled with 4 ounces of water is half empty or half full" (p. 250). They concluded that whatever perspective one took when examining the data, it firstly revealed no overall evidence of either absolute or relative summer loss, but slower learning rates in reading and especially in mathematics over summer. The data also indicated slower rates of gain over summer for students from poorer or minority backgrounds. However, Cooper et al. (1996) noted that the length of the summer interval, tested for in the study, compromised the trustworthiness of these conclusions.

Support for Heyns' research findings came when Entwisle and Alexander (1992, 1994) reported similar seasonal achievement patterns to those of Heyns (1978). Their multi-year longitudinal *Beginning School Study (BSS)* tracked 790 black and white students at 20 randomly sampled schools in Baltimore from the beginning of first grade onwards, through high school and in the years after, until the age of twenty-two. The study began in the fall of 1982, and took fall and spring scores using the California Achievement Test (CAT) in reading comprehension and mathematics concepts and applications. Additionally, the study collected interview and questionnaire data on parental education levels and household configuration. Early publications from the study (Entwisle & Alexander, 1992, 1994) affirmed that black and white, low and high-income[2] students learned at higher rates when school was in session, than over summer. The results also confirmed that summer learning patterns in mathematics were related to socio-economic status. Low-income students had lower test results after summer, whereas higher-income students had progressed over summer. The results substantiated Heyns' findings of a summer learning effect, and the differential effect for low-income students. Entwisle and Alexander (1992, 1994), however, could not confirm the relationship between summer learning and race. They found that summer gains or losses were not very different by race when they controlled for students' socio-economic status.

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[2] The study used school data which indicated whether the child was eligible for subsidized meals at schools as a dichotomous proxy for socio-economic status.

Entwisle and Alexander continued to analyse the *Beginning School Study* data and further publications followed (Alexander, Entwisle, & Olson, 2001, 2004; Alexander et al., 2007a, 2007b; Entwisle et al., 1997)[3]. Their data showed the summer learning effect in reading comprehension and mathematics longitudinal over multiple summers. Their later findings were similar to their first analysis. Low-income students succeeded in keeping up with their more advantaged peers in the rate of learning during the school year. Indeed, they often even caught up in their achievement levels during the school year. Over summer, however, low-income students stalled in their achievement, while their high-income peers continued to gain.

The studies by Heyns (1978) and Entwisle and Alexander (1992, 1994) are seen as landmark studies, as they established an understanding of the summer learning effect in the United States, and because their findings appear to have considerable generality. The generality of their results showed when Cooper, et al. (1996) completed a substantial meta-analysis of summer effect studies in the mid-90s. Cooper et al. (1996) reviewed a total of 39 studies, and in the end combined 13 empirical studies in their analysis. Their findings indicated that at best students' learning in reading and mathematics stagnated over summer. At worst, summer losses equalled about one month on a grade-level equivalent scale, or one tenth of a standard deviation relative to the students' spring scores. The authors also pointed out that, based on their evidence, these estimates were rather conservative or optimistic, as they had found many studies with measurement issues which would have weakened the effect. These measurement issues were similar to those Heyns (1987) had pointed out in the *Sustaining Effect Study* (which was also included in the meta-analysis). Several studies had calculated summer learning by simply subtracting fall test scores, from spring test scores and thus often had included several weeks of school in their summer interval.

Three later studies used different statistical methods to overcome these measurement issues. Burkam, Ready, Lee, and LoGerfo (2004); Downey et al. (2004); and McCoach, O'Connell, Reis, and Levitt (2006) used the same database of the *Early Childhood Longitudinal Study - Kindergarten Cohort 1998-99 (ECLS-K)* to investigate summer learning patterns over kindergarten and first grade. The ECLS-K study, conducted by the National Centre for Education

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[3] For the latest publication on the BSS data see Slates et al. (2012), also described later in this chapter.

Statistics (NCES), documented academic progress of a nationally representative sample of about 20,000 students in approximately 1,000 schools in the United States over five years. The study included cognitive tests of skills in literacy, mathematics, and general knowledge in the spring and fall each year, beginning in kindergarten. Data were also collected from parents through structured interviews on the telephone and from each student's school by a written survey.

The three groups of researchers used data from the first four waves of data collection from kindergarten to grade one, but chose different sub-samples of students. Burkam et al. (2004) selected a sub-sample of 3,664 students, including only students with complete data sets, who had not retained a year in kindergarten or transited between schools that summer. Downey et al. (2004) focussed on a bigger sample of 17,212 students excluding those students with missing test scores, and McCoach et al. (2006) analysed data from 8,089 students excluding students with missing test scores or missing person- or school-level data. All three studies confirmed a summer learning effect, using different statistical approaches. Burkam et al. (2004) used an ordinary least-square regression model, controlling for the time gaps between test dates and the actual last day of kindergarten and first day of school. Downey et al. (2004) and McCoach et al. (2006) used multilevel modelling, and extrapolated test scores to the scores that would have been obtained on the last day of kindergarten and the first day of school.

Downey et al. (2004) and McCoach et al. (2006) reported very similar results: on a 92-point reading scale students overall gained an average of 1.65 (1.67) points per month of kindergarten and 2.49 (2.65) points per month of first grade; however, during summer the students gained nothing at all (results by McCoach et al. in brackets). The results are generalizable in the United States as Downey et al.'s (2004) sample is nationally representative. Burkam et al.'s (2004) and McCoach's (2006) samples excluded students with incomplete data sets, and it appears these were more likely to be low-income and minority students. Thus, their samples were no longer representative of American Kindergarteners.

In summary, the early dispute about school effectiveness and the existence of a general summer learning effect in the United States appears to have ended. Cooper et al.'s (1996) meta-analytical review and later research (Burkam et al., 2004; Downey et al., 2004; McCoach et al., 2006; Skibbe, Grimm, Bowles, & Morrison, 2012) have corroborated the results by Heyns

(1978) and Entwisle and Alexander (1992, 1994) on the effect and its relation with students' socio-economic status. Cooper et al.' (1996) also supported Heyns (1987) critique of Klibanoff and Haggart's (1981) results based on the data from the *Sustaining Effect Study.*

2.1.1 Summer learning and equality in education

The main research on the summer learning effect arose out of a dispute about the effectiveness of schooling, with the Coleman report and Heyns' (1978) research taking opposite sides. However, research on summer learning has not only drawn attention to school effectiveness and the effect of summer in general, but to social inequality in particular. The problem lies not in the existence of a summer effect in general, but in the differential effect the summer break has on different groups of students. Summer effect studies have found that the negative impact of summer is stronger for low-income students and, in contrast, often not existent for high-income students. Heyns (1978) stated that "summer learning is considerably more dependent on parental status than is learning during the school year" (p. 9), and Entwisle and Alexander (1992, 1995) found that economic factors were more important than differences in gender, race, family structure, and school composition.

Alexander, Entwisle and Olson (2004) continued to publish from their longitudinal study, and pointed out that the level of children's pre-reading skills when they started school already reflected their uneven family situations. These initial differences were magnified across the primary grades. The comparison of reading comprehension scores of low and high-income students over the first two summers of school painted an especially gloomy picture, while in school students had similar gain scores. High and low-income students gained 55.94 and 46.00 points on the CAT – V (*California Achievement Test* - reading comprehension) in the first school year and 60.09 and 39.82 points respectively in the second year of schooling. However, over the first two summers, low-income students dropped -3.67 and -1.7 points in reading comprehension, while high-income students in comparison gained 15.38 points and 9.22 points in the same summers. Even though the summer scores for low-income students improved slightly after the second grade, probably as students reached a certain skill level to read more independently, they never reached the levels of high-income students (Alexander et al., 2004). The initial achievement discrepancy of less than a year at the beginning of school grew considerably, and

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the achievement gap between low and high-income students had widened to almost three years by the end of grade five. Not only did summer learning differences contribute to more than half of the overall differences in achievement between students from low and high-income families, they accounted for a larger component of achievement differences after five years of schooling than the differences apparent at school entry. These achievement gaps contributed to differences in high-school placements, drop-out rates and college attendance (Alexander et al., 2007a, 2007b).

Across summer effect studies, Cooper et al. (1996) reported in their meta-analysis that the summer break created on average an annual achievement gap of about three months between low and high-income students – favouring students from economically more advantaged families. Longitudinal data across studies also showed that the summer losses accumulated and widened the achievement gap over the years. Between grades one and six, the potential cumulative impact of this achievement gap in reading found by Cooper et al. (1996) could compound to 1.5 years worth of reading development lost in the summer months alone.

Similarly, Burkam et al. (2004), Downey et al. (2004), and McCoach et al. (2006) found a substantial gap between high- and low-income children at the very beginning of schooling. The gap continued to grow when school was in session, but it grew much more slowly when school was in session than when it was not.

Thus, low-income students benefitted from schooling in a similar way to their high-income peers. However, what happened before schooling started and over summer impeded their educational success, and created a barrier to educational equality. As Downey et al. (2004) argued, even though school acts as an important 'equalizer', it does not equalize student achievement rates in an absolute sense. To guarantee for equality in education would mean to either produce larger gains for these students over the school year to account for the drops made in summer, or to minimise the negative effects of summer for low-income students.

2.1.2 Subject variability of summer learning

Summer learning patterns also appear to be different across subject areas. Cooper et al. (1996) revealed that most summer learning effect studies analysed achievement data in mathematics and

reading comprehension. The evidence showed that losses were greater in domains involving memorization and procedural knowledge (mathematics and spelling), than in domains needing conceptual understanding (mathematics concepts and reading comprehension). Overall, the losses were more pronounced for mathematics than for reading, giving rise to the speculation that the home environment offers more opportunities for reading than for solving mathematical problems. Students' socio-economic background was related to how much students lost, and in which content area. All students regardless of their background lost equal amounts of mathematics skills, but essential differences were found in reading. Low-income students dropped in their reading levels over summer, whereas middle-income students tended to gain reading skills over summer. In reading comprehension a decline was seen in both groups, but again the scores for low-income students declined even further over summer. Analysis of differences in grade-level equivalent scores showed that low-income students lost about 0.7 months more over summer in reading comprehension than their middle-income peers (Cooper et al., 1996).

2.1.3 Gender and summer learning

Several studies have examined gender differences in summer learning without, as Cooper et al. (1996) pointed out in his meta-analysis, providing any theoretical argument why this individual student characteristic might be important. Cooper et al. (1996) found no consistent moderating influence of gender on summer learning. Similarly, using data from the *Early Childhood Longitudinal Study,* Burkam et al. (2004), Downey et al. (2004) and McCoach et al. (2006), reported that girls outperformed boys on the first achievement test; however, all three studies did not find any significant effects of gender on summer learning.

In contrast, Slates et al. (2012) in their study of exceptional summer learners from low-income families found that girls registered higher total summer gains than boys. They argue that this is unsurprising, as girls tend to outperform boys in general and this academic engagement might spill over into the summer months. However, their sample only consisted of 27 girls and 17 boys.

2.1.4 Measurement issues in research on summer learning

There have been several studies on the summer learning effect, but quite a few of these studies have been criticized for their methodological proceedings. Cooper et al. (1996) pointed out three methodological and conceptual issues in research on summer learning. These issues seem to persist. The first issue relates to the test dates used. The second issue concerns the choice of relative or absolute metrics to measure change over time, and the third issue, related to the second, refers to the use of normed tests when depicting changes over summer.

Firstly, the use of spring and fall test scores has already been criticized by Heyns (1978) and was one of the reasons for her to refute the analysis made by Bryk and Raudenbush (1988); Ginsburg et al. (1981); and Klibanoff and Haggert (1981) on the data of the *Sustaining Effect Study*. The period between spring and fall test dates contained several weeks of schooling, thus merely subtracting spring from fall test scores to calculate summer gain scores was not an accurate measure of change over summer. The *Sustaining Effect Study* included 8 weeks or 56 days of schooling in its 140 days of summer. Cooper et al. (1996) argued that *"the length of summer seriously comprises the trustworthiness of [their] conclusions"* (p. 250), and estimated that if the results could be adjusted, the findings would be more consistent with the remaining pessimistic findings on the summer effect. However, Heyns (1978), as well as Entwisle and Alexander (1992), had also used fall and spring test scores, but it seemed that their summer interval had included less weeks of school than the *Sustaining Effect Study.*

Researchers most often rely on data sets from schools' testing cycles, which in most countries occur on a yearly basis in spring and fall. More recent research, for example Burkam et al. (2004), Downey et al. (2004) and McCoach et al. (2006) in the United States and Lindahl (2001) and Verachtert et al. (2009) in Europe used fall and spring test scores, but statistically extrapolated test scores to the actual last day of school before summer and the first day of school after summer, or controlled for the time gaps between test dates and summer.

Ideally, measurements would be scheduled in the last and first days of school, rather than weeks before and after summer. This is often hardly possible to achieve in practice from an organizational, as well as financial, point of view. Researchers could not rely on the data schools collect in spring and fall as part of their testing cycles, but would have to administer the tests

themselves. The only study identified to date which has collected data in the last one or two weeks before and after summer is the study by Coelen and Siewert (2008); however, their full findings have not yet been published.

A second measurement issue in summer learning research concerns the choice of relative or absolute metrics to measure change over time. Achievement development can either be measured by taking the same test twice showing absolute changes in scores, or on tests normed for the different testing period showing change relative to the comparison group or normed sample.

Absolute change is mostly reported in raw scores or in standardized scores. Issues here lie in biased estimates from students showing practice effects or boredom when taking tests twice, which leads to over- or underestimates of test scores in repeated tests (see Lindahl, 2001). Furthermore, in longitudinal studies ceiling effects can become an issue (see Verachtert et al., 2009).

Relative change is usually reported in grade-level equivalents, or percentile ranks taken from normed tests which have grade or age adjusted test versions. A student's change in score on these measures does not describe a fixed achievement level; an indicated loss from one test date to the next could mean a loss or a small gain in achievement. Research on the summer learning effect presented in this chapter has mostly used measures of relative change (see for example: Entwisle & Alexander, 1992, 1994; Ginsburg et al., 1981; Heyns, 1978; Klibanoff & Haggert, 1981). This is mainly due to the fact that they have used test data available from schools, and school testing occurs with age adjusted test versions. Klibanoff and Haggert (1981) pointed out that the relative losses they found in their study, *"do not support the notion of an absolute loss over summer"* (p. xxiv). Relative losses over summer often point to a stagnation of learning over summer.

The choice of measure, either absolute or relative, is widely debated in the educational literature but in the end lies with the researcher. Large studies suggest that the different measures are highly correlated with one another, but the choice of measure may affect the magnitude of effect size derived from it (Cooper et al., 1996).

A third measurement issue relates to the choice of measure, more explicitly to the choice of measure when measuring relative change. Not all normed tests have norming tables available for

test dates at the beginning and end of the school year. Most normed tests are designed to be used for schools' achievement testing usually, in spring and fall. However, if tests were normed at the beginning and end of the school year, they might have been normed on a sample of students that experienced summer effects. Then changes over summer would not be detectable on the test. In the end, it is unlikely that tests have been re-normed on a monthly basis, but that monthly norms have been calculated through extrapolation. Then a change over summer would be detectable (Cooper et al., 1996).

Research on summer learning seems not to have impacted on the way we keep assessing summer learning or school effectiveness. The current standardized testing cycles in most countries occur on a yearly basis, and thus they confound the effects of schooling by incorporating non-school time such as the summer break. Downey, von Hippel, and Hughes (2008) thus criticized using average achievement levels as a measure of school effectiveness, and argued for adjusting test dates to encompass the nine month of learning that take place in the school year. Schools' effectiveness could thus be more reliably measured by either examining learning rates over these nine months or by measuring what the authors call *seasonal impact*. When both summer learning rates and school-year learning rates are available, the difference between school learning and summer learning rates would thus determine the degree to which students' learning rates increase when in school. Von Hippel (2009) argues that this measure would be the most valid measure of school effectiveness and summer learning.

2.1.5 Changing school calendars

One way of counter-acting the summer learning effect has been proposed by supporters of modified school calendars. Alternatives to the traditional school calendar have been discussed, and have been operating in certain schools in the United States for nearly 30 years. One suggestion is an extended school year where days of instruction are increased. Another proposal emphasises a modified school calendar, where students might or might not attend school for more days, but the long summer vacation disappears. Students might go to school for nine weeks and subsequently have a three weeks break, or attend school for twelve weeks and have a four weeks break.

Advocates of these modified calendars refer to the summer learning effect and argue that children learn best when instruction is continuous (Shany & Biemiller, 1995). However, Cooper, Valentine, Charlton, and Melson (2003) objected, and indicated that the existence of the summer learning effect could not be taken as a causal fact to mean that modified school calendars produce higher achievement among students throughout the year. They synthesized studies of the effects of modified school calendars and included studies which had looked at schools that had dispersed holidays, but had not increased the number of days of instruction.

Cooper et al. (2003) estimated that school districts have a slightly better than a 50% chance of finding that students in modified calendar schools outperform their counterparts in other schools. However, the improvement in achievement scores was unlikely to be greater than .1 of a standard deviation, relative to scores that could be expected of students attending traditional calendar schools. Point estimates of this relative improvement measured in different ways tended to be around .05, or one twentieth of a standard deviation. In regard to socio-economic background, Cooper et al. (2003) found that modified school calendars were the most reliable moderator. On average, students from low-income communities attending modified calendar schools outperformed their traditional school counterparts by about .2 of a standard deviation on annual achievement tests. However, Cooper et al. (2003) found that the quality of the research designs of studies on modified school calendars and the resulting evidence was rather poor. Fifty-nine per cent of studies had made no attempt to improve the similarity of the samples they compared. Samples of students, who attended modified calendar schools and those who did not, differed immensely in regard to student characteristics. Consequently, it could not be determined if the differences in achievement were due to calendar variation, differences among students, school characteristics, or due to an interplay of these factors.

Furthermore, changing school calendars does not shift the balance of school and non-school time, as it only disperses the holiday times across the year. Therefore, it might not affect the achievement disparities between students from low and high-income families. It would have to be shown that the summer learning losses of low-income students are not distributed over the more dispersed holiday weeks.

The shortening of the summer break proposed in North America is a reality in other countries, such as New Zealand, Germany and other European countries. The summer break in these countries in general comprises only six to seven weeks. Over the rest of the school year, 8-10 weeks of school alternate with blocks of one or two weeks of holidays (Easter, autumn and Christmas holidays). Research on the summer learning effect in these countries could yield important findings in regard to the effectiveness of modified school calendars.

2.1.6   Summer learning effect research across countries

Very little research has been published which has investigated the summer learning effect in contexts outside of the United States, even though the effect might be different in different education systems, communities and countries, given as mentioned above the different length of summer holidays and the different nature of societies and education systems. The few studies that could be identified to date have investigated summer learning patterns in Australia, New Zealand, Sweden, the Flemish part of Belgium and Germany.

In Australia, Vale et al. (2013) investigated summer learning patterns at 76 low-income primary and secondary schools as part of an evaluation of a pilot study for a school reform project in numeracy and literacy. The study collected achievement data in six monthly intervals over two years, always in March and September, beginning in March 2009. They further collected family background data on socio-economic status and interviewed teachers, principals, numeracy and literacy leaders. Vale et al. (2013) found that teaching was most effective in the period from March to September, representing the Australian autumn and winter. Over the spring and summer months, from September to May they found a slowdown in achievement growth. The slowdown was greater in number achievement than in reading, a finding the authors suggested was consistent with North American based research on the effect (Alexander et al., 2007a). However, student achievement plateaued rather than dropped over summer.

The Vale et al. (2013) study explicitly examined schools located in low socio-economic communities. They also collected data from each student on family occupation and used the

Student Family Occupation (SFO)[4] index as an SES measure. The data had sufficient SFO variability within and between schools to examine students' achievement in relation to their SFO category. Vale et al. (2013) did not find any differences in learning patterns over summer in reading or number achievement for the different SFO groups. They concluded that *"reasons for the slowdown in growth in achievement cannot be placed on presumed attributes of particular SES cohorts of students or their families"* (p. 16).

Vale et al. (2013) conducted group interviews with principals, numeracy and literacy coaches and regional leaders, and asked for their responses and interpretation of the findings on the summer learning effect. Interestingly, interview participants saw that low-income students lost momentum over summer, but they attributed the slowdown in achievement not only to family factors related to students' socio-economic backgrounds, but also to school factors. These factors included teaching practices, assessment and transition. It was described that teaching slowed down before the holidays and was not as 'rigorous' as in the winter months. Especially after reports were written, little or no explicit teaching would take place. After the holidays, teachers and students took time to orientate themselves again in the school and classroom context, thus again teaching was 'slow'. Furthermore, participation and attendance declined before the holidays and extra-curricular activities took over.

A main limitation of Vale et al. (2013) findings is their six months testing interval. Their summer interval included not only the five weeks of summer holidays, but twenty weeks of teaching and two weeks of holidays after term three. Thus, the summer interval included twice as many weeks of schooling than weeks of non-schooling. Vale et al. (2013) did not adjust their data statistically to depict a more exact picture of summer. Participants also questioned the validity of the test data, as it seemed the purpose of testing had not been clear to all teachers in the initial round, and the online format of the test had possibly caused difficulties for some students.

In New Zealand, Lai, McNaughton, Amituanai-Toloa, Turner, and Hsiao (2009) looked into summer learning as part of a large-scale intervention study, which focussed on effective teaching

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[4] The SFO differentiates between five occupation categories: the highest category is A (qualified professionals), B (associate professionals), C (tradesmen/women, sales and service staff), D (machine operators, assistant work), and the lowest is N (unemployed and pensioners - for 12 months or longer).
See http://www.education.vic.gov.au/school/principals/finance/pages/srpref011.aspx

as a means to school improvement. The research involved 1,975 students as a baseline sample, and 238 of these students were followed longitudinal over three years from grade four to six. Students were tested in reading comprehension at six time points over three years, always in November and February[5]. The schools achieved accelerated achievement rates in reading comprehension, and shifted the distribution of achievement so that it matched national expectations. The study was later replicated across three clusters of schools involving 7000 students and 200 teachers every given year (McNaughton & Lai, 2009). The first two clusters involved schools from around Auckland, in which the majority of the students were of ethnic minorities' descent (Māori or Pacifica) and from a low socio-economic background. The third cluster of schools was situated in a rural and remote area at the west coast of New Zealand's south island. The schools did not serve poor or minority children, but students from mostly middle-income homes from the majority ethnic group – New Zealand European.

McNaughton and Lai (2009) noticed a summer learning effect of different degrees in reading comprehension for these clusters of schools. In the first two clusters, students showed no significant drops over summer. Similar to Vale et al. (2013) in their Australian study, McNaughton and Lai's (2009) analysis of growth over time showed a more staircase pattern of achievement rates, with a tendency to plateau over summer and accelerate over the school year. The authors argued that the results may suggest that family and community practices might have had a positive impact on summer learning. Anecdotal reports indicated the importance of local community libraries and of encouragement of students' love of recreational reading. McNaughton and Lai (2009) noted that family practices in New Zealand communities over the summer may have different features than those communities examined in previous research in the United States.

The third cluster comprised schools from a rural and remote area with mainly NZ European and Māori students from families with different socio-economic backgrounds. The students in this cluster made greater gains in reading over the school year than students from the other clusters, yet surprisingly they were more affected by the summer with average drops of 0.25 age adjusted

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[5] Similarly to the Australian summer holidays, the New Zealand summer holidays run from mid-December to the beginning of February.

stanines. McNaughton and Lai (2009) noted that the result might indicate that summer learning may differ for students from urban and rural areas. The latter students, who lived in a more isolated setting, might have less access to literacy resources and might encounter different parent and community expectations on activities during the summer holidays.

Jesson, McNaughton, Lai, Hsiao, and Leonard (2009) evaluated the writing achievement focus of the intervention implemented in the third cluster of students. Their sample included 624 students from grade five to eight and their teachers in 34 schools. The intervention also showed large effects here, and each year of schooling added on average 44.3 points to students' writing achievement. However, every summer following a year of intervention students' writing achievement dropped by an average of 22.13 points. Jesson et al. (2009) noted that the drop over summer was somewhat surprising, since it was greater than expected for students from the majority ethnic group and for students achieving at or above the national average. Data analysed for students from the minority ethnic group followed the expected pattern of the summer learning effect for minority students, as they showed an even greater drop.

The authors pointed out that other factors could have influenced the effect. Firstly, the achievement tests administered before and after summer tested students for different writing purposes, and the tests' difficulty levels were slightly different. Secondly, students were not always tested in the writing genre, they were taught throughout the preceding school year, which might have impacted on their results. The study is the only study to date with published results on the summer learning effect in writing.

A Swedish study examined summer learning in mathematics in a sample of 556 fifth and sixth graders using the national assessment date in spring twice and another test date in September (Lindahl, 2001). The chosen test dates meant that the period of summer contained about 17 weeks of schooling; however, Lindahl (2001) considered this in his analyses. He found that Swedish pupils lost mathematical skills over summer, results which are comparable to North American findings. However, the study found no correlation between the effect and students' socio-economic or migratory[6] backgrounds. Lindahl (2001) argued that there was a smaller

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[6] In Europe, it is often referred to people with migration backgrounds. The term does not only include immigrants as such, but also includes descendants of migrants who are born within the country. It thus usually includes foreigners

degree of income inequality in Sweden compared to North America, and he speculated that the Swedish society might be homogenous enough to prevent a summer learning effect.

A study in the Flemish part of Belgium also examined the development of mathematical skills over summer (Verachtert et al., 2009). Verachtert et al. (2009) followed a sub-sample of about 900 low-achieving students from a large-scale longitudinal research project (SiBO). The study's focus on low-achieving students limits its generalizability, as it, at the same time, limits the variance of social and ethnic background characteristics in the sample. The analysis showed a decreased learning rate over summer and no moderating effects of socio-economic or ethnic background.

In Germany, research into the achievement development of primary students in general or in relation to socio-economic status in particular is scarce (Ditton & Krüsken, 2009). Some studies have focussed on competence levels of students at certain time points or the development of skills over the primary grades. Seasonal comparisons of learning could be especially interesting in Germany, as the social disparities tend to be smaller than in the United States and somewhat greater than in Sweden and New Zealand (Ehmke & Jude, 2010)[7]. Only three German studies exist which examined achievement development over the summer period, and only one of these studies has explicitly compared summer and school learning and the influence of students' socio-economic backgrounds (Becker et al., 2008; Coelen & Siewert, 2008; Stanat, Baumert, & Müller, 2005).

A project undertaken by a research group from the *Max Planck Institute for Human Development* in 2004 evaluated a summer camp for children with migratory backgrounds (Stanat et al., 2005; Stanat et al., 2012). The summer camp ran for three of the six weeks of the summer holidays, and

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born in the country and all persons born in the country who have at least one parent who immigrated into the country or was born as a foreigner in the country. The migration status of a person is determined based on his/her own characteristics regarding immigration, naturalisation and citizenship and the relevant characteristics of his/her parents. See the website of the Federal Statistical Office for a definition of the term:
https://www.destatis.de/EN/FactsFigures/SocietyState/Population/MigrationIntegration/PersonsMigrationBackground/Current.html

[7] While parents in the United States, Sweden and New Zealand tend to have a higher mean HISEI scores than German parents, the variance of scores in the lowest quartile is greater in the United States than in Germany, Sweden and New Zealand (Ehmke & Jude, 2010 see figure on page 235).

aimed to improve students' German oral language skills. The 150 students, who had just completed third grade, were divided into an intervention and control group. The authors stated that tests administered to both groups before and after summer showed no signs of a summer learning effect. The results are somewhat limited, as the sample only included students with a migratory background. Furthermore, no comparison of the achievement development over summer to the achievement development over the school period took place. Thus, the achievement gains reported could, in comparison to school learning rates, actually depict a slowdown in achievement over summer, and thus a summer effect. However, the authors of the study argued that the German six weeks summer break was too short, in comparison to the three months summer break in the United States, to show the same effects.

Becker et al. (2008) investigated reading development of children with and without migratory backgrounds over the summer between fourth and fifth grade. They based their analysis on data from a longitudinal study of academic achievement of primary students from Berlin called *ELEMENT* (Lehmann & Roumiana, 2005). Their regression analysis with a sample of 1,592 students focused on the impact of students' migratory backgrounds, and other factors such as socio-economic background on the prediction of reading achievement levels after summer. The study reported that students with migratory backgrounds showed significantly lower reading achievement scores after summer, more than a tenth of a standard deviation (-0.15), than students without a migratory background. Socio-economic background also added to the prediction of reading scores after summer. An increase in the HISEI[8] score by one standard deviation resulted in a higher reading score of almost one tenth of a standard deviation (0.08). However, descriptive statistics such as mean scores were only reported for a sample of 954 students without imputed data, and only for groups of students (students with and without migratory backgrounds) and not for the whole sample. Thus, it cannot be inferred if students in the whole sample dropped, stalled or gained in their achievement over summer, but only how the students performed in comparison to other groups of students. Furthermore, means for the sample without imputed data showed

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[8] The HISEI (*Highest Socio-Economic Index of Occupational Status)* is an internationally used socio-economical coding taxonomy with values ranging from 16 for manual workers to 88 for medical and law occupations. Either father's or mother's score is taken, whichever is highest (see Ganzeboom & Treiman, 1996).

students with and without migratory background stalling over summer, contrary to the findings reported from the analysis of the whole sample. Additionally, similar to the study by Stanat et al. (2005), Becker et al. (2008) only used data from two test dates, one before and one after summer. Thus, no comparison of summer and school learning patterns was made. The first test date lay between end of May and beginning of June and the second test date was in September, with the summer break running from beginning of July to mid-August. Becker et al. (2008) did not report if, or how, they accounted for the approximately four to six weeks of schooling that were included in the testing period.

To date, the most comprehensive study of the summer learning effect in Germany is the *SCHLAU* study (**Sch***ichtspezifisches **L***ernen **a***ußerhalb von **U***nterricht[9]) (Coelen & Siewert, 2008). The longitudinal study followed 750 secondary school students from fifth to seventh grade focussing on summer learning in relation to socio-economic background. However, the authors have only published predictive findings in which they indicated a negative summer learning effect in mathematics, with 60% of students dropping in their achievement levels over summer. Similar to the findings by Cooper et al. (1996), Coelen and Siewert (2008) found no relation between socio-economic status and the effect in mathematics. However, in literacy no particular effect seemed to be found for all students, or in correlation with socio-economic background. Students showed similar trajectories of achievement development through the school and summer holiday periods in literacy. Interestingly, Coelen and Siewert (2008) reported that on an individual level, students exhibited very different learning patterns, including drops and gains over summer, as well as in school periods. The authors, however, did not present any supporting data in the published book chapter; for instance the achievement measures they used, or the means and standard deviations of the conducted analysis. Further publication of results, including results from a full data analysis, have yet to be provided.

In summary, research in contexts outside of North America had varying results in regard to the extent and nature of the summer learning effect. The Swedish and one German study noted drops in mathematics over summer, which coincides with results from the North American research. In reading, the results were more varied. The Australian and New Zealand research revealed a

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[9] Translation of project name: Milieu specific learning outside of school

staircase pattern in achievement and, in the case of New Zealand, drops for students from rural and remote areas. In Germany, two studies reported no summer effects in reading while one study found a summer effect for students with migratory backgrounds, however only in comparison to students without migratory backgrounds, not in comparison to school learning. Only one study overall identified moderating effects of socio-economic backgrounds.

2.1.7 *Variability of the effect within socio-economic groups*

Studies on the summer learning effect in North American contexts have drawn attention to educational inequality. However, they generally reported on mean achievement levels of certain groups of students. Very little research has investigated the variability of the effect within groups of students; which students within these groups loose over summer and why. Slates et al. (2012) have been the first to draw attention back to the learning trajectories of the individual student. Using the data from the *Beginning School Study* (Alexander et al., 2004), the researchers determined that not all low-income students experienced summer learning losses. In a sub-sample of 281 low-income primary students, they identified 44 students who had exceeded the median summer gains in reading and mathematics of their high-income counterparts in at least three of the four summers examined. In their exploratory study, Slates et al. (2012) took twenty-four family variables from the interview and questionnaire data collected in the first year of the study in 1982 to determine sources of the variability. These included variables that looked especially at student activities and parenting practices in the summer, and variables that were more specific to what happened over the school year. Only few of the variables reached statistical significance[10].

A variability of the effect was also indicated in the predictive findings published by Coelen and Siewert (2008), however, as noted before, they have not published any further results.

In conlusion, more in-depth research is needed to examine the variability of the summer learning effect across a student population, and identify more closely what factors contribute to differences in summer learning.

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[10] See the section on 'other family variables' later in this chapter for a summary of their results

2.1.8   Summary

In summary, the so called summer learning effect has been identified in the Unites States as a substantial barrier for schools to provide for educational equality. Research in the United States has shown that students from low-income families dropped or stalled in their achievement over summer when school is not in session, while their more advantaged peers continue to gain. These summer losses accumulated and widened the achievement gap between low and high-income students over the years. However, a number of studies on the summer learning effect have been criticized on a methodological and conceptual basis, especially in regard to test dates and the actual summer period examined.

Studies in the United States have mostly focused on mathematical skills or reading comprehension. While all students seemed to loose mathematical skills over summer, in reading achievement over summer was highly correlated to students' socio-economic backgrounds. Little research on summer learning has investigated writing. It has been an almost neglected field of inquiry when it comes to summer learning.

Proposals have been made in the United States to counter the summer learning effect through modifying school calendars. However, research in the field showed only minor benefits of modified school calendars, and the evidence is rather poor. Furthermore, the more dispersed holidays could disperse the effects of the time of non-schooling, instead of counteracting the growing achievement disparities between low and high-income students. Research on the summer learning effect in countries where shorter summer holidays are a reality could yield important findings in this regard.

Research in contexts outside of the United States also provided evidence for an overall negative effect of summer. In mathematics, drops over summer were noted, which coincided with results from the North American research. In reading, the research had varying results. The Australian and New Zealand research revealed a staircase pattern in achievement, and in the case of New Zealand, drops for students from rural and remote areas. In Germany, two studies reported no summer effects in reading, while one study found a summer effect for students with migratory backgrounds, however, only in comparison to students without migratory backgrounds, not in

comparison to school learning. Only one study identified moderating effects of socio-economic backgrounds.

2.2 Sources of differential learning over summer

As shown in the previous section, there is a considerable body of research on the extent and nature of the summer learning effect in North America. It seems well established that there are differences between learning during school time and learning over summer, especially in reading. However, it seems less clear what lies behind these differences in summer learning, as the research literature has identified few factors that contribute to summer learning in or outside of school (Slates et al., 2012). A main factor impacting on summer learning is seen in students' socio-economic background, but again the mechanisms through which the socio-economic background influences children's learning in general (Myrberg & Rosén, 2009), or over summer, are not well specified (Burkam et al., 2004).

There are a number of theories about the causes of summer learning differences related to parental economic resources, parental psychological resources, and parental practices or specific summer activities. These theories often build on developmental learning theories, and are based on educational attainment and status research, sociological or educational research and evaluations of summer school programmes (see Borman, Benson, & Overman, 2005). The most prominent theory in the research literature seems to be the 'faucet theory' proposed by Entwisle, Alexander, and Olson (2001). They argued that when school is in session, the resource faucet is turned on for all students, and all students gain equally. When school is not in session, the school resource faucet is turned off. Differential attainment of students from low and high-income families, then, results from the different degree of resources evident in their homes over summer. Low-income families are unable to compensate for the resources the school is at other times providing; thus, their children loose or stall in their academic development over summer. In contrast, high-income families can provide these resources to a considerable extent, and their children continue to gain, though at a slower pace than over the school year. According to Entwisle et al. (2001), high-income parents have more of the financial and psychological resources required to support their children; they can allocate more time and money to learning activities for their children.

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However, Slates et al. (2012) pointed out that not all low-income students loose ground academically over summer. Coelen and Siewert (2008) also indicated variability in learning trajectories of children from different socio-economic backgrounds. Therefore, it seems differential attainment over summer cannot be fully explained by socio-economic background and the possible lack of resources in low-income families.

In the wake of the Coleman report, White (1982) reviewed more than 200 studies which concerned socio-economic status and academic achievement and their use of socio-economic variables. He concluded that some of the measures that were used as indicators of SES, or that researchers considered a SES measure, were much more strongly related to academic achievement than were traditional indicators of SES. White (1982) stated that "e*ven though family background does have a strong relationship with achievement, it may be how parents rear their children (i.e., do they read to their children, take them to the library, encourage them in school, or help them with their homework), and not the parents' occupation, income, or education that really makes the difference"* (p. 471, emphasis in original). This might mean that research needs to focus more on literacy practices existent in the immediate environments of the child than on group labels such as socio-economic background.

The present research draws on a model of literacy development based on socio-cultural and ecological concepts (Bronfenbrenner, 1979, 1986; Bronfenbrenner & Crouter, 1983; Bronfenbrenner & Morris, 1998; McNaughton, 1995). A socio-cultural and ecological framework suggests that the socio-economic background per se might not be as influential as maybe other factors within the family. So-called 'social address variables', such as socio-economic background, single parenthood and poverty, are often used in educational research to compare contrasting groups of students (Bronfenbrenner, 1979). However, social address variables are laden with social values that mark children from these backgrounds as coming from dysfunctional family environments and disadvantaged school settings, which are unable to provide resources and learning opportunities to their children (Vernon-Feagans, Head-Reeves, & Kainz, 1998). They do not describe the practices occurring in these environments that influence children's literacy development above and beyond social address characteristics of the child (Ackerman, Brown, & Izard, 2004).

In a socio-cultural and ecological framework, literacy development is regarded as a process which is co-constructed by the learner and a guiding person through activities which comprise valued socialisation practices. These practices take place in classrooms and homes, which are seen as major settings of socialisation for young children, and as such play a pivotal role in literacy development. Bronfenbrenner's *Ecological System's Theory* (1989) provides a framework which situates the students' individual development in the context in which it occurs. The student develops not in isolation, but through relationships within the family, neighbourhood, community, and society. The different 'layers' of influence on an individual, which Bronfenbrenner defines as 'systems', can be described as a series of concentric circles of environmental influences radiating out from the individual child *"like a set of Russian dolls"* (Bronfenbrenner, 1979, p. 22). The innermost system, with the most proximal sphere of influence, is the *microsystem*. Here the child has the most immediate experiences and interacts daily with others. One of these *microsystem*s is the home, another the classroom and school, and later the students' peers become another *microsystem*. The next layer or sytem is the *mesosystem,* which encompasses the relationship between the different *microsystems* in which the child participates: e.g. home, neighbourhood and school. The next layer encompasses a layer of *exosystems* in which the child is not directly involved, but which, as Bronfenbrenner argues, are very influential. These include e.g. the parent's workplace, local government and media. The outermost system, the *macrosystem* is the *"overarching patterns of ideaology and organisation of the social institutions common to a particular culture or subculture"* (Bronfenbrenner, 1979, p. 8), i.e. the wider political and policy environment which has an indirect but strong influence on the child and its more immediate environments.

The ecological model emphasizes the interconnectedness between different systems of a child's development. Literacy development is influenced by practices in these *microsystems*, home and school, but also by the relationships between these two immediate environments of the child (*mesosystem*), which in turn are influenced by the *exo-* and *macrosystem*. An ecological framework thus emphasizes the importance of these different environments of the child and does not situate the acquisition of literacy exclusively within one of these settings (Kainz & Vernon-Feagans, 2007).

Bronfenbrenner suggests that development can be defined as *"the person's evolving conception of the ecological environment and his realtion to it, as well as the person's growing capacity to discover, sustain or alter its properties"* (Bronfenbrenner, 1979, p. 9). The child is thus an active participant in these environments, and the child's learning is influenced by its interactions with others in and within these environments. The emphasis is less on traditional psychological processes and more on the ways in which a person's interactions with his or her environment, and the content of that environment upon learning processes. Similarly, Rogoff (2003) sees cognitive development not merely as the acquisition of knowledge and skills, but states that *"cognitive development consists of individuals changing their ways of understanding, perceiving, noticing, thinking, remembering, classifying, reflecting, problem setting and solving, planning and so on – in shared endeavors with other people building on the cultural practices and traditions of communities"* (p. 237). She suggests that learning is a process of guided participation, which includes many ways in which children learn as they participate in different activities with family, friends and teachers (Rogoff, 1990). These practices can be intended to be instructional, or can be simply incidental. Participation is not always active but can be passive, and thus children learn though observation of and interaction with others. Consequently, and as emphasized in an ecological framework, learning is dependent on context, and reflects what is valued and practised in particular social contexts, such as the family and school context.

This socio-cultural and ecological understanding of learning and therefore literacy learning underpins this research. Hence, the summer learning effect is seen as being influenced by home literacy practices (of the student and others independently, as well as in shared activities), literacy practices at school, and the relationship between home and school literacy practices. Families as well as schools might provide different literacy activities, which might include differential exposure and access to literacy materials over the summer. Analyses of learning patterns over the school year and summer provide a means of extending our understanding of these ecological connections, but also our understanding of how variability in the social and cultural practices in families and school contribute to sustained learning. Thus, in the following sections research on activities and practices at home and school are reviewed that have been shown to be influential on children's literacy learning, especially in regard to summer learning.

2.2.1 Family literacy practices influencing summer learning

Research on family literacy practices and home literacy environments has mostly focussed on students in pre-school or kindergarten, or has not examined achievement over summer in relation to explicit family practices (see for example Downey et al., 2004; Fitzpatrick, Grissmer, & Hastedt, 2011; Mol & Bus, 2011; Neumann, Hood, Ford, & Neumann, 2012; Paris & McNaughton, 2010; Pinto, Bigozzi, Gamannossi, & Vezzani, 2012; Protopapas, Sideridis, Mouzaki, & Simos, 2011; Sastry, 2010; Skibbe et al., 2012; Son & Morrison, 2010; Waldfogel, 2012). Research has often focussed on either of the *microsystem*s the child participates in, especially on the home environment before the child enters school, and often missed to examine its relationships between different systems or the mutually influence of systems. However, some research on family practices which support students' literacy learning before and throughout periods of schooling has indicated that variations in family literacy practices might include dissimilarities in access to literacy resources, variations in the forms and frequencies of engagement in literacy practices, and differences in expectations of parents and in students' motivation to engage in literacy activities (Anderson, Wilson, & Fielding, 1988; Burgess, Hecht, & Lonigan, 2002; de Jong & Leseman, 2001; Morrow & Temlock Fields, 2007).

Access to books

During the summer vacation, one of the *microsystems* in which primary students participate in literacy activities – the school - is not available to students, thus during this time students rely heavily on the other *microsystem* - their parents and families - to provide for opportunities to participate in literacy activities. A basic need to be able to engage in literacy activities is the access to literacy materials. Hence, the number of books at home is often seen as an important indicator of access to literacy resources provided to children. It is a variable well known to be associated with student achievement and a correlation between the number of books at home and school achievement is a common finding (Elley, 1992; OECD, 2010a, 2011). Research also indicated that low-income parents often lack the financial resources to buy a sufficient number of books that are appropriately challenging and interesting for their children (Chin & Phillips, 2004; Neuman & Celano, 2001). Not only that, but on another system level it appears that wealthier communities have up to three businesses selling children's books for every one such business

that existed in poorer communities (Neuman & Celano, 2001). Inequity was reported in the amount of resources, the variety and quality of these resources, and the amount and quality of literacy materials in public schools and public libraries in low-income communities compared to higher-income communities. Thus, it seems children growing up in low-income families have limited access to books both within their homes and their communities. These findings are worrying, as access to reading material has been consistently identified as a vital element in enhancing the reading development of children (Purcell-Gates, 1996; Snow, Burns, & Griffin, 1998).

Myrberg and Rosén (2009) argued that the value placed on literacy in a family might at least partly be explained by the number of books at home. The mere availability of print and frequent exposure to texts of different kinds may have benefits for students' literacy development, and may promote the development of specific skills and knowledge that enables more efficient subsequent reading (Myrberg & Rosén, 2009). In their meta-analysis of 99 studies concerning print exposure, Mol and Bus (2011) found that print exposure was moderately related to oral language skills and reading comprehension. In primary school, the level of print exposure explained 13% variance in oral language, and explained significantly more variance in the basic reading skills of school children with lower reading abilities (15%), in contrast to their peers with age-appropriate reading abilities (4%) (Mol & Bus, 2011). Furthermore, environments that are rich in literacy materials also offer more opportunities for joint literacy activities of parents and children (Paris & Cunningham, 1996).

However, the mere access to or availability of books may not be sufficient to inspire children to read and achieve reading gains. Allington et al. (2010) provided 852 low-income primary students with a supply of tradebooks, which were matched to interest and reading levels of the students, on the final day of school over a period of three years. A group of 478 randomly selected students from the same schools served as a control group. They found a statistically significant effect, but with only a small effect size (d = .14). Slightly larger effects were found when comparing the poorest students in the two samples (d = .21). Similarly, a review of experimental studies by the National Reading Panel (2000) showed that access alone would be expected to have no positive effect or, at best, a very small positive effect on reading

achievement. Thus, access to reading materials is a necessity for reading, but other factors seem to be at play.

Library use

Besides owning books, there are different ways for families, low and high-income, to access literacy resources. A few studies have shown that access to literacy resources through the use of the library was associated to summer learning gains of students (Entwisle et al., 1997; Heyns, 1978; Slates et al., 2012). Slates et al. (2012) found that visiting the library and checking out books were the only two functional family variables to be significantly associated with students gaining over summer. Heyns (1978) found that the actual number of books read over summer was associated with access to books, measured in the distance from the child's home to the nearest library. Alexander et al. (2004), Burkam et al. (2004) and Lee and Burkam (2002) reported that higher-income students visited the library more often than low-income students. Interestingly, Burkam et al. (2004) analysis yielded a statistical significant relationship between library visits and achievement gains over summer for student from very low or very high-income families, but not for middle-income students.

It is questionable if library use alone is impacting on student achievement, or if library use points to a general greater involvement of parents in children's literary experiences. In Slates et al. (2012) study, parents who visited the library and checked out books for their children were also more likely to read to their children for longer periods of time, check their children's homework, and have higher academic expectations for their children.

Neuman and Celano (2006) found striking differences in the library use of different groups of students. They evaluated a five-year project project in Philadelphia, in which in 1996 the city began to transform 32 low-income neighbourhood libraries into technologically modern libraries. The project was motivated by the idea of 'levelling the playing field' of low and high-income children through equalizing the access to literacy resources. Neuman and Celano (2006) questioned whether providing equal resources to children of differential socio-economic circumstances could truly equalize opportunity and observed changes in library use by low and middle-income children.

They found equally high attendance of children in libraries in low and middle-income neighbourhoods, but the quality of time spent in the libraries varied substantially. For example, low-income pre-school children were rarely accompanied by an adult, hence having little guidance and support when choosing materials, and the children often ended up wandering around rather than looking at materials. In contrast, pre-school children from middle-income neighbourhoods always entered with an adult, who would then give directions and engage in activities with the child. School children from low-income neighbourhoods often chose to read below-age-level materials when in the library (42% of the time), compared to middle-income student for whom no below-age-level reading was recorded. Middle-income students largely read at age level (93%), with a small percentage of students reading more challenging materials above age level (7%). These quality differences appeared at all age levels prior to, immediately after, and stronger still following technology renovations. The gap between the actual time spent reading between low and middle-income children apparent before the renovations, even grew after renovations as low-income students turned to spend more time on computers with non-literacy related tasks. The results indicate that it is not only equitable access, but guidance and support that children need to engage in meaningful literacy experiences. Neuman and Celano (2006) contrasted middle and low-income neighbourhood libraries. It seemed while effective practices were more prevalent in middle-income neighbourhood libraries, they were also existent in low-income neighbourhood libraries.

Guidance and support

As the research by Neuman and Celano (2006) showed, children may not pick up and read books if they lack guidance choosing appropriate books for their reading or age level. When left to their own devices, they might choose other activities than reading, or choose books that are too easy or too difficult for them (Carver & Leibert, 1995; Myrberg & Rosén, 2009; Neuman & Celano, 2006). Experimental research suggests that controlling the difficulty of text improves both oral reading fluency and reading comprehension (Shany & Biemiller, 1995). Carver and Leibert (1995) found that students in a summer reading program who engaged in reading relatively easy library books for 6 weeks showed no significant gains in their reading level, vocabulary, rate, or efficiency. The authors argued that students need to read books that are measured to be at, or

above, their reading level to achieve gains in general reading ability. However, readers need background knowledge and vocabulary knowledge that covers at least 95% of the words in a given text to understand its content, and to be able guess unfamiliar words from context. Therefore, while students do not improve by reading too easy materials, there could also be negative consequences associated with students reading materials above their reading level (Carver & Leibert, 1995). It seems guidance and support in choosing appropriate reading materials are key variables for effective reading practice.

Frequency of literacy practices

Again, providing children with books and literacy tools is a necessary basis for reading, but seems not to be sufficient for improving literacy achievement (Carver & Leibert, 1995; Kim & White, 2008; Myrberg & Rosén, 2009). Myrberg and Rosén (2009) concluded in their Swedish study on the PIRLS 2001 data that the total effect of books at home could be seen as unexplained to a large extent, as long as no indicators of reading activities with children were added to the model. They found that the estimated amount of direct influence of the number of books at home on achievement might have reflected the parents' own reading interest, and the value parents placed on reading or on the world of print, but that the frequency of reading activities was the factor that actually affected reading achievement. In their study, early reading activities with children mediated a great part of the influence of books. Again the frequency and nature of these reading practices may vary between families. Paris and Cunningham (1996) pointed out some pre-school children may have as many as 1,000 hours of shared reading with parents, while others may begin kindergarten without much experience of shared or guided reading at all.

Slates et al. (2012) confirmed the importance of shared reading practices for summer learning. In their study low-income students who had gained over consecutive summers in their reading achievement were more likely to have parents who read to them for longer periods of time.

Myrberg and Rosén (2009) see shared reading practices as not necessarily related to teaching print per se. They pointed out that through shared book reading children might learn to pay attention to features of the text, they might be asked to predict events in stories and encouraged to ask questions about form and content. In doing so, a set of values, attitudes, expectations, and information can be transmitted. This in turn, makes children perceive themselves as readers and

writers long before they can actually read and write (Paris & Cunningham, 1996; Snow et al., 1998).

Obviously, not only shared reading practices but the reading frequency of students themselves is strongly related to literacy development. Research suggests that time actually spent reading is the best predictor of reading comprehension and achievement – the more students read, the better readers they become (Anderson et al., 1988; Heyns, 1978; Hofferth & Sandberg, 2001; National Reading Panel, 2000; Shany & Biemiller, 1995).

Heyns (1978) confirmed this for the summer learning effect: the most influential activity related to achievement over the summer was reading. She calculated that every additional hour spent reading a day or every four books completed over the summer were worth an extra month of achievement on the standardised test. Heyns reported: *"The single summer activity that is most strongly and consistently related to summer learning is reading"* (p. 161). In a later study, Burkam et al. (2004) also confirmed that children who engage in reading, writing and other literacy related activities learn slightly more during summer; however, the relationship did not prove to be statistically significant.

Parental beliefs

As emphasized in an ecological framework, learning is dependent on context and reflects what is valued and practised in the particular social context. In the family, parental beliefs and habits influence what is valued and practised. It is thus often thought that children's reading habits and thus their frequency are influenced by parental habits and beliefs. Indeed, it was found that parental beliefs strongly influence children's motivations to read, their reading habits and their literacy development (L. Baker, Scher, & Mackler, 1997; Sonnenschein, Brody, & Munsterman, 1996). Parental beliefs seem to define the literacy environment. Baker, Scher and Mackler (1997) identified three themes in regard to children's home experiences: literacy as entertainment, literacy as a skill set and literacy as an intrinsic ingredient of everyday life. They proposed that chances were higher for children to become intrinsically motivated to read, where home experiences promoted the view that literacy is a source of entertainment (L. Baker et al., 1997). Their data showed that middle and high-income parents were more likely to emphasize the

entertainment value of reading, and their pre-school children more often used literacy as a source of entertainment (see also Clark & Akerman, 2006).

Similarly, Moschovaki (1999) argued that children from middle-income families are engaged in literacy activities in their everyday life in which they acquire literacy knowledge and skills. This gives them a sense of entitlement to literacy, which makes them perceive themselves as writers and readers long before they can actually write and read. On the other hand, children from low-income families do not take literacy as granted. They consider it as work, not play, and believe that it should be instructed in a formal way just as school activities, often taking away the enjoyment of literacy activities.

Research on summer learning has not specifically looked at the relationship of students' enjoyment or motivation of reading on summer learning. However, reading for pleasure could be an important way to help combat educational inequity, as research from the OECD (2002) showed that reading enjoyment is positively linked to reading attainment and writing ability and is more important for children's educational success than their family's socio-economic status (see also Clark & Rumbold, 2006).

Other family variables

A few summer effect studies examined other family variables and practices that occur within the environment of the child or have an impact on the child's immediate environment, but that are not directly related to literacy. Variables that were thought to have a possible impact on summer learning were for example: travels, watching TV, computer use, family stress, parental expectations and parental depression (Becker et al., 2008; Burkam et al., 2004; Slates et al., 2012).

Slates et al. (2012) attempted to identify resources and practices that supported summer learning in their research on exceptional summer learners (ESL). They identified ESL as low-income students, who showed exceptionally gains over summer in reading and mathematics and looked at different functional and structural variables of families' social capital. Structural variables related to characteristics of the family and included: mother's occupational status, two-parent versus single-parent-household, number of siblings and mother not a teenager at birth of her first child. Functional variables related to parental practices, attitudes and behaviours. Nineteen

functional variables were included in their study: e.g. library visits over summer, shared reading practices, summer activities, kindergarten attendance, parental expectations, family stress and parental depression. Their analysis found no statistical significant differences in structural variables between ESL and other low-income students. Functional variables that were found to be statistically significant were: parents taking their children to the library during summer, parents checking out books while at the library and parents reading to their children for longer periods of time than other low-income parents. Unexpectedly, Slates et al. (2012) statistically found no advantages for ESLs in terms of total number of summer activities, parental academic expectations or parental assessment of students' relative ability compared to other students.

Myrberg and Rosén (2009) had earlier argued that there was a direct effect of parents' educational level that was neither explained by the home literacy environment, nor was it connected to literacy activities students engaged in at home. They hypothesized that the estimated direct effect of parents' educational level on students' reading achievement may be an indicator of parents' educational expectations and aspirations for their child. However, as noted above Slates et al. (2012), and similarly Borman et al. (2005), found no statistical significant relationship for parents' expectations on students' summer learning patterns.

Burkam et al. (2004) included summer trips, summer literacy activities, educational computer use, other computer use, required or suggested summer school and optional summer school in their analysis. They also found only little influence of these summer activities on summer learning in literacy. The small additional explanatory power of summer activities, actually resided solely in the measure of summer literacy activities. Thus, the other measures of summer activities were unrelated to literacy learning over summer.

Similarly, Becker et al. (2008) examined the influence of watching TV, computer use and travels on summer learning. They found a negative impact for computer use and watching TV, which however missed to gain statistical significance. A positive influence was travelling. Children who had travelled in their summer holidays gained about a tenth of a standard deviation (0.13 SD) more over summer than children who stayed at home.

The special case of writing

Little research on school children's summer learning and literacy learning at home has investigated writing. In fact, research on home literacy environments of school children in general has mostly focussed on reading. The existing research on students' writing practices at home has predominantly looked at the developmental processes of writing before children enter school. Once children enter school the research focus tends to shift to the instruction of writing, and the influence of the home environment seems to be disregarded by scholarly research. Thus, research on primary students' writing experiences at home, as one of the *microsystem*s of the child, is lacking, as well as research on the relationship of practices between the different *microsystems* (*mesosystem*) (see Mayer, 2007; Pinto et al., 2012). Summer effect studies would provide a means to examine these relationships, but they have not yet attended to this gap in the literature.

Existent research can give an indication of what might be the case of writing development over summer. For example, Cooper et al. (1996) pointed out that losses over summer were greater in domains involving memorization and procedural knowledge (mathematics and spelling) than in domains needing conceptual understanding (mathematics concepts and reading comprehension). Cooper et al. (1996) found that losses in spelling were even more pronounced than in mathematics. It could be speculated that writing involves more memorization and procedural knowledge as does spelling, which is more prone to be lost without practice. This may be more so for the early grades of schooling, where writing tests rather assess correct spelling and grammar, than in later grades where assessment involves other tasks, such as writing in particular genres. Therefore, students' development in writing could similarly be affected than development in mathematics. Cooper et al. (1996) argued that the home environment offers more opportunities for reading than for other subject related practices, for example solving mathematical problems. Research is lacking on the writing opportunities that the home environment offers, especially in summer. On the other hand, it has been proposed that reading and writing development are interrelated, therefore students' writing development could benefit from students' reading practices over summer (Entwisle & Alexander, 1992).

The little research which is available on writing at home has employed similar variables to the ones in research on home reading. These include the resources parents provide for their children, and the practices parents engage in with their children in order to create a rich and supportive home writing environment. In literacy rich environments, children are frequently read to, see others reading and writing, are provided with accessible reading and writing materials, and are encouraged to ask and answer questions (Saracho, 1997). A number of studies have linked language- and literacy-rich environments with better reading and print-level skills (Dickinson & McCabe, 2001; Evans, Shaw, & Bell, 2000; Whitehurst & Lonigan, 1998); however, DeBaryshe, Buell, and Binder (1996) pointed out that the mechanisms through which these environmental opportunities have an impact on achievement tend not to be specified, especially for writing outcomes.

One of the rare studies that examined the influence of home environment variables and included a measure of writing is from rural Tanzania. Ngorosho (2011) found that the home environment accounted for a rather large variance (31%) of the reading and writing ability of third grade students. The analysis revealed significant effects on separate reading measures (letter, word and sentence reading) of father's education, construction material for the house walls ,and the number of books at home, but not of parental involvement. However, in terms of children's ability to write, parental involvement was the only significant predictor (Ngorosho, 2011).

Studies looking at parental involvement in literacy activities, however, have focused mainly on joint storybook reading as a context that promotes literacy. Joint writing interactions have not received much empirical attention (DeBaryshe et al., 1996), and its seems far fewer parents engage pre-school children in these types of interactions (Wood, 2002). DeBaryshe et al. (1996) argue that equal time should be devoted to joint writing activities, e.g. when parents actively assist their children to write letters. While many parents engage in daily storybook reading with children, joint writing activities have been found to be more effective than storybook reading in facilitating the development of emergent literacy skills in young Israeli children (Aram & Biron, 2004).

Furthermore, explicit formal literacy teaching has also been found to be more relevant than story-book reading in children's literacy acquisition. Hood, Conlon, and Andrews (2008) found

that parental teaching of letters, words, and name writing was related to students' letter–word identification scores, single word reading and spelling rates, and phonological awareness (rhyme detection and phonological deletion) in grade one and two. Aram and Levin (2002) showed that when mothers engaged in joint writing activities with their kindergarten children and used scaffolding techniques (e.g., using word segmenting, retrieval of letter shapes and printing), there was a positive effect on the child's word writing, word recognition and phonological awareness. However, Neumann, Hood, and Neumann (2009) argued that parents should not become teachers, but should use everyday opportunities to engage their children in writing activities in a relaxed and meaningful way. Parents should provide enough help as necessary to achieve the task, keeping the child engaged and confident. Foremost, however, the child should enjoy the shared experience with the parent, and stay motivated to read and write.

The motivation to read or the enjoyment of reading is a crucial factor for reading breadth and recreational reading. Similar factors play a role in writing. Burns and Casbergue (1992) explored the effects of different levels of control by parents of pre-school children writing. They found that parents who exhibited a high level of control discussed mostly spelling and conventions of writing with their children. In contrast, parents who exhibited low levels of control tended to have children who showed a high level of initiation and verbal input. Their exchanges focussed on content and the enjoyment of the writing process. Writing is a way of interaction with others; it gives children a voice (Rowe, 2008). Hence, a supportive environment is one where others are interested in this voice and children feel empowered to write. It is for that reason that Mayer (2007) argues that children need authentic writing occasions at home (and at school).

2.2.2   Classroom literacy practices influencing summer learning

When school is in session, the classroom serves as another important *microsystem* of the child, where the child interacts with others in literacy activities. Heyns' (1978) study and other research on the summer learning effect have contributed to the notion of there being a general level of school effectiveness, i.e. there being a positive impact of schooling on students' learning (see Cooper et al., 1996). By comparing learning patterns over periods of school and summer as a period of non-schooling, these studies have shown that school is effective and adds to children's learning over the school year. However, research on summer learning has not thoroughly

addressed the question if teachers' school-year practices might be related to students' summer learning, and in what way these might influence summer learning. In other words, research is needed to look at the relationship of classroom practices on the practices at home, a focus on the *mesosystem* of children's literacy development.

Teacher effects on summer reading

Wilkinson and Silliman (2000) noted that the classroom provides a unique context for learning and has a profound effect on students' development of language and literacy skills, particularly in the early years. They argued that teachers might influence summer learning by equipping students with transferable and generalizable strategies and behaviours, which help students to continue learning over the summer.

In the case of reading over summer, Anderson, Wilson and Fielding (1988) have shown a substantial and close relationship between the time spent reading at home and the particular classroom the child came from. Students from the classroom that read the most at home averaged 16.5 minutes per day in one classroom to 4.1 minutes per day in another. Unfortunately, the research by Anderson et al. (1988) did not include any measure of teachers' practice. Thus, how teachers' practice in those classrooms differed could not be reported.

Phillips and Chin (2004) conducted a study linking family practices, children's academic skills, teachers' experience and instructional practices to summer learning. Their research used data from a sub-sample of 1,141 first graders from the '*Prospects'* study, which collected fall and spring data in achievement from a nationally representative sample of student in the United States in 1991. The study also collected parent and teacher survey data. Teacher data included information on teachers' certification level, years of teaching, their primary teaching approach (phonics, whole language or 'eclectic'), and how often they assigned projects, let students write reports, give oral presentations on their reading and publish their own writing. Phillips and Chin (2004) found that teachers play a role in encouraging learning over summer, however their evidence was only weak. Teachers who assigned projects that build on reading, writing and research skills through the school year seemed to have had a small but lasting effect on students' summer learning, independent of family background and parents' practices. Students whose teachers assigned more projects over the school year seemed to gain more over the summer. This

suggests that these teachers gave students better tools to integrate their academic knowledge and experiences into activities that are not completely academic. In this way, the teachers seemed to motivate students to engage in reading and writing activities outside of the school context, and thus continue in their learning over periods of non-schooling.

Also focusing on summer reading in particular, Kim (2006) looked at the effects of a voluntary reading intervention with 550 fourth grade students from high-poverty school. The students received eight books before summer and were encouraged by their teachers to practice oral reading at home with a family member and to use certain reading comprehension strategies. These strategies were taught in the last month before the summer holidays commenced. Students in the treatment group received not only books, but also postcards during summer encouraging them and prompting them on their reading activities. The study showed only a small but promising treatment effect with gains of .08 of a standard deviation on the fall test. The treatment effect was greater for disadvantaged students than for students who owned more than 100 books and scored above average on the pre-test. The effect appeared to be sufficient to not expand disparities between disadvantaged and advantaged students.

However, this first study by Kim (2006) did not establish a causal relationship between the positive effect and the preparations and support the students received from their teachers before summer. Hence, Kim and White (2008) carried out another study to prove the effect of teachers' practice with 400 students from Grade 3, 4 and 5. They isolated the effects by dividing students into four groups: (1) control (2) books only, (3) books and support from teachers in reading comprehension, and (4) books, support from teachers in reading comprehension and support from parents in oral reading. Kim and White (2008) found that students in the control group and the 'books only' group showed no differences in achievement. The highest gains were reported by students who had support from teachers as well as parents. The results from this group were also slightly higher than from students who only received support from their parents. The study showed that it is not only the access to books and materials that help children learn, but that they need support and guidance in their learning. Therefore, guidance by teachers and parents can help to positively influence summer learning.

Nevertheless, Kim and Guryan (2010) found that voluntary reading interventions coupled with some support from teachers and parents only benefited students who already had basic skills in fluency and decoding. The intervention did not improve reading achievement in struggling readers, readers in the early grades, and English language learners. They would have needed additional support to build up their basic reading skills before being able to benefit from reading on their own.

Further indications of possible practices that influence summer learning can be found in research looking at instructional practices and summer school programs. Effective practices here include: deliberately promoting appropriate and engaging books at a suitable level of difficulty, increasing the access to materials and resources, teaching strategies for reading comprehension, giving time for reading in class, modelling reading and in general creating a community of readers (Borman & Dowling, 2006; Guthrie, Schafer, Wang, & Afflerbach, 1995; Paris et al., 2004). Similar practices could be hypothesized in writing instruction to influence self-motivated writing over summer. However, as Phillips and Chin (2004) pointed out *"without empirical evidence, a number of hypotheses about the benefits of different teaching styles for summer gains are equally persuasive"* (p. 256).

Interestingly, in a study most recently published by Vale et al. (2013), Australian principals, teachers, numeracy and literacy leaders attributed the summer effect to school factors, such as teaching practices, assessment and transition. The participants described that in the last term of the school year extracurricular activities took over and teaching would be less 'rigorous'. Teachers focussed on writing end-of-the-year reports, and after reports were written little teaching took place. School libraries often recalled books during December, and thus students had no access to materials until the beginning of the following school year. Transition into the new classrooms after summer was also reported to take up to three weeks, in which little actual teaching took place.

Teacher effects on summer writing

As mentioned above, research on the summer learning effect in writing is lacking and there has been no study found to date examining the relationship of teachers' practices on students' summer writing and achievement outcomes after summer.

Phillips and Chin (2004) included data on children's writing activities in the classroom in their study on classroom effects on summer learning; however, the achievement data they collected only contained scores for reading comprehension and reading vocabulary (as well as mathematics concepts and computation). It could be hypothesized that similar literacy practices influence students' summer writing as the ones argued for by Wilkinson and Silliman (2000), and found by Phillips and Chin (2004) for reading.

Research by Dyson (2000, 2001) investigated the relationship between teacher practices and home writing practices on student writing. Observing the nature of children's social participation in writing events in primary classrooms, Dyson (2001) revealed the ways these events are impacted by race, gender and social class. Dyson (2001) argued that non-school literacy experiences of children from a low-income background often seem disconnected to the literacy practices of the classroom. Classroom literacy instruction often follows the notion of linear literacy teaching, and while more affluent parents are able to support their children to align with what is asked for in school, low-income parents often struggle to support their children in the same way.

Research on instructional resources and their influence on writing outcomes suggests that both the number of books and the range of text types as well as the provision of a writing centre in a classroom can contribute to students' literacy development (Coker, 2006). However, Coker (2006) further pointed out that there is little empirical evidence linking those classroom literacy factors to students' writing. He identified student background, students' literacy skills, their first-grade teacher, and the classroom literacy environment as factors that affected writing development, indicating that diverse influences may have a simultaneous and complex impact on writing development. Thus, even research linking different literacy resources and practices in the classroom to students' outcomes in writing over the school year seem to be missing.

2.2.3 Summary

In summary, even though the summer learning effect seems an established phenomenon in North America, the research literature has to date identified few factors that contribute to summer learning in or outside of school. Research has pointed to socio-economic background as a main

factor impacting on summer learning, but again the mechanisms through which socio-economic background influences students' learning during school or over summer are not well specified. Furthermore, it has been shown that variability exists in achievement patterns in groups of low and high-income students.

There are a number of theories about the causes of summer learning differences that are related to parental economic resources, parental psychological resources and parental practices or specific summer activities. The present research draws on a model of literacy development based on socio-cultural and ecological concepts. Based on this model, this research focusses on the literacy practices in the immediate environments of the child, home and school, as the micrposystems of development. Furthermore, it examines the relationship between practices in the home and school, the so called mesosystem. Families as well as schools might provide different literacy activities which might include differential exposure and access to literacy materials over the summer. These practices in the two environments of the child might also be interrelated or impact on each.

In regard to family literacy practices, research has indicated few factors that could influence the effect: access to books, library use, guidance and support, frequency of literacy practices, and reading enjoyment. Access to books is seen as an important factor for literacy development; here the number of books at home is often used as a proxy. However, there are different ways for families to access literacy resources. In summer learning effect studies, library use was positively associated with achievement gains over summer. Furthermore, research has also shown that access alone has little positive effect. Students need guidance and support in their reading and in choosing appropriate reading materials. Reading below the appropriate reading level has been shown to have no positive effect on reading comprehension, whereas reading well above the appropriate reading level can leave students not understanding the text and can have negative consequences for students' motivation. Summer learning effect research has also confirmed the importance of shared reading practices, as well as the strong relationship between students' reading frequency and summer gains. This is not surprising, as students who read more will naturally become better readers. However, little research on summer learning has investigated students' motivation or students' enjoyment of reading.

In regard to school or classroom literacy practices, little research has addressed the influence of teachers' practices on summer learning. Maybe it has been thought that summer as a period of non-schooling is not affected by classroom practices. However, a few studies had weak evidence that teachers play a role in encouraging learning over summer. It was thus argued that teachers might influence summer learning by equipping their students with transferable and generalizable skills, which help students to continue learning over summer. In reading, students who received books and support from teachers before summer made greater gains over summer. Students who additionally received support from their parents made even greater gains.

Finally, in regard to writing, research is lacking on summer learning, and on home and school literacy practices that influence summer learning in writing. Research in general is lacking on how environmental opportunities and mechanisms impact on writing achievement. However, studies on early literacy have linked language- and literacy-rich environments with better reading and print level skills. It could be thus argued that similar factors have an impact on writing development over summer as for reading. However, joint writing activities have been found to be even more effective than storybook reading in facilitating emergent literacy skills. There might be different or additional mechanisms at play for the development of writing than for reading.

2.3   Summary and resulting research questions

In summary, the so called summer learning effect has been identified in the Unites States as a substantial barrier for schools to provide for educational equality. The effect is known as a drop or stall in achievement over the summer break in schools which serve poor or 'minority' communities. Research in the United States has shown that students from low-income families dropped or stalled in their achievement over summer when school is not in session, while their more advantaged peers continued to gain. These summer losses accumulated and widened the achievement gap between low and high-income students over the years. However, a number of studies on the summer learning effect have been criticized on a methodological and conceptual basis, especially in regard to test dates and the actual summer period examined.

Studies in the United States have mostly focused on mathematical skills or reading comprehension. While all students seemed to loose mathematical skills over summer, in reading

student achievement over summer was highly correlated to students' socio-economic background. Little research on summer learning has investigated writing. It has been an almost neglected field of inquiry when it comes to summer learning.

Proposals have been made in the United States to counter the summer learning effect through modifying school calendars. However, research in the field showed only minor benefits of modified school calendars, and the evidence is rather poor. Furthermore, the more dispersed holidays could act to disperse the effects of the time of non-schooling, instead of counteracting the growing achievement disparities between low and high-income students. Research on the summer learning effect in countries where shorter summer holidays are a reality could yield important findings in this regard.

Research in contexts outside of the United States also provided evidence for an overall negative effect of summer. In mathematics, drops over summer were noted, which coincided with results from the North American research. In reading, the research had varying results. The Australian and New Zealand research revealed a staircase pattern in achievement, and in the case of New Zealand drops for students from rural and remote areas. In Germany, two studies reported no summer effects in reading, while one study found a summer effect for students with migratory backgrounds, in comparison to students without migratory backgrounds, not in comparison to school learning. Only one study identified moderating effects of socio-economic backgrounds.

The varying results of research in contexts outside of the United States underscore the need for further research on the summer learning effect. Research in different education systems, communities and countries is needed, given the different nature of the societies, education systems and school calendars. Additionally, the methodological and conceptual issues identified in previous research emphasize the need to design studies that depict a more accurate picture of summer learning. Finally, to provide a fuller picture of students' literacy development over summer, studies need to examine reading comprehension and writing achievement.

As a result, based on the theoretical considerations and previous research described above, the present study's first research question was as follows:

1. What is the extent and nature of the summer learning effect in literacy, both reading comprehension and writing, in the communities of two primary schools situated in low and high socio-economic status communities in Germany?

Furthermore, the present study intended to not only examine the summer effect in regard to socio-economic background variables, but to also examine a possible variability of the summer effect within socio-economic groups. By looking at the individual student's achievement trajectory and family and school practices, the study aims to identify more closely what factors contribute to differences in summer learning. The existing research literature has identified few factors that contribute to summer learning in or outside of school. Research has pointed to socio-economic background as a main factor impacting on summer learning, but again the mechanisms through which socio-economic background influences students' learning during school or over summer are not well specified. Furthermore, it has been shown that variability exists in achievement patterns in groups of low and high-income students.

There are a number of theories about the causes of summer learning differences related to parental economic resources, parental psychological resources and parental practices or specific summer activities. In the present study, it is hypothesized that summer learning differences of individual students are not merely associated with socio-economic status and the family resources that are attributed with that status, but that they are more attributable to accessing resources and engagement in literacy practices at home and at school. The present research draws on a model of literacy development based on socio-cultural and ecological concepts. Based on this framework, the summer learning effect is thought to be influenced by home literacy practices, literacy practices at school, and the relationship between home and school literacy practices.

Families and schools might provide different literacy activities which might include differential exposure and access to literacy and materials over the summer. The review of the literature has shown that there may be diverse influences that could have a simultaneous and complex influence on summer learning in literacy. In regard to family literacy practices, research has indicated a few factors that could influence the effect: access to books, library use, guidance and support, frequency of literacy practices, reading enjoyment and shared reading practices. Little

research has addressed the influence of classroom literacy practices on summer learning. Maybe it has been thought that summer as a period of non-schooling is not affected by classroom practices. However, a few studies have had weak evidence that teachers play a role in encouraging learning over summer. It was thus argued that teachers might influence summer learning by equipping their students with transferable and generalizable skills, which help students to continue learning over summer.

Finally, in regard to writing, research is lacking on summer learning, and on the home and school literacy practices that influence summer learning in writing. Research in general is lacking on how environmental opportunities and mechanisms impact on writing achievement. It could be argued that similar factors have an impact on writing development over summer as on reading. However, joint writing activities have been found to be more effective than storybook reading in facilitating emergent literacy skills. There might be different or additional mechanisms at play for the development of writing than for reading.

In conclusion, the present study intends to further examine the mechanisms which impact on summer learning in both reading and writing. It thus addressed a second research question:

2. What kind of practices can be identified in the students' homes and classrooms, which can be associated with continued learning and development in literacy, both reading comprehension and writing, over summer?

3 Chapter Three: Research Methodology and Methods

Based on the research questions outlined in the previous chapter, there were two aims to this descriptive study. The first aim was to investigate the extent and nature of the summer learning effect in both reading comprehension and writing in two German primary schools. Thus, the achievement of students in second grade classrooms at two primary schools was tracked over the course of six months. The second aim of the study was to identify literacy practices at home and at school that might be associated with continued summer learning in literacy. Therefore, quantitative and qualitative measures were employed to examine literacy practices of teachers, parents and students in or in regard to the summer break.

This chapter outlines the study design and describes the procedures utilized in the data collection and data analysis. While describing the methods utilized, methodological decisions and considerations are explained. Furthermore, the pitfalls encountered in the research process are described, and the various decisions made at particular junctures are justified.

3.1 Design

The present study employed a short-term longitudinal design to examine the literacy development, in both reading comprehension and writing, of second grade students over a time period of six months. Repeated quantitative measures of student achievement at four time points provided information on the extent and nature of the SLE. The study further employed a mixed methods design, incorporating both quantitative and qualitative elements (Johnson & Onwuegbuzie, 2004). The achievement measures, presenting the quantitative core of the study, were complimented by additional quantitative and qualitative measures. These additional measures were employed to attain a richer and 'thicker' description of the summer learning effect and possible influencing factors (Creswell & Plano Clark, 2011). The study used the following measures: standardised achievement tests in reading comprehension and writing, parents' questionnaires, student literacy logs, classroom environment observations, teacher logbooks, and retrospective semi-structured interviews with teachers, students and parents.

To address measurement issues apparent in previous summer learning research[11], and to build the most accurate model of summer learning, achievement measures in the present study were collected at four time points (T1-T4), with data at T2 and T3 collected as close to the summer holidays as possible and T1 and T4 set earlier and later in the year, without including further holiday times into the measured time periods. The design thus differentiated clearly between summer learning and school learning

Achievement data were hence collected just after the Easter holidays ended (first week of May), at the end of second grade - one week before the summer holidays commenced (fourth week of June), in the second week after the summer holidays ended (at the beginning of third grade – third week of August) and just before the autumn holidays commenced (last week of September)[12]. The study design thus provided students' achievement trajectories in reading comprehension and writing achievement over periods when school was in session (approximately eight weeks in second grade and seven weeks in third grade) as well as over the summer holidays (six weeks). The data collection took place from May 2011 to October 2011. Note: T1-T4 = Time points of achievement tests in reading comprehension and writing

Figure 3.1 gives a timeline of the data collection.

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[11] See Chapter 2.1.4 Measurement issues in research on summer learning

[12] The summer break in Germany generally comprises a six week block over the months of July and August.

Measures			**T1**								**T2**								**T3**							**T4**		
							Teacher logs (1 week)					Literacy logbooks students (2 weeks)								Interviews - students, - parents, - teachers							
Holiday breaks		Easter break										Summer													Autumn break		
Week	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43
Month	April			May				June				July				August				September					October				
Grade	Grade 2											Summer							Grade 3										

Note: T1-T4 = Time points of achievement tests in reading comprehension and writing

Figure 3.1. Study design and timeline

As indicated in Chapter Two, research in the United States has shown a correlation between students' socio-economic status and their learning over summer (Alexander et al., 2007a; Entwisle & Alexander, 1992, 1995; Heyns, 1978), but only one study in a European context identified moderating effects of socio-economic background (Becker et al., 2008). The present study kept socio-economic background as a possible factor to examine, and hence schools were deliberately sampled from communities with a prevalence of students from high or low SES communities. The SES of the communities was identified on the basis of statistical district data using unemployment rates. Besides using the SES of the communities as a proxy for analysis, parents' questionnaires were used to provide additional information regarding parents' educational and occupational status.

The parents' questionnaires not only contained items asking for parents' education and occupation. Further items included questions for demographic information ('number of siblings', 'language spoken at home', etc.) and literacy resources at home ('the number of books at home', 'the number of children's books at home'). The data provided a comprehensive picture of students' background characteristics.

Summer reading and writing practices of students were monitored by a literacy logbook over the first two weeks of the summer holidays. Students had to fill in eight items asking them if they had read or written anything that day, what, how long and with whom. The logbook data unpacked literacy practices of students on a daily basis, and thus provided insights on what students actual literacy habits were in the first two weeks of summer. Student and parent interviews captured a more in-depth picture of home literacy practices (Merriam, 1988; Stake, 1988, 2000). Sixteen students and their parents participated in retrospective, semi-structured interviews; eight from each school. School and classroom literacy practices were examined through classroom environment observations, teacher logs and teacher interviews. These measures assessed students' access to literacy materials in the classroom over school periods and summer, the amount and foci of literacy teaching in the classrooms, preparatory practices in regard to summer, and available guidance for students and parentsfor summer literacy practices.

3.2 Participants

Second grade classrooms from two primary schools situated in a medium sized city in Germany (approximately 250,000 inhabitants) participated in the study. Schools and classrooms were initially recruited through interested principals and classroom teachers. Schools were deliberately selected for their SES characteristics, being located in either high or low socio-economic status communities

Summer learning research has been undertaken with students in primary grade classrooms as well as high school classrooms. However, Entwisle and Alexander (1992) noted that studying children early in their educational careers was fundamental as children are "maximally sensitive to home and school influences" and "cognitive growth rates are higher in the first few grades than they are later on" (Entwisle & Alexander, 1992, p. 72). Following their argument, primary school students were selected as participants for this research. A focus on reading comprehension and writing achievement was sought because literacy skills are the primary focus of instruction during the first two years of elementary school (Benson & Borman, 2010). Second grade students were selected, as students at this stage have already mastered the basic skills of reading and writing.

All second grade students in the two schools and their parents were asked to participate or consent to take part in the achievement tests and to fill out the literacy logbooks. Furthermore, they were asked to signal their availability to take part in additional measures (interviews and literacy logbook). Across schools, a total of 82 students initially participated in the study. Four students moved away or changed schools in the summer break. Two students at school A and six students at school B did not achieve the grade and were thus placed in different classrooms after summer. In co-operation with the schools, these students were still able to sit the third and fourth test after summer with their former classrooms. Therefore, the resulting sample of participants included 78 students, 43 students from School A (situated in a high SES community) and 35 students from School B (situated in a low SES community).

School A was situated in a more 'advantaged' community with a low unemployment rate of 6.1%[13] and only 10.2% residents with an ethnic background other than German[14]. The school catered for approximately 270 students from year 1 – 4, with two classrooms per year level. Both second grade classrooms participated in the research with a total of 44 students aged between 7 and 9 years old. There were slightly less males (47.7%) than females. 95.5 % of students reported speaking German at home and 4.5 % indicated to have a bilingual household, with German and Turkish, or German and Dutch, being spoken.

School B was situated in an urban, high poverty neighbourhood. The school's community had an unemployment rate of 14.1%[15] in 2010 and 27.3 % residents with an ethnic background other than German, predominantly Turkish and Polish[16]. In comparison, Germany's average unemployment rate in 2010 was about 7.1%. The school catered for approximately 100 students from year 1 to 4, with mixed-grade classrooms for year 1 and 2. All four year 1 and 2 classrooms participated in the research. However, only students that were identified as year 2 students by their teachers were invited to participate in the study. A total of 35 students aged between 7 and 9 years old from the four classrooms took part in the research. There were less male students (40%) than females. In contrast to School A, the student population at School B displayed a greater variety of language backgrounds. Only 42.9 % reported speaking German at home and 25.7 % indicated they spoke Turkish at home. Other languages spoken at home were Polish (11.4 %), Arabic (8.6 %), and English (5.7 %). The information was missing for 2.9 % of students at School B.

Across the two schools, 46 students and parents (26 at School A and 20 at School B) consented to take part in student and parent interviews. From these parents and students, sixteen families were selected for in-depth interviewing, eight students from each school, to sample a range of summer learning profiles in both reading and writing. Summer learning profiles were distinguished on the basis of students' summer gain scores (gain: gains > 1 percentile rank (PR); stall: changes of ± one PR, drop: drops > 1 PR). The interview guides addressed questions

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[13] In per cent of all 15-64 year olds
[14] Information was taken from publicly available statistical district data.
[15] In per cent of all 15-64 year olds
[16] Information was taken from publicly available statistical district data.

regarding students' and parents' literacy practices, shared literacy practices, access to reading materials, reading materials read over summer, and parental guidance and support.

German language teachers were asked to consent for their classroom to take part in the research, to participate in retrospective interviews after summer themselves and to fill out a teaching log over the course of one school week. There were six classrooms in total; however, one teacher at School B served as a German language teacher in two of the classrooms. Thus, five teachers from six classrooms took part in the research.

At School A, both classroom teachers in their roles as German language teachers participated in the research. One of the teachers was a beginning teacher, whereas the other teacher had more than 20 years of experience. Both teachers were female. The classrooms remained with the same teachers after the summer.

At School B, two of the three teachers that participated in the research at this school were beginning teachers. The third teacher was a more experienced teacher with more than five years teaching experience. All three teachers were female. Students in this school changed classroom teachers after summer; however, this did not affect the research project. German language teachers, who had taught the students before summer, were interviewed and the interviews were aimed at examining teachers' literacy practices in the classrooms before summer.

3.3 Measures

Measures included standardised achievement tests in reading comprehension and writing, parents' questionnaires, literacy logbooks, classroom environment observations, teacher logs, and retrospective semi-structured interviews with teachers, students and parents.

3.3.1 Achievement tests

Measures of students' literacy achievement were collected, with two different standardised achievement tests administered for reading comprehension and writing at four time points. The specific tests were chosen for the following reasons: (a) tests had to be administered in a group setting, (b) needed to exhibit a high internal consistency and validity, because tests were taken by the students repeatedly within a six months' time frame, and (c) achievement tests needed to be

consistent with the usual testing the participating schools conducted. Hence, tests were chosen after consultation with the participating teachers.

Achievement tests available in Germany are usually standardized at the beginning of the school year and the middle of the school year, as these are the common dates teachers would use tests for diagnostic purposes. There is no achievement test available which has been standardized at the end of the school year and the beginning of the school year. Furthermore, if tests were standardized at both these time points they could also mask a summer learning effect[17]. To depict an accurate as possible picture of the summer learning effect, the present study used the same achievement test over all four time points to show absolute change rather than relative change. Thereby, students' actual gains or losses became more apparent than when tracking students' results based on different national norms before and after summer. Raw scores however were converted to percentile scores, based for both tests and all four test points on national norms from end of grade two, to make the data more accessible to the reader.

Reading comprehension test

Student achievement in reading comprehension was assessed using *Ein Leseverständnistest für Erst- bis Sechstklässler* (ELFE 1-6), a reading comprehension test for students in grade one to six (Lenhard & Schneider, 2006). The test had norm values for the end and the middle of the school year (except grade one). The test was standardised with a Germany wide sample of students (n = 4,893). The internal consistency of the test lay between $\alpha = .92$ and $\alpha = .97$. The validity scores of the test were given as $r = .71$. Values were depending on grade level and test form (parallel or retest). The retest reliability of the test was assessed conducting a repeated measurement with 228 students within two weeks was 0.96 (Lenhard & Schneider, 2006).

The ELFE test was a multiple choice test, which examined not only basal reading comprehension, but also syntax understanding and text comprehension. The test thus comprised three subtests, in which either the right word alternative, the correct sentence or appropriate statement in relation to a short text passage had to be chosen. 98% of the vocabulary used in the test was estimated to be in the writing vocabulary of primary students. It should thus largely

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[17] See Chapter 2.1.4 Measurement issues in research on summer learning

preclude test results being influenced by missing vocabulary knowledge. Additionally, subtests were graded and a time criterion kept younger children from engaging in the more complex test items (Lenhard & Schneider, 2006).

The first subtest assessed word reading comprehension by offering the student a picture and four word alternatives. The words resembled one another phonetically and had a similar number of graphemes. The position of the correct word alternative was randomized throughout the 72 items of the subtest. The length of the word items varied between two to four graphemes. The second subtest presented the students with a sentence, in which one part of the sentence was to be chosen from five alternatives. The subtest had 28 items, in which the target word was a noun, an adjective, a conjunction or a preposition. The third subtest had 20 items in which the students had to match a statement to a short text passage. Some items only asked for single, isolated information from the text; others were more complex and required the student to draw anaphoric references (to connect different pieces of information from different sentences), or to deduct information from the text. The subtest scores were interesting for the teachers as they gave an indication of the skill level and areas of difficulties.

The ELFE test was administered by the researcher as a group test in the classroom. The whole test took approximately 20 minutes. Time limits were given for each of the subtests, three minutes for the word comprehension and the syntax subtest respectively and seven minutes for the text comprehension test. Consistency in the procedure was established through a pre-determined routine and verbatim given instructions outlined in the test manual. Results for each subtest are determined by the number of items the student answered correctly. The test had parallel forms, in which the positions of the correct answers were changed; however the individual items stayed the same. The consistency of the analysis resulted from the non-ambiguously determined marking scheme. The marking of the test as well as the conversion of raw scores into percentile ranks had to be done manually. The conversion into percentile ranks enabled teachers and the researcher to see where the student achieved in terms of the national norm at Time 2 (T2). The conversion table found in the manual was more an approximate guide for teachers and practitioners wanting to acquire an overview of students' achievement. A more precise conversion table of raw scores into percentile ranks was obtained from the test's author for this study.

Writing test

Student achievement in writing was assessed using the *Hamburger Schreib-Probe* (HSP), a writing achievement test for students in grades one to nine (May, 2010). The HSP test had norm values for the end and the middle of the school year. The test was standardised with Germany wide samples of students (n = approximately 1,200-2,000 depending on grade level). The internal consistency lay between α = .80 and α = .98 depending on grade level and test area. The validity scores of the tests were given as between r = .86 and r = .92. Values were depending on grade level and test form - parallel or retest (May, 2010).

The HSP was a written test without a set time limit. The completion of the test generally took between 15 and 25 minutes, depending on the skill level of students. The test was administered by the researcher in the classroom. It contained 15 single words and three sentences, which were read out rather than dictated and then repeated as often as necessary. In this way, students were encouraged to follow their own writing speed. The test booklet also included a picture for each word as an aid for students. The words used in the test were again words contained in the general vocabulary of primary students (May, 2010). Objectivity was further established in that students were not given clues for their writing, either through specific pronunciation of the syllables, or through hints how to derive the spelling from word stems etc. The test could not be taken using parallel forms; however, the researcher stayed attentive to keep students from copying, and often desk dividers were used to obstruct the view for students. Teachers were asked not to specifically discuss test words and their spelling in the time of the research project to avoid a practise effect on the tests.

The HSP did not only examine general writing skills, but also assessed what kind of writing strategies students were proficient in. Firstly, the number of graphemes (out of a total of 148) written correctly gave a general achievement score which could be converted into percentile ranks to see where the student achieved in terms of the national norm. The further analysis of students' writing of specific graphemes and phonemes allowed the examination of students' achievement in regard to three writing strategies: alphabetic, orthographic and morphemic. Alphabetic writing strategies enable the writer to understand how an articulation of a word is connected to its written form. Orthographic strategies help the writer to understand that graphemes are not always written as they sound, but that certain sounds or the assigned

graphemes obey specific rules. The morphemic strategy refers to the knowledge of morphemic structures and meaning.

The HSP gave raw scores as well as percentile ranks for students' ability in using these strategies. The test further provided a strategy profile for each student, showing if the development of students' strategies was a balanced one or not. The strategy scores as well as the profile were a helpful diagnostic tool for the teachers.

Marking and analysis of the students' HSP test results was carried out with the help of the provided online tool. This simplified the process, and provided exact percentile ranks for the conversion of raw scores. However, as the tool presents results in a PDF format for each classroom, the results had to be put into SPSS manually for the data analysis. This could be an issue for studies with larger sample sizes.

3.3.2   *Parents' questionnaires*

Parents' questionnaires (Appendix A) were sent out to parents via the schools, alongside the invitation to participate and the consent forms. The questionnaires collected data on students' family backgrounds, families' socio-economic status and the number of books and children's books at home to gauge general access to books.

Data on family background included the student's gender, family composition (number of siblings, single father or mother) and the language spoken at home. Data on families' socio-economic status included parents' education, occupation and employment status. Socio-economic status is probably one of the most widely used contextual variables in educational research (Sirin, 2005). However, there seems to be an enduring argument about SES conceptual meaning and empirical measurement. Sirin (2005), who undertook a meta-analysis on socio-economic status and academic achievement found that many researchers used SES and social class interchangeably, without any rationale or clarification. Furthermore, SES was assessed by different combinations of variables, which seemed to have created an ambiguity in interpreting research findings.

Firstly, education researchers have to choose whether to use an individual student or family SES, or an SES based on the school that the student attends, or the neighbourhood the students resides

in (Brooks-Gunn & Duncan, 1997; Sirin, 2005). This study obtained the school's communities' SES and one based on parents' occupation and employment status. The communities' SES was determined by using unemployment rates of the respective school communities, which is the usually measure employed when determining community SES (Brooks-Gunn & Duncan, 1997).

Secondly, to determine an individual's or families' SES, different measures can be employed. Many of the North American studies identified low SES students as students who were eligible for reduced-price lunch or free lunch programs[18] (Borman et al., 2005; Cooper et al., 1996; Klibanoff & Haggert, 1981). A similar free or reduced lunch scheme, however, does presently not exist in Germany.

Recently, research measuring individual's or families' SES looks at four main indicators of SES: parental income, parental education and occupation, and home resources (Sirin, 2005). These different components of SES measure considerably different aspects that can be considered separate from the others. Parental income as an indicator of SES reflects the potential for social and economic resources that are available. However, information about income is often seen as very sensitive information. Parental education and occupation are also indicators of parent's income, as these are often highly correlated to income. Parental education is also considered one of the most constant aspects of SES, as it usually remains the same over time. Information on parental education and occupation is less sensitive than information on income levels. Therefore, the present research collected data on parental education and occupation, not on parental income. Data on parental education were collected in eight given categories: no school qualification, lower school qualification level (Hauptschule), middle school qualification level (Realschule), higher school qualification level (Gymnasium)[19], apprenticeship, polytechnic studies, and university studies.

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[18] In the United States, students from families with incomes at or below 130% of the poverty level are eligible for free meals. Those with incomes between 130% and 185% of the poverty level are eligible for reduced-price meals. See http://www.fns.usda.gov/cnd/Lunch/AboutLunch/NSLPFactSheet.pdf

[19] Students in Germany are generally streamed in regard to academic ability after primary school. 'Hauptschule' leaving certificates are usually obtained after 9 years of schooling, 'Realschule' leaving certificates (and polytechnic entrance exams) are usually obtained after 10 years of schooling and Gymnasium leaving certificates (and university entrance exams) are usually obtained after 12 or 13 years of schooling, depending on the state. See Lohmar and Eckhardt (2008) for more information on the German education system.

Information on parents' occupation was used to map SES status with internationally standardised measures of occupational status. Both parents' responses were coded using the *Socio-Economic Index of Occupational Status* (ISEI) which was developed by Ganzeboom and Treimann on the basis of the *International Standard Classification of Occupations* (ISCO 1988) (refer to Ganzeboom, De Graaf, & Treiman, 1992; Ganzeboom & Treiman, 1996, 2003). Occupational measures such as the ISCO and the ISEI are commonly used to identify SES, e.g. the ISEI was used in the international comparisons undertaken for PISA (Ehmert & Baumert, 2007). These occupational measures do not only produce information about the social and economic status of a household in that they represent the income and education required for an occupation, but also about the prestige and culture of a given socio-economic stratum (Sirin, 2005). The ISEI is a two-digit hierarchical coding taxonomy, which ranges from 16 to 90. The lowest ISEI score of 16 refers to e.g. cleaners, domestic helpers and farm hands, the highest score of 90 refers to e.g. judges (Ganzeboom & Treiman, 1996). If there was occupational information missing for either parent, the parent received the ISEI code of the partner. It has to be noted that the ISEI ranking was developed on a sample of only males in full-time occupations. Estimations for women have been made, but only by using data for men working in characteristically female occupations (Ganzeboom et al., 1992; Ganzeboom & Treiman, 2003; Rose, 2005). This discrepancy is a problem shared by most socio-economical coding taxonomies and classification systems (Hauser & Warren, 1997). In this study, a code for mothers staying at home ('housewives') was missing; consequently these mothers also received the ISEI code of their partner. To attain a single SES rank for each student the data were then coded using the *Highest Socio-Economic Index of Occupational Status* (HISEI), which meant to take either mother's or father's ISEI score, whichever was higher.

Another indicator of SES, home resources, is not used as commonly as the other indicators. However, researchers have emphasized the significance of various home resources as an indicator of family SES background (Coleman, 1988; Entwisle & Astone, 1994). In this study, parents were asked to estimate the 'number of books in the home'. This measure indicated the availability of literacy resources at home and can reflect the educational and socio-economic background of the family (Bos, Schwippert, & Stubbe, 2007; Kirsch et al., 2002). Parents' were given seven categories: 1 to 10 books: 11 to 50 book; 51 to 100 books; 101 to 250 books 251 to

500 books and more than 500 books. Parents were also asked to estimate the number of children's books in the home. Here five categories were given: 1 to 10 books; 11 to 20 books, 21 to 50 books; 50 to 100 books and more than 100 children's books.

3.3.3 Literacy logbooks

Research has suggested that time actually spent reading is the best predictor of reading comprehension and reading achievement (Anderson et al., 1988; Hofferth & Sandberg, 2001; National Reading Panel, 2000; Stanovich & Cunningham, 1992). Heyns (1978) confirmed this for the summer learning effect: the most influential activity related to reading achievement over the summer in her study was reading. The same was hypothesized for writing in this study. However, most studies estimated student reading only through retrospective interviews or questionnaires. This study took the research by Anderson, Wilson and Fielding (1988) as an exemplary model and used literacy logbooks (refer to Appendix B) to record literacy activities on a daily basis in the first two weeks of summer. The literacy logbooks were piloted with a German second grade student, who was not involved in the research, in order to ensure its comprehensibility.

Literacy logbooks were distributed to all students in the week before summer to be completed over the first two weeks of summer. The logbook was presented in a template form, and it asked students to record daily if and what they read and wrote over the day, how long they spent reading and writing, and with whom. Time was taken to help students understand the task, and to ensure the information they would give about their literacy activities was as complete and accurate as possible. The researcher advised students to become time conscious and to make mental notes of when they started and stopped activities. A page displaying clocks with different time intervals was added to the diary as a reference page for the students. Students were also urged to ask their parents for help if they had problems filling in the literacy logbook.

The number of items in the logbook was kept at eight to keep the daily fill-in process short and simple. It would have been desirable to ask more detailed questions, but this was not feasible. Completing the logbook would then have taken too much time and would have been too complex for children of this particular age group. It might have jeopardized the cooperation of the children, especially the cooperation of struggling readers. The logbooks were designed in a fun,

appealing and child appropriate way to motivate the students to fill in the literacy logbooks. It took the children five to ten minutes to complete each day. The logbook also featured a puzzle, a colouring page or a maze for each day to give the students an additionally fun activity. As a further incentive, students who returned the logbook after summer received an age appropriate children's book from a popular series.

A total of 49 students (59.76 %) returned the literacy logbook after the summer break, 31 students from School A and 18 students from School B. Another two logbooks had been returned, but had to be excluded from the analysis as the students had only filled in two or three days of the two weeks. Across schools, 21 respondents (42.9%) were male.

3.3.4 Parent and student interviews

A sub sample of students and their families were selected for in-depth interviewing. Data were collected in individual interviews with the students and their parents. Eight students from each school were selected to represent a range of summer learning profiles in both, reading and writing. Summer learning profiles were distinguished on the basis of students' summer gain scores. Students were ascribed to the stall profile group if their achievement gains or losses were zero or less than one PR. Students with higher gains or higher losses were assigned to the gain profile group or the drop profile group. The gain group encompassed students who gained slightly, as well as students who showed continuous gains over summer. A continuous gain over summer would have meant a similar gain over summer than what the average achievement over school periods was. Students on average gained 17 PR in reading and 10 PR in writing over the school periods. In reading, no students with continuous gains over summer could be interviewed, but five students who gained over summer were interviewed. In writing, two students who gained over summer and four students who gained continuously over summer (above 10 PR) were interviewed. Overall, the profile groups in reading encompassed five students who dropped in their achievement, six students who stalled and five students who gained in their achievement over summer. The profile groups in writing encompassed eight students who dropped in their achievement, two students who stalled and six students who gained in their achievement over summer.

The interview guides addressed questions regarding students' and parents' literacy practices, shared literacy practices, access to reading materials, reading materials read over summer, and parental guidance and support. See Appendix C and D for the interview guides.

Student interviews took place at school in a free period or after school. Parents' interviews were more feasible via phone, due to parents' busy schedules. Parents' interviews were not audio-recorded, but written notes were taken throughout the interviews.

The parent and student interviews were piloted in German with a German second grade primary student and his mother, who were not involved in the research project. The pilot interviews were carried out to ensure the comprehensibility of the questions and the interview guide's feasibility. Especially for the student interview guide, this process proved to be very important in regard to the wording of the questions. It was highlighted that the researcher had to emphasize repeatedly what time period she was referring to. Students kept relating to their immediate circumstances and had to be reminded that questions sometimes asked for activities in or before summer.

3.3.5   Teacher logs

To examine classroom practices, the participating teachers filled in a daily teaching log over a period of one school week (refer to Appendix F). The teachers were asked to complete the log in any given week before summer, but to choose a 'normal' week without too many disruptions of the regular timetable (e.g. school trips, sport days). The log was presented in a template form to keep the process simple, not too time intensive for the teachers, and in order to attain easily comparable data. As Rowan and Correnti (2009) pointed out teacher logs are a reliable, cost-effective and valid way to measure instruction. The teacher logs in the present research, however, were only used for the small sample of teachers and to compare general literacy instruction across classrooms. The teacher log was piloted with two German primary teachers, who were not involved in the research, in order to ensure its feasibility and comprehensibility.

In the log, the teachers recorded how many hours they spent in the classroom and which subjects they taught on the day. In regard to reading activities, the teachers documented how much time approximately was spent reading, which instructional format was employed (e.g. whole group lecture, ability grouping, social grouping, discussion, independent work or partner work), and

what materials were used. The same information was reported in respect to writing activities. Teachers were also asked to make any comments or notes on the day, which they thought to be of importance for the research.

3.3.6 Teacher interviews

Besides the teacher log, semi-structured interviews were conducted with the teachers to further examine literacy classroom practices. The interview guide (Appendix G) included questions in respect to availability of, and access to, resources and materials in the school and classroom, thus mirroring the classroom environment observations. The interview guide also contained items regarding the nature of the teachers' literacy instruction, this time mirroring and probing items from the teacher logs. A main focus of the interviews, however, was any possible preparation, guidance or resourcing for reading and/or writing of the students in summer, and teachers' communication with the parents about literacy learning over summer.

The interview guide was piloted with two German teachers, who were not involved in the research, in order to ensure the comprehensibility of the questions and the guide's feasibility in respect to the data sought in the research. The interviews took place at a time and place convenient for the individual teachers. The interviews were audio-recorded and later transcribed by the researcher.

3.3.7 Classroom environment observations

Throughout the research project, the researcher spent time in the two schools and the different classrooms, and familiarized herself with the set-up and environment of the classrooms. Observations of the classrooms were carried out to explicitly identify what kinds of literacy resources were available to students. An observation schedule was used, which examined the classroom set-up (refer to Appendix E). It provided data on what kind and what variety of literacy materials and tools were readily available to students, if there were any areas for shared and/or quiet reading and writing activities in the classroom, and if any displayed items were aimed at engaging or motivating students to read or write (e.g. poster displays, displays of students' work, flyers, written communications, portfolio work etc.). The classroom libraries were looked at in terms of what kind and what variety of literacy materials were displayed (e.g.

books, magazines, and newspapers, and for which age group they were appropriate) and how and when students could access them. The tool was initially designed to examine the school libraries as well, however neither of the schools had a school library.

3.4 Language

The study was undertaken as part of a doctoral degree at The University of Auckland, New Zealand. However, the data collection took place in Germany and the entire data collection was conducted in German. As the researcher herself is German, no communication problems were encountered. All written materials such as interview guides, literacy logbooks, participant information sheets etc. were translated into German by the researcher. The achievement measures used were standardised German achievement tests.

Qualitative data such as the teacher interview data were coded in German and the codes then translated into English. Qualitative data from parent and student interviews were translated into English when transferred into the profile group coding 'matrix' to make peer debriefing possible. Interview quotes in this thesis are given in German with an English translation following.

3.5 Ethical considerations

Ethical approval for this research was given by The University of Auckland Human Participants Ethics Committee (Reference 2010/543). Additional approval was sought from and granted by the German Ministry of Education. The researcher assured to abide local laws regarding research, privacy and data collection.

Ethical issues, which arose from this project and were considered in the design of the study, the data collection and the data analysis included confidentiality, informed consent and voluntary participation and the right to withdraw.

Throughout the research process, the researcher needed to be able to match student, parent and teacher information to classrooms, SES information and achievement data. Data collected in this research were treated confidentially at all times and pseudonyms were used in all reporting. The participants were fully informed through Participant Information Sheets, and the researcher openly responded to questions at any stage of the study. It was repeatedly emphasized that the

participation in this study was entirely voluntary. Participants were asked to sign Consent Forms or Assent Forms before the research took place. Participating students were regarded as too young to give fully informed consent. Consent was therefore sought from parents, and students were asked to assent. Additional to the written PIS, the nature of the research was explained to the students verbally, and extra time for questions was given in order to ensure the students were fully informed. Student participants may feel obliged to participate in the research. Hence, Consent Forms, Assent Forms, Participant Information Sheets (PIS) and any communication to students, verbal or written, clearly stated that participation was voluntarily. An assertion was given by the principal that students' participation (or non-participation) was not in any way affecting their relationship with their school or their access to school services. Students were informed that even though their parents consented to their participation, the participation was still voluntary for them. Principals gave consent for the study and allowed site access to their schools. Parents and teachers were also participants in their own right. As such, there was no risk of harm to participants. Participation was entirely voluntary and only asked for a contribution of participants' time.

The participants had the right to withdraw from the research at any time until the stage of data analysis, which began 1st October 2011. Students could withdraw from tests, or could stop the audio-recording at any time during their interview. No participant withdrew from the study. If a participant would have withdrawn, the data he or she had given to the project would have been discarded.

3.6 Data analysis

Data were gathered through quantitative and qualitative measures. While quantitative data were first statistically analysed, it also informed the later analysis of qualitative data. The first of the following three sections outlines the different possible summer learning patterns and the definition of patterns in the present research. The subsequent two sections summarise the analysis process followed for the different data sets, quantitative and qualitative.

3.6.1 *Possible patterns of summer learning*

The research literature has defined the summer learning effect as a decreased learning rate over summer, a stall or even a drop in achievement over summer. Through statistical analysis one can compare school and summer learning to show if learning rates are significantly different, indicating a summer learning effect if learning rates over summer are not significantly different or significantly different but negative. One can then define the different patterns of the effect. There are four different possible patterns of learning over summer which in the present research were defined as:

(1) **Continuous gain:** statistical significant gains over summer (T2-T3), similar to the learning gains made over school periods (T1-T2 and T3–T4)

(2) **Gain**: small gains over summer (T2-T3), not statistical significant in comparison with learning gains made over school periods (T1-T2 and T3–T4), but > 1 percentile rank

(3) **Stall**: gains or drops of ± one percentile rank over summer (T2-T3)

(4) **Drop**: drops of > 1 percentile rank over summer, which even could be statistically significant.

These patterns are illustrated in Figure 3.2, in the first pattern students show continuous gain over the summer (T2-T3) with no significant differences between growth rates over periods of school and summer, i.e no SLE. The second pattern shows students still gaining over summer, but their learning rate is lower than over periods of school and not statistically significant. In the third pattern, student learning stalls over summer, while in the fourth pattern student achievement levels drop over summer.
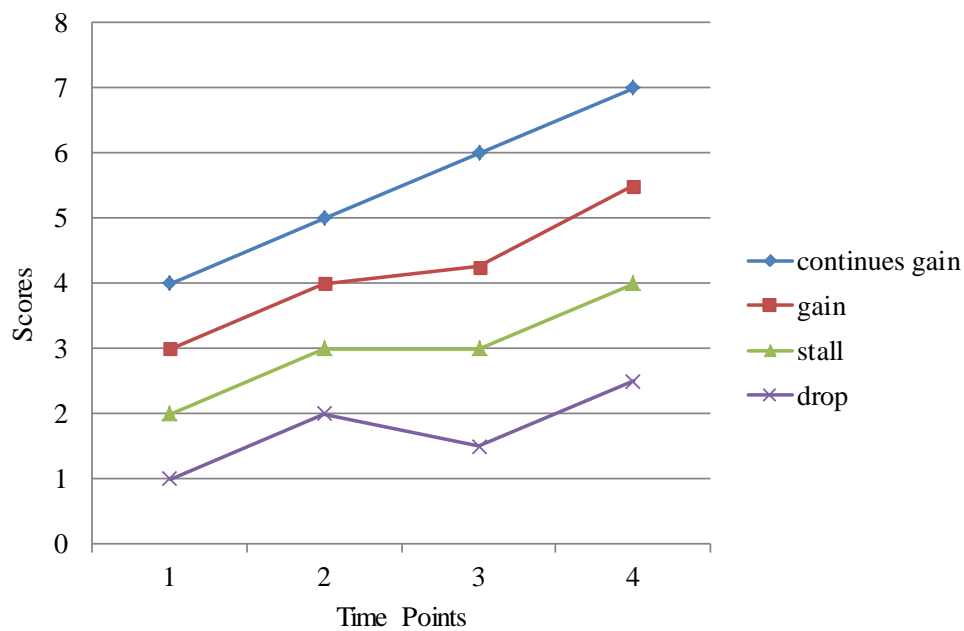
Figure 3.2 Possible patterns of summer learning

3.6.2 *Quantitative data analysis*

Quantitative analysis drew on data from student achievement measures, parents' questionnaires, and literacy logbooks entered into one data file to enable matching the different data sets to the individual student for statistical testing. As there were hardly any missing data, no missing values were imputed for the data set. The SPSS software package was used for all statistical testing.

Data from 78 students, 43 students from School A (situated in a high SES community) and 35 students from school B (situated in a low SES community) were available. In School A, one student missed both of the first tests in reading comprehension. The student's data were not included in the analysis of reading comprehension. Another student missed the first test in reading comprehension; her data were still included in the analysis as the analysis could compare summer against the second period of schooling and work with the gain scores over summer (for the regression analysis). Therefore, achievement data were analysed for a total of 77 students in reading and 78 students in writing.

For this research the same tests were used repeatedly under the test conditions set out for the end of grade two. Two tests were set later than this norming date, at the beginning of grade three and seven weeks into grade three. Ceiling effects can severely affect the results of the analyses (see for example Verachtert et al., 2009), thus the achievement data were carefully inspected for ceiling effects by checking individual test scores for each test date. Only two students with ceiling effects in the last test date could be identified. Their data were not removed from the data set.

Statistical analysis processes included repeated-measure ANOVAs for reading comprehension and writing and for different groups (school, classroom, regression analysis as well questionnaire / no questionnaire, logbook / no logbook). Furthermore, regression analyses were used in reading comprehension and writing and with different sub-samples. With every analysis descriptive statistics were taken into consideration.

To test the effects of summer on literacy achievement, two repeated-measure ANOVAs firstly compared gain scores of the three periods tested (school – summer – school), one in reading comprehension and one in writing. Secondly, two similar repeated-measures ANOVAs across the four time points (T1-T4) using the percentile ranks for reading comprehension and writing with schools as between subject variables were performed to see differences between schools. Where significant main effects and interaction effects were found, a post-hoc pairwise comparison (Bonferroni corrected) showed where significant differences in the data lay. To examine the effects of summer by certain groups (questionnaire / no questionnaire, logbook / no logbook), further repeated-measure ANOVAs (T1 - T4) were carried out for each group in reading and writing. To test for differences in achievement over summer for students who had completed their logbooks and who had not, independent t-tests were used. No statistical testing on classroom level was undertaken, as sample sizes per classroom were considered too small.

Two stepwise regressions were used to examine the contributions of school, gender and language spoken at home (German or other) on student achievement over summer in either subject area, controlling for the initial test achievement (T1) and achievement before summer (T2). To examine the variability of the summer learning effect, individual gain scores were mapped in a descending order (see chapter 4.1.2).

Questionnaire and logbook data missed variance across categories and were not normally distributed. Thus categorical variables were collapsed into two or three groups for analysis to achieve similar sized groups, to reach an acceptable level of normal distribution, and to increase the sample size in each group and, as a result, improve statistical power. For example, the variable 'number of books at home', which was collected in seven categories, was collapsed into two categories: 'up to 200 books at home' and 'more than 200 books at home'. Similarly 'reading with a friend' was collapsed into 'read with a friend' and 'did not read with a friend' as instances of students reading with friends were seldom. Variables that still had more than three levels were dummy coded for the regression analyses.

To identify variables influencing the summer learning effect, four stepwise regressions were used, controlling for the initial test achievement (T1), and achievement before summer (T2). Two regression analyses looked at the effects of family background variables on summer gain scores, one in reading and one in writing, across the sample of questionnaire respondents. Family variables included: number of books at home, number of children's books at home, two or one-parent household, number of children living in the household, ISEI score mother and father, HISEI score, education level mother and father, occupation status mother and father.

Another two regression analyses examined the effects of student literacy practices as reported in the logbook on summer gain scores, one in reading and one in writing. Reading variables derived from the literacy logbook included: total time read, time read per day, days of reading, read books, read magazines, read newspaper, read on the internet, played a game involving reading, read recipe, read song, read other material, read alone, read with a friend, read with the mother, read with the father, read with brother or sister, read with other family members. Writing variables derived from the literacy logbook included: total time writing, time wrote per day, wrote letter, wrote postcard, wrote diary, wrote on the internet, wrote story, wrote message, wrote song or poem, wrote other, wrote alone, wrote with a friend, wrote with the mother, wrote with the father, wrote with brother or sister, wrote with other family members.

The assumptions of the ANOVA and regression analyses (independence, homoscedasticity, normal distribution, linearity) were met by the data. A Kolmogorov-Smirnov test was used to test for normality. In most instances, the achievement data for the whole sample as well as on school level were normally distributed with a significance level of $p < .001$. Some instances showed

significant results, but with absolute Z-scores of less than two. Thus, in all instances values for the whole sample as well as for groups on the school level were found to be within the acceptable range for normality (Field, 2009). Additionally, skewness and kurtosis values were assessed and found to be within an acceptable range for normality. Most researchers categorize the absolute values of skewness and kurtosis of less than 1.0 as slight non-normality, between 1.0 and 2.3 as moderate non-normality, and beyond 2.3 as severe non-normality (Lei & Lomax, 2005). A few variables showed a slight non-normality or in some instances moderate non-normality. However, with sample sizes above 30 participants, as it is the case in this study, ANOVA analyses are considered to be reasonably robust to a violation of the normality assumption (Pallant, 2011; Schmider, Ziegler, Danay, Beyer, & Bühner, 2010). ANOVA analyses are also robust to violations of the homogeneity of variance assumption, provided the sizes of the groups are reasonably similar. According to Stevens (1996, see p. 249) the largest /smallest = or less than 1.5 as this is the case in this study (42/35 =1.2). As described above, non-scale variables were re-coded to achieve a more equal distribution of variance and to achieve an acceptable level of normal distribution.

3.6.3 Qualitative data analysis

Qualitative data were gathered through interviews with students, parents and teachers, teacher logs and classroom environment observations. The various measures employed to gather data were complementary to provide for a rich and 'thick' description and to strengthen the credibility of the results (Creswell & Plano Clark, 2011). The measures were used to triangulate data and thus to foster internal validity, and to strengthen the reliability of the research outcomes (Brown & Dowling, 1998; Merriam, 1988). To be able to draw valid and credible conclusion from the data, verification was sought throughout the analysis process through peer debriefing. Interpretations and quality of accounts was judged for 'consensual validity' (Geelan, 2003, p. 32), to the extent that accounts must 'fit to the world'. Once conclusions were drawn, these were then verified by revisiting the data (see Lincoln & Guba, 1985). Deliberate disconfirmation of findings was sought to judge the dependability of interpretations (Stake, 1988). Data were analysed separately for reading comprehension and writing.

In regard to family literacy practices, qualitative data included interview recordings from student and notes from parent interviews. Student and parent interview questions were aimed at obtaining information in regard to themes that emerged from the review of the research literature, and parents' and students' answers were often short and conclusive. Hence, the data were displayed in a matrix in which the columns gave the answer to posed question and rows depicted families, with an explicit distinction between student's and parent's answers. Literacy logbook data if available and achievement data were added in extra columns to further inform the analysis. The matrix thus allowed triangulation of data, with information, e.g. regarding reading mileage over summer available from parents, students and literacy logbooks. The matrix further divided families into profile groups (gain – including continues gain-, stall, and drop) and thus allowed for comparisons between and within profile groups.

Several questions were then organised under overarching themes. In reading these included: 'appreciation of reading and reading mileage', 'appropriateness of reading materials and parental guidance', 'access to reading material', 'shared reading practices', 'parental reading practices' and 'perceived importance of reading'. In writing these included: 'appreciation of writing', 'writing mileage and the kind of writing activities students engaged in', 'shared writing practices and parental guidance parental writing practices', and 'perceived importance of writing. The description of the findings was based on these themes and the corresponding part of the matrix. Throughout the analysis and reporting process, verification of the descriptions and interpretations was sought through peer debriefing to reduce the bias of the single researcher. As no coding as such took place, no code book was needed and no inter-rater reliability rating was accessed (Miles & Huberman, 1994).

In regard to classroom and teacher practices, data comprised information from teacher interviews, teacher logs and classroom environment observations. For reading, one classroom could be identified as an 'outlier' in which students on average continued to gain over summer, in comparison to the other classrooms where students on average stalled or dropped in their reading achievement. The analysis described reading practices in all classrooms, and compared reading practices between classrooms with a special focus on the 'outlier' classroom. In writing, all classrooms dropped equally over summer. Therefore, there was no basis for a comparison between classrooms, and no further analysis took place.

Transcripts of teacher interviews were coded by the researcher using NVivo, which assisted in structuring, saving and copying raw materials. As a first step, the researcher 'immersed' herself in the data by reading interview transcripts, teacher logs and classroom environment observation sheets repeatedly to get an overview of the data (Mostyn, 1985). Transcripts were then coded by the researcher using NVivo. First, the eight coding categories mostly corresponded to the interview questions. Subsequently some codes were integrated into overarching thematic codes and others were further subdivided. Final codes, around which the reporting was structured, included: 'creating a community of readers', 'connecting home and school reading practices', 'reading instruction', 'encountering problems in reading instruction', 'access to reading materials', 'encouraging summer reading', 'informing families about summer programmes and activities', and 'access to reading materials over summer'. Verification of the codes and themes was sought through peer debriefing. A random sample of 50 text units from three of the five teacher interviews were taken to measure the coding reliability. The 50 units represented about 20% of the given data. A second coder, who had not been involved in the project, was asked to code the units with the given codes. Inter-rater reliability was calculated using ReCal2 (Freelon, 2010) and was accessed as 86% agreement, Cohen's kappa = .833 or Krippendorff's Alpha = .834. Percent agreement is simply the proportion of units with matching descriptions on which two observers agree. This measure is easily calculated but flawed as it does not take chance agreement into consideration, Cohen's kappa and Krippendorff's Alpha are both acceptable indexes (Hayes & Krippendorff, 2007; J. Taylor & Watkinson, 2007). Different criteria for judging agreement by these last two indexes have been proposed[20], but it seems values above .80 are substantial or even excellent, depending on the author (Banerjee et al., 1999; Krippendorff, 2004; J. Taylor & Watkinson, 2007).

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[20] Landis and Koch (1977) proposed 81–1.00 = almost perfect; .61–.80 = substantial; .41–.60 = moderate; .21–0.4 = fair; .00–.0 = slight; and < .00 = poor. Banerjee, Capozzoli, McSweeney, and Sinha (1999) had a similar criteria for Cohen's kappa > .75 is excellent agreement beyond chance, .4–.7 fair to good agreement beyond chance and <.4 is poor agreement. Krippendorff (2004) suggests .8 or more when using Krippendorff's Alpha.

4   Chapter Four: Results of the Quantitative Data Analysis

The following chapter summarizes the results of the statistical data analysis. The analysis drew on student achievement, parents' questionnaire and students' literacy logbook data. The results presented in this chapter are therefore set out in three main sections in regard to the three sets of data. The initial section examines patterns of achievement over summer and school periods and reports on the extent and nature of the summer learning effect. The subsequent section summarizes the parents' questionnaires data. It describes the sample population and investigates possible influences of family background variables on students' summer learning. The third section of this chapter reports on the student literacy logbook data. It sheds light on the reading and writing habits of students over the first two weeks of summer and the impact of these literacy practices on summer learning.

4.1   The extent and nature of the summer learning effect in Germany

The following section presents the findings of the different statistical analyses based on the achievement data collected in reading and writing. Firstly, the results of repeated-measures ANOVAs on the overall effect of summer learning and on the effect by school in both subject areas are presented. Repeated-measures ANOVAs with a post-hoc pairwise comparison (Bonferroni corrected) on gains scores in reading comprehension and writing of the three time periods (school – summer – school) tested if there were significant differences between the gain scores achieved in the different time periods. This is possible in the present study as periods of school time and summer are of similar length (approximately 6-7 weeks). Secondly, repeated measures ANOVA on the achievement scores over the four time points show differences over time and over time between schools. Subsequently, findings from regression analyses on the impact of various factors (school, gender, language spoken at home, scores from the first and second test dates) on the summer learning effect in the two subject areas are summarized.

To examine summer learning patterns, measures of reading comprehension and writing achievement were collected over four time points (T1-T4), depicting achievement trajectories over approximately eight weeks of school in second grade (T1 – T2) and seven weeks of school in third grade (T3 – T4) as well as over the six weeks summer break (T2 – T3).

The research literature has defined the summer learning effect as a decreased learning rate over summer, a stall or even a drop in achievement over summer. Through statistical analysis one can compare school and summer learning to show if learning rates are significantly different, indicating a summer learning effect if learning rates over summer are not significantly different, or significantly different but negative. One can then define the different patterns of the effect. There are four different possible patterns of learning over summer, which in the present research were defined as:

(1) **Continuous gain:** statistical significant gains over summer (T2-T3), similar to the learning gains made over school periods (T1-T2 and T3–T4)

(2) **Gain**: small gains over summer (T2-T3), not statistical significant in comparison with learning gains made over school periods (T1-T2 and T3–T4), but > 1 percentile rank

(3) **Stall**: gains or drops of ± one percentile rank over summer (T2-T3)

(4) **Drop**: drops of > 1 percentile rank over summer, which even could be statistically significant.

Reading comprehension and writing tests were taken by a total of 78 students. One student missed two tests in reading and her reading test data were thus excluded from the analysis. As a result, reading achievement data were analysed for a total of 77 students. Writing achievement data were examined for a total of 78 students.

The test results are presented in percentile ranks. The same test version was used at all four time points and raw scores from the tests were converted into percentile ranks (PR) using German national norms from the end of grade two. Therefore, percentile ranks from time point two give an indication of how students achieved in terms of the national norm. Percentile ranks from time point one, three and four have to be seen in relation to the achievement at time point two. For statistical analysis, percentile ranks from all four time points were treated as scores. It has to be noted that absolute gains or losses are depicted here, as the same test was used at all four time point, instead of relative ones, which result from the use of age-adjusted test versions[21].

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[21] See Chapter Two of this thesis for a discussion of different measurements and related issues in summer effect research.

4.1.1 Overall results

First, two repeated-measures ANOVA were conducted on gain scores in reading comprehension and writing in the different time periods, school and summer. See Table 4.1 for summary statistics and Table 4.2 for corresponding means and standard deviations. There was a significant main effect for time for reading comprehension and writing, indicating that there were significant differences between the gain scores. The pair-wise comparison showed that gains made over school periods (T1-T2, T3-T4) were not significantly different (mean differences of .37 PR with $p = 1.00$ in reading and .37 PR mean differences with $p = .079$ in writing). Summer gain scores compared to school gain scores, however, were significantly different. Mean differences between summer gains and school gains, were 16.09 PR (T1-T2) and 15.73 PR (T3-T4) in reading, with $p < .001$ respectively. In writing, mean differences between summer gains and gains made in school periods were 10.06 PR (T1-T2) and 13.71 PR (T3-T4) with $p < .001$ respectively. In conclusion, the statistical comparison of school and summer periods confirmed an SLE in both subject areas. The pattern showed a stall in reading and a drop in writing.

Table 4.1 *ANOVA Summary Statistics*

	Reading comprehension				Writing			
	df	*F*	*p*	ES*	*df*	*F*	*p*	ES*
Time	1.77	23.62	< .001	.24	1.80	26.05	< .001	.25
Error	134.54				138.91			

*Note:*Effect size used is partial eta squared ηp2.*

Table 4.2 *Mean Gain Scores and Standard Deviations– in Percentile Ranks*

	Reading comprehension				Writing		
Time	Mean	*SD*	*n*	Time	Mean	*SD*	*n*
1-2	17.00	16.07	77	1-2	7.46	10.15	78
2-3	.91	15.63	77	2-3	-2.60	11.94	78
3-4	16.64	13.99	77	3-4	11.11	10.19	78

Secondly, two repeated-measures ANOVA with school as a between subject factor were conducted to compare reading comprehension and writing scores across all the four time points, and to test whether there was a main effect of school or an interaction effect of school*time. See Table 4.3 for summary statistics and Table 4.4 for corresponding means and standard deviations.

Table 4.3 *ANOVA Summary Statistics*

	Reading comprehension				Writing			
	df	*F*	*p*	ES*	*df*	*F*	*p*	ES*
Time	2.43	110.05	< .001	.6	2.77	53.47	< .001	.41
School	1	17.89	< .001	.99	1	25.99	< .001	.26
Time*School	2.43	3.83	0.02	.75	2.77	.48	.68	.01
Error	181.85				228			

Note:*Effect size used is partial eta squared η_p^2.

Table 4.4 *Means and Standard Deviations– in Percentile Ranks*

	Reading comprehension				Writing			
	Time	*Mean*	SD	*n*	Time	*Mean*	SD	*n*
School A	1	45.10	32.63	42	1	53.05	28.07	43
	2	60.86	32.96	42	2	59.28	26.58	43
	3	64.06	31.54	42	3	57.79	27.28	43
	4	75.11	29.24	42	4	68.86	24.87	43
School B	1	16.96	16.55	35	1	25.54	17.42	35
	2	35.44	23.48	35	2	34.51	21.12	35
	3	33.56	26.33	35	3	30.55	19.41	35
	4	56.94	27.23	35	4	41.72	22.37	35
Overall	1	32.31	29.94	77	1	40.70	27.45	78
	2	49.31	31.54	77	2	48.17	27.13	78
	3	50.21	32.86	77	3	45.57	27.54	78
	4	66.85	29.59	77	4	56.68	27.25	78

There was a significant main effect for time in reading comprehension and writing, indicating that there were significant changes in achievement scores over time. There was also a significant main effect for school in both subject areas, which indicated that achievement levels at School B (low SES) were significantly different to those at School A (high SES). In reading, the results showed a significant interaction effect of time*school, indicating significantly different changes over time between schools. However, no significant interaction effect of time*school was found in writing.

To further examine the main effects, a pairwise comparison with a Bonferroni adjustment was carried out along with the repeated-measures ANOVAs. The results indicate that growth rates for the whole sample over the school periods (T1-T2 and T3-T4) as well as over the whole period of testing (T1-T4) were significant, while the growth rates over summer proved statistically not significant. See Appendix H for a summary table of the pairwise comparison. The observed summer learning pattern showed that students stalled in reading comprehension and dropped slightly in their writing achievement over summer; see Figure 4.1 and Figure 4.2.

Thus, similar to the overall results, statistical comparisons of the data indicated that gains were significant over periods of school, and not significant over summer in both subject areas at both schools, again indicating a SLE. The summer learning patterns showed that students at School A (high SES) made small, albeit not significant, gains in reading achievement over summer whereas students at School B (low SES) exhibited a drop. In writing, attainment over summer dropped at both schools, with the drop being slightly more pronounced for students at School B.
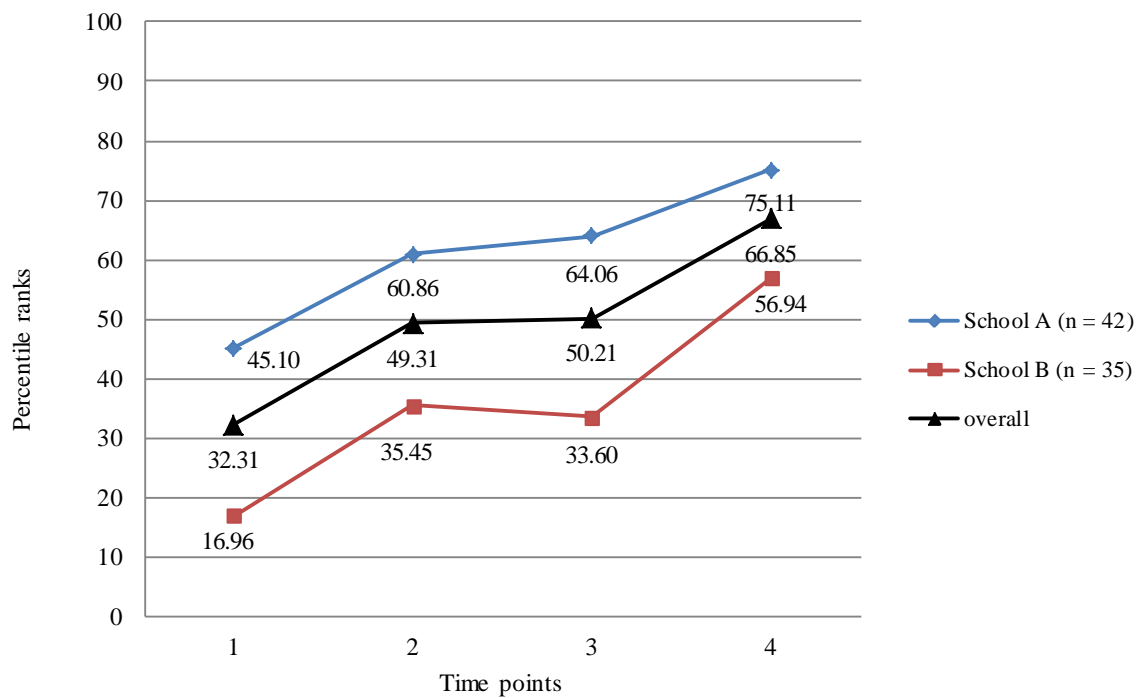
Figure 4.1 Percentile ranks in reading comprehension over school periods (T1-T2, T2-T3) and summer (T2-T3), overall and by school
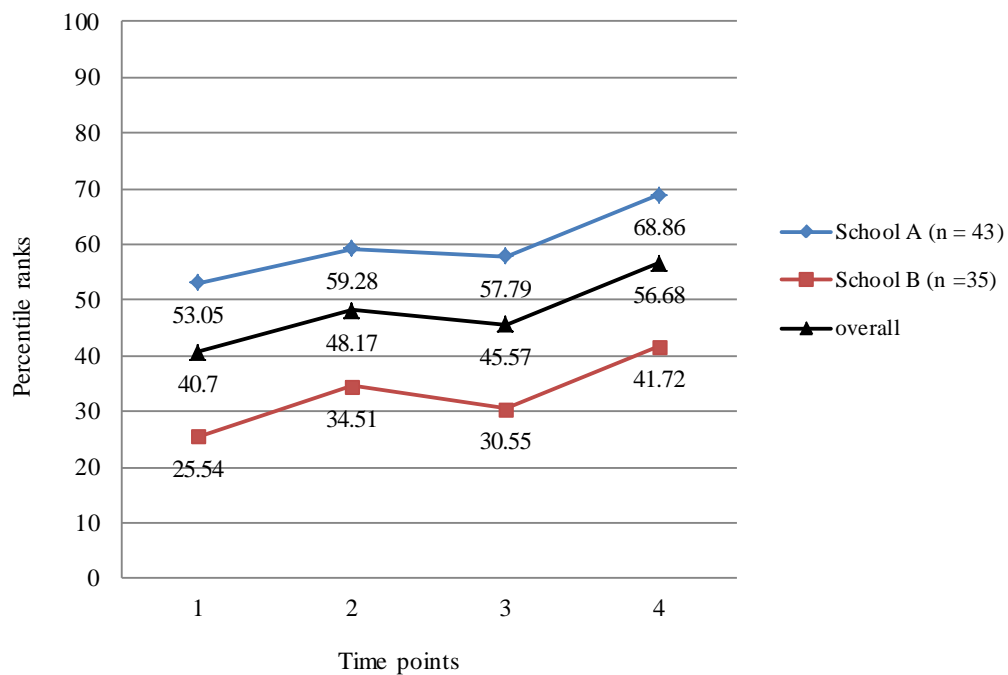
Figure 4.2 Percentile ranks in writing over school periods (T1-T2, T2-T3) and summer (T2-T3), overall and by school

Two stepwise regressions were used to examine the contributions of school, gender and language spoken at home (German or other) on student achievement over summer in either subject area. Additionally, scores from the first and second test dates were entered into the analysis to consider the impact of initial achievement levels on summer learning. In both subject areas, none of the variables contributed to the prediction of achievement over summer. See Appendix I for the Pearson correlation results of the regression analysis. The data for these variables were available for all students in the sample.

4.1.2 Variability of the summer learning effect

To examine the variability of the summer learning effect, individual gain scores were mapped in a descending order, see Figure 4.3 and Figure 4.4. The figures reveal high variability of learning patterns in reading comprehension and writing at both schools. The differences apparent between the schools in the mean scores, depicted earlier, are less obvious here. Students at both schools exhibited all four summer learning patterns; they continuously gained, gained, stalled or dropped in their reading and writing achievement over summer. Students on average gained 17 PR in reading and 10 PR in writing over the school periods; therefore, a continuous gain over summer would have meant a similar gain over summer than what the average achievement over school periods was. Thus a 'continuous gain' over summer is here indicated above these average school gain scores.
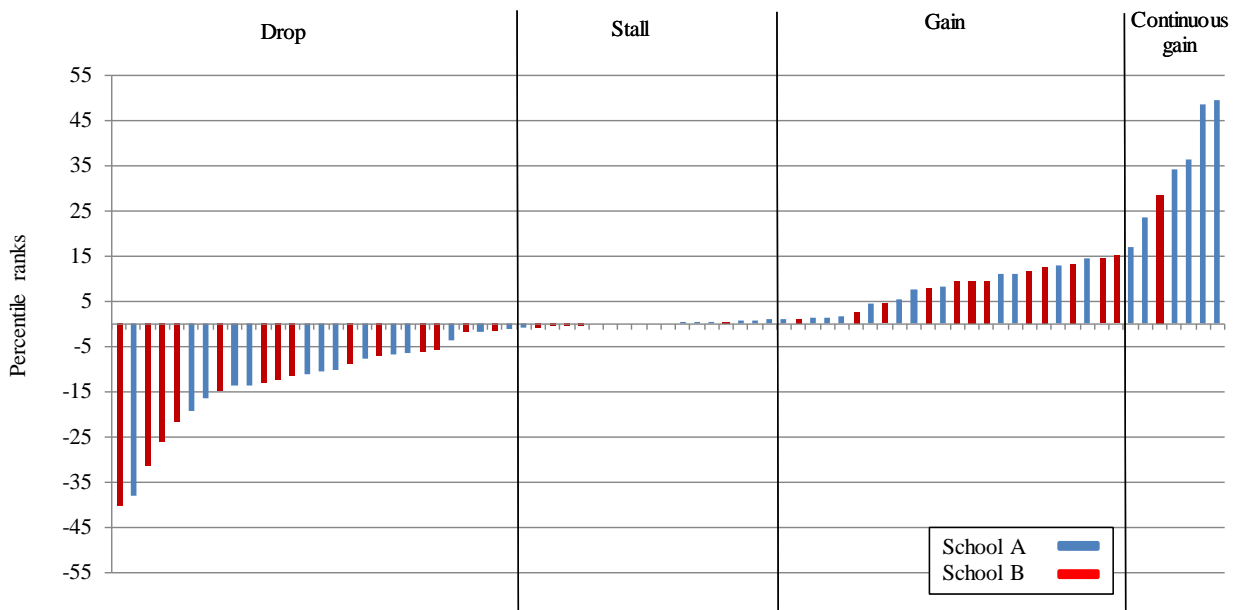
Figure 4.3 Students' individual gain scores in reading over summer (T2-T3) in percentile ranks, by school.
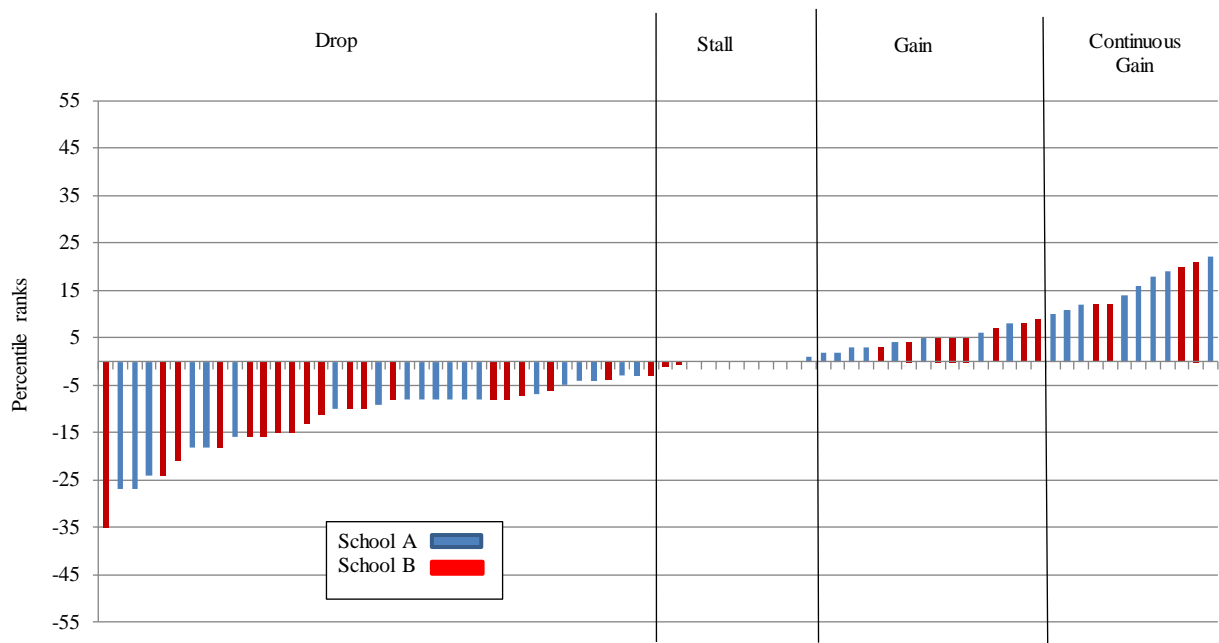
Figure 4.4 Students' individual gain scores in writing over summer (T2-T3) in percentile ranks, by school

Table 4.5 *Number of Students Exhibiting Different Summer Learning Patterns*

	Reading Frequency (percentage)			Writing Frequency (percentage)		
	School A	School B	Overall	School A	School B	Overall
Drop	13 (30.95)	15 (42.86)	28 (36.36)	20 (46.51)	19 (54.29)	39 (50.00)
Stall	10 (23.81)	7 (20.00)	17 (22.08)	7 (16.27)	4 (11.43)	11 (14.10)
Gain	13 (30.95)	12 (34.29)	25 (32.47)	8 (18.60)	8 (22.86)	16 (20.51)
Continuous Gain	6 (14.29)	1 (2.86)	7 (9.09)	8 (18.60)	4 (11.43)	12 (15.38)
Total	42 (100)	35 (100)	77 (100)	43 (100)	35 (100)	78(100)

Note: Any differences result from rounding errors

Table 4.5 above presents the actual number of students who continuously gained, gained, stalled or dropped in their achievement over summer at the two schools. The numbers show only small differences between schools. More students continuously gained in reading, thus had no summer effect, in reading at School A and slightly less students dropped in their achievement in reading over summer at School A than in School B. However, the differences are small, and even smaller in writing.

Table 4.6 below gives a further overview of mean gain scores in each summer learning pattern category, the range of gain scores and the minimum and maximum gain scores of students in each category. The range of individual gain scores over summer was greater in reading comprehension than in writing, meaning also that maximum and minimum gain scores over summer were greater in reading comprehension than in writing. Mean losses, however, were similar in reading and writing, whereas mean gains were higher in reading than in writing.

Across schools, slight differences were apparent in reading comprehension gains. There were a few more students at School A, who gained continuously over summer in reading comprehension; thus, they experienced no summer effect. Here the mean achievement gains are quite high, mainly due to two 'outlier' students who gained up to 49.66 PR in reading comprehension over that summer. There was only one student at School B who showed no

summer effect in reading comprehension and continuously gained over this period (28.43 PR). In writing, students who lost over summer had somewhat larger drops at School A. However, the mean drops in writing were similar.

Overall, range scores and mean gain scores across school did not markedly differ across schools. Therefore, the data provided evidence for a high variability of learning patterns in reading comprehension and writing at both schools with a similar range of scores, as well as mean gains and drops across schools.

Interestingly, summer learning patterns of students often varied in the two subject areas for individual students. Only 41 students showed similar summer learning rates in reading comprehension and writing (including e.g. gain and stall, or stall and drop, whereas 38 students had very different patterns (e.g. drop and continuous gain).

Table 4.6 *Variability of Summer Gain Scores, Overall and by School – in Percentile Ranks*

			Range	*Minimum*	*Maximum*	*Mean*	*SD*	*n*
Reading Comprehension	School A	drop	36.99	-38.02	-1.03	-12.20	9.24	13
		stall	1.37	-.69	.68	.17	.40	10
		gain	13.35	1.03	14.38	6.27	4.90	13
		Continuous gain	32.54	17.12	49.66	34.93	13.05	6
	School B	drop	38.70	-40.07	-1.37	-13.57	11.52	15
		stall	1.02	-.68	.34	-.19	.33	7
		gain	14.03	1.03	15.06	9.33	4.57	12
		Continuous gain	.00	28.43	28.43	28.43	.00	1
	Overall	drop	39.04	-40.07	-1.03	-12.93	10.36	28
		stall	1.36	-.68	.68	-.06	.42	17
		gain	14.03	1.03	15.06	9.33	4.47	24
		Continuous gain	32.54	17.12	49.66	34.00	12.17	7
Writing	School A	drop	24.00	-27.00	-3.00	-11.15	7.75	20
		stall	1.00	.00	1.00	.14	.38	7
		gain	6.00	2.00	8.00	4.13	2.10	8
		Continuous gain	12.00	10.00	22.00	15.25	4.23	8
	School B	drop	32.00	-35.00	-3.00	-13.05	7.76	19
		stall	1.00	-1.00	.00	-.43	.51	4
		gain	6.00	3.00	9.00	5.75	2.05	8
		Continuous gain	9.00	12.00	21.00	16.25	4.92	4
	Overall	drop	32.00	-35.00	-3.00	-12.08	7.71	39
		stall	2.00	-1.00	1.00	-.06	.49	11
		gain	7.00	2.00	9.00	4.94	2.17	16
		Continuous gain	12.00	10.00	22.00	15.58	4.27	12

4.1.3   Summary

In summary, the achievement data confirmed a summer learning effect in both subject areas at both schools, as learning rates over summer proved significantly different to learning rates over school periods. In both subject areas, the summer break seemed to have a stronger effect on students overall at the low socio-economic school. However, no evidence was found for a moderating effect of school in either subject areas. Also gender, language or initial achievement had no moderating effect. Examining the individual gain scores of students over summer revealed high variability of the effect at both schools and in both subject areas with a similar range of scores, as well as mean gains and drops across schools. The individual gain scores and the analysis of the number of students exhibiting different summer learning patterns indicated that the SLE is not more prevalent at the low socio-economic school than at the high socio-economic counterpart.

4.2   Students' family characteristics

Parents' questionnaire data were collected to examine family background variables, which may have been related to learning over summer. The questionnaires were returned by a total of 52 parents or 66.7% (32 parents from School A and 20 parents from School B) of the main sample of 78 students. In the following section, the data provide a more detailed picture of the student population at the two schools. Secondly, the contributions of family background variables, derived from the questionnaire data, to student achievement over summer in either subject area are examined. Finally, the sample of non-respondents is briefly described to examine possible differences between the two groups of students and their families, respondents and non-respondents.

4.2.1   The sample of respondents

The data revealed two quite different student populations. At School A the large majority of respondents (95.5%) spoke German at home. The remaining families (4.5%) were bilingual with one parent speaking German and the other speaking Dutch or Turkish. At School B the student population was much more diverse with only 30% of families speaking German at home.

Another 30% spoke Turkish and 15% spoke Polish. Respectively 10% reported to speak Arabic or English and 5% spoke Russian at home.

When asked if living together as a two-parent or a one-parent family, at both schools the majority of parents reported to live together as a family (81.3% at School A and 75% at School B). Only 18.8% at School A and 20% at School B stated to be single mothers. One father at School B reported to be a single parent (1.9%).

The student population at the two schools also differed in regard to household size. The greater part of respondents (68.8%) at School A had one or two children living with them (28.1% and 40.6 % respectively). Only 31.3% of parents had three or more children. In comparison, at School B most parents (60%) had three or more children living in the household. Just 15% of parents reported to have only one child, and 25% had two children living with them.

A first indicator for the SES status of respondents was parents' the education levels. Parents at School A had markedly higher education levels than parents at School B. This was evident for fathers and mothers. The corresponding data are presented in Table 4.7.

Table 4.7 *Fathers' and Mothers' Education Levels, by School*

Completed qualification	School A Frequency (%)		School B Frequency (%)	
	Father	Mother	Father	Mother
Some level of schooling	6 (18.8)	8 (25.0)	11 (55.0)	3 (15.0)
Vocational training	10 (31.3)	9 (28.1)	4 (20.0)	3 (15.0)
Polytechnic or university studies	15 (46.9)	14 (43.8)	2 (10.0)	1 (5.0)
Missing	1 (3.1)	1 (3.1)	3 (15.0)	1 (5.0)
Total	32 (100.0)	32 (100.0)	20 (100.0)	20 (100.0)

Note: Any differences result from rounding errors

The ISEI scores for either parent served as a second indicator for SES in this study. The ISEI scores were derived from parents' occupations data. The mean ISEI scores for fathers and mothers are given in Table 4.8.

To display the scores and their range more comprehensively, the data are also presented in a box plot in Figure 4.5. In the boxplot, the diamond shaped marker represents the mean ISEI scores. The box presents 50% of students, and the band inside the box represents the median score. The whiskers each present 25% of the students and the ends of the whiskers the minimum and maximum scores, while outliers in the data are depicted as individual marks.

Table 4.8 *Fathers' and Mothers' ISEI Scores, by School*

School	Parent	*Mean*	*Minimum*	*Maximum*	*SD*	*n*
School A	Father	51.03	20	88	18.76	32
	Mother	49.62	25	88	14.45	32
School B	Father	31.65	20	69	15.49	20
	Mother	31.60	20	69	12.80	20
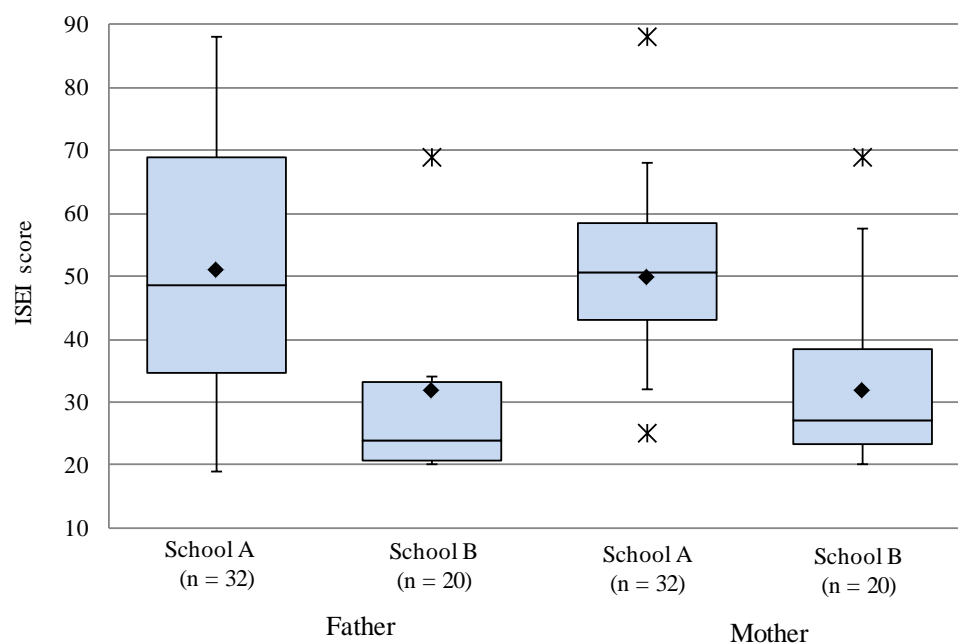
Figure 4.5 Boxplot of fathers' and mother's ISEI scores, by school

Thus, as is apparent from the table as well as from the boxplot, the mean parental ISEI score at School B was very similar for the two parents, but reasonably lower than those of parents at School A. Fathers' scores at School A showed a high range of scores, whereas fathers at School B exhibited a very small range in ISEI scores in the lower scores. The great majority of fathers at School B held low skilled and low paid occupations. These included mostly manual work and unskilled elementary occupations. On the contrary, fathers at School A held a range of occupations, including low as well as high skilled professions. However, the majority of fathers at School A followed a well-paid so called 'middle class' profession.

The HISEI scores also depict a reasonable gap between parental SES at the two schools. The mean HISEI score for School A was 57.47 (*SD* 13.78) and 34.85 (*SD* 16.42) for School B. For a more comprehensive picture, the data are presented in a boxplot (see Figure 4.6). The distribution of scores below the score of fifty is evident for School B and the more dense distribution below the thirty score mark. Remembering that the HISEI scale only starts at a score of twenty, it becomes even more apparent that parents from School B predominantly worked in unskilled elementary occupations. The data corroborate the SES given to the two schools based on the communities' SES.
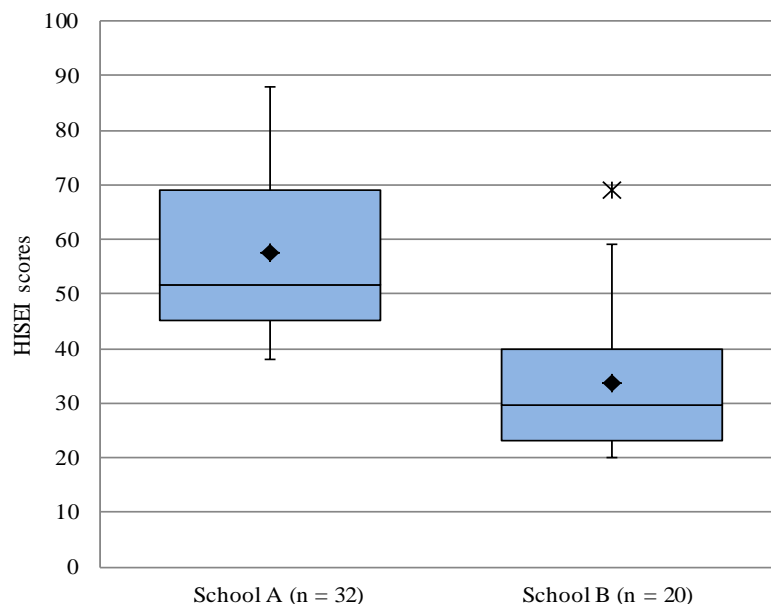
Figure 4.6 Boxplot of parents' HISEI scores, by school

The employment status within the sample of parents is of additional interest. Table 4.9 presents the data for each school for both parents. Most striking are the differences between parents at the two schools, and secondly the contrast between parents' employment statuses at either school. At both schools, most of the fathers were in full-time employment. However, at School A only 6.3% reported not working, whereas 20% of fathers were out of work at School B at the time of the questionnaire. Particularly contrasting are the data for mothers' employment statuses at the two schools. At School A, a quarter of mothers were working full-time, and almost three quarters were working part-time, with only one mother reporting not to be working at the time. In contrast, 75% of mothers at School B stated that they were not working, and 25% were in part-time employment.

Table 4.9 *Fathers' and Mothers' Occupation Status, by School*

Occupation Status		School A Frequency (%)		School B Frequency (%)	
		Father	Mother	Father	Mother
Not working		2 (6.3)	1 (3.1)	4 (20.0)	15 (75.0)
Part-time		2 (6.3)	23 (71.9)	2 (10.0)	5 (25.0)
Full-time		26 (81.3)	8 (25.0)	12 (60.0)	0 (0.0)
	Missing	2 (6.3)	0 (0.0)	2 (10.0)	0 (0.0)
	Total	32 (100.0)	32 (100.0)	20 (100.0)	20 (100.0)

Note: Any differences result from rounding errors

The number of books and children's book at home were seen as an indicator for students' access to educational resources. The data are presented in Figure 4.7 and Figure 4.8. The families at School B owned considerably fewer books than families at School A. At School B, 65% of families owned fifty books or less, in contrast to 12.5% at School A. In fact 59.4% of the parents at School A reported to have more than 200 books at home.

In regard to the number of children's books at home a similar picture emerged. Three quarter of students at School B had access to up to fifty children's books. However, about the same number of students at School A (70.7%) had access to more than fifty children's books.
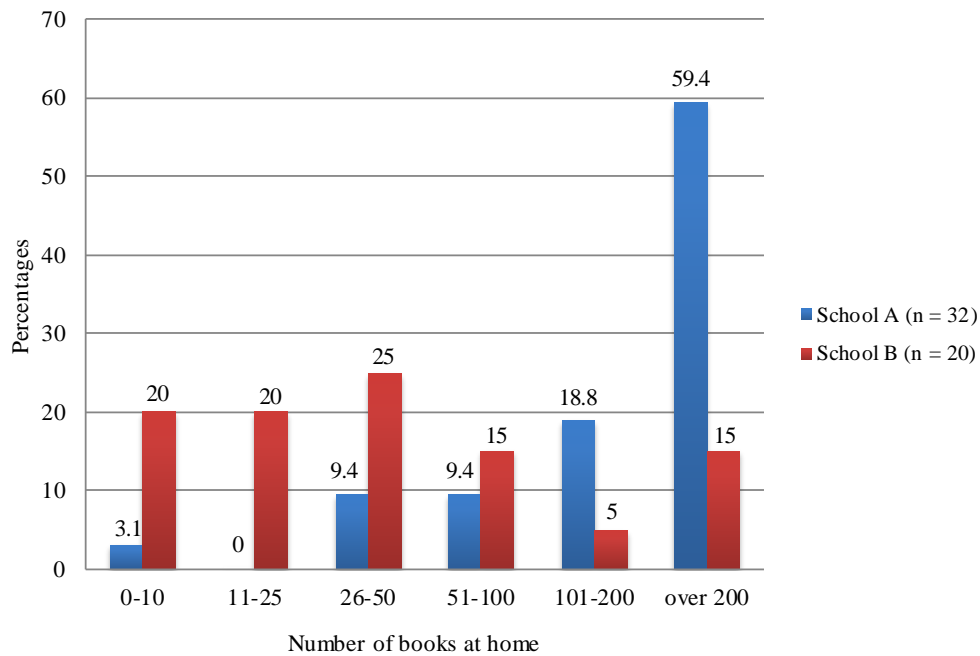
Figure 4.7 Percentages of students in the categories of books at home, by school
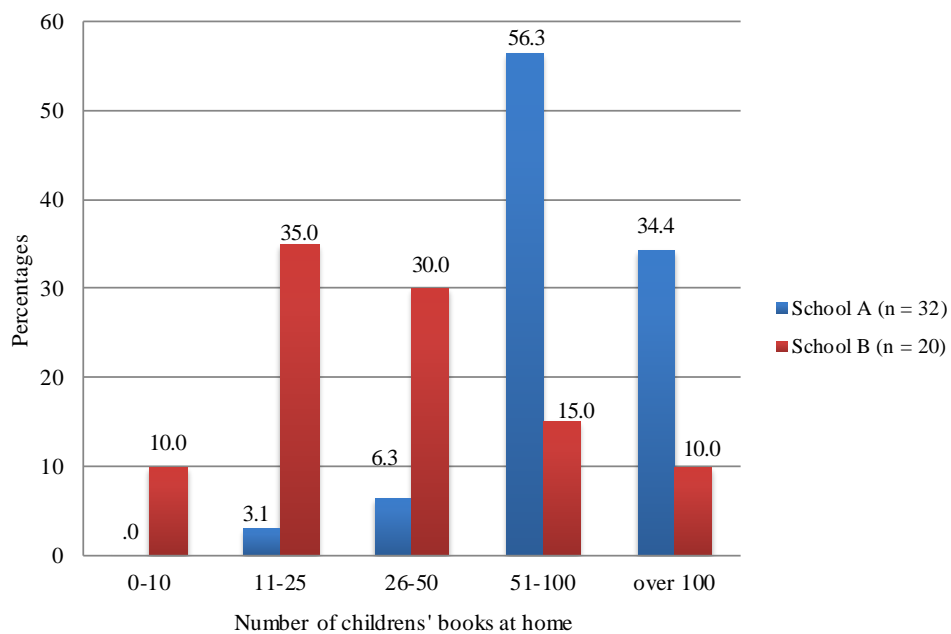
Figure 4.8 Percentages of students in the categories of children's books at home, by school

4.2.2 Family background variables and the summer learning effect

Two stepwise regressions were used to examine the contributions of family background variables to student achievement over summer in either subject area, based on the questionnaire data and the gain scores over summer. The analysis revealed that mother's education contributed significantly to the prediction of reading comprehension achievement over summer ($R^2 = .112$, adjusted $R^2 = .09$ F $(1, 44) = 5.56$, p $= .023$ standardised $\beta = .335$, $p = .023$). Figure 4.9 presents the differences between the groups and Table 4.10 presents the corresponding means and standard deviations. The questionnaire data only included 49 mothers, as data were missing for two mothers, and achievement data from one reading comprehension test were missing for one student in the sample. As can be seen from the figure and the mean scores, students, whose mothers had the lowest level of schooling (only some level of schooling) dropped in their achievement over summer, while their peers showed a pattern of continues gain.

Other variables including gender, HISEI, ISEI scores[22], father's education level, parental occupation status, language spoken at home, children living in the household, one or two parent household and the quantity of educational resources at home (books at home[23] and children's books at home[24]) did not add to the prediction of reading comprehension achievement over summer. In writing, none of the variables contributed significantly to the prediction of achievement over summer.

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[22] As can be expected mother's ISEI scores were highly correlated to mother's education (r = .823, $p < .001$), however mother's education proved to be the better predictor. A reason for this is probably the predominant focus of the ISEI taxonomy on male occupation and the resulting difficulties to map women's occupations.

[23] Books at home were recoded into: (1) up to 200 books and (2) more than 200 books

[24] Children's books were recoded into: (1) up to 50 children's books, (2) 50-100 children's books, and (3) more than 100 children's books
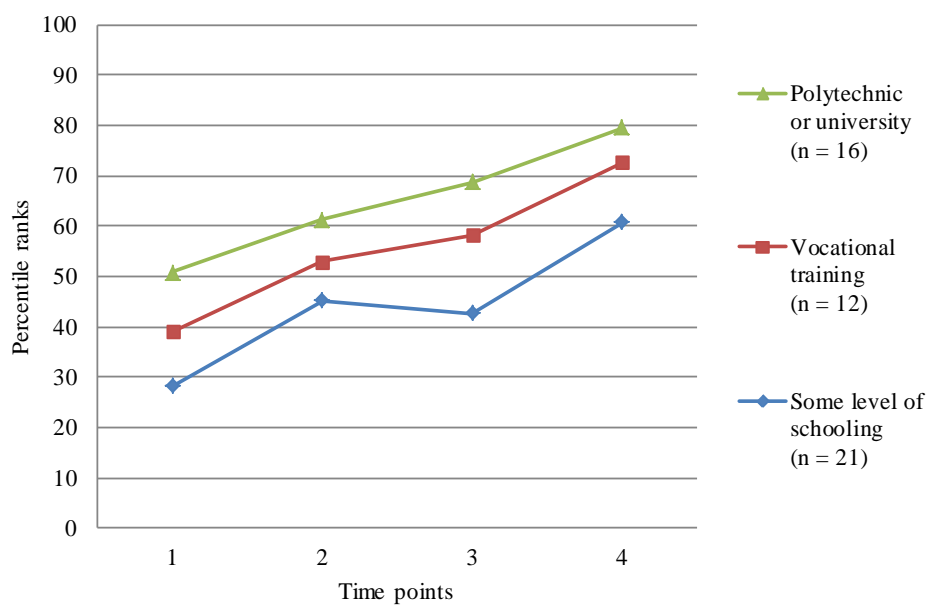
Figure 4.9 Percentile ranks in reading over school periods (T1-T2, T2-T3) and summer (T2-T3) by education level of mothers

Table 4.10 *Means and Standard Deviations of Reading Achievement by Education Levels of Mothers – in Percentile Ranks*

Education level	Time	*Mean*	*SD*	*n*
	1	28.21	26.61	21
	2	45.26	30.90	21
Some level of schooling	3	42.63	32.51	21
	4	60.80	31.84	21
	1	39.01	34.12	12
	2	52.91	34.66	12
Vocational training	3	58.28	35.78	12
	4	72.63	30.10	12
	1	50.88	33.93	16
	2	61.22	35.60	16
Polytechnic or university	3	68.64	32.11	16
	4	79.52	29.88	16

4.2.3 The sample of non-respondents

To evaluate if the sample of families, who returned the questionnaire and the ones who did not, differed significantly, the two groups of students were compared in regard to their overall achievement levels, their achievement growth over time and over summer. The process could be compared to a non-response bias analysis often undertaken in survey research, in which the differences between the actual response population and the estimated population are assessed (see for example Brick, Burke, & Lê, 2000).

In the present research, consent rates of parents to take part in the study were considerably high with almost all parents in the sampled classrooms consenting to participate. However, anecdotal evidence suggested that some parents consented to the study, but did not return the questionnaires, as they considered questions about their occupations, education levels and their home literacy resources as too personal. This phenomenon is known in the research literature, especially in survey research (Groves & Peytcheva, 2008; Turrell, 2000).

Teachers reported that compliance rates with school correspondence at School B was low in general, thus the actual number of respondents was judged as quite high by the school's teachers. At School B 42.9% of parents, who consented to take part in the study, did not return the questionnaires. At School A the compliance rate was higher with only 25.6% of parents not returning the questionnaire. This is in line with evidence from studies of survey participation, which showed that people from socio-economically disadvantaged backgrounds are least likely to respond to, or participate in, survey research (Groves & Peytcheva, 2008; Turrell, 2000).

At first glance, the population of respondents appeared similar to the population of non-respondents. Of the parents, who did not return the questionnaire, 76.9% spoke German at home, 11.5% Turkish, and respectively 3.8% spoke Arabic and Polish. Students in this group were to 50% male and female respectively.

Two repeated-measures ANOVAs were conducted to compare reading comprehension and writing scores across all the four time points, and to test whether there was a main effect of questionnaire or an interaction effect of questionnaire*school or time*questionnaire*school. See Table 4.11 for summary statistics and Table 4.12 for corresponding means and standard

deviations. However, there were no significant main effect or interaction effects in either subject area.

In summary, even though slight differences can be seen between the sample of families, who returned the questionnaire and those who did not return the questionnaire after summer, they did not differ significantly in regard to the language spoken at home, overall achievement, and achievement growth over time or in their learning over summer. Thus, there was no evidence of what one could call a substantial non-response bias for the questionnaire data.

Table 4.11 *ANOVA Summary Statistics*

	Reading comprehension				Writing			
	df	F	p	ES*	df	F	p	ES*
Time	2.41	103.52	< .001	.59	2.79	49.73	< .001	.40
Questionnaire	1	1.00	.32	.01	1	2.17	.15	.03
School	1	12.56	.001	.15	1	18.39	< .001	.20
Questionnaire *school	1	.55	.46	.01	1	.513	.48	.01
Time* Questionnaire	2.41	1.74	.17	.02	2.79	.94	.42	.01
Time*school	2.41	2.60	.07	.03	2.79	.63	.58	.01
Time* Questionnaire *school	2.41	.13	.91	.002	2.79	.51	.66	.01
Error (within)	176.07				206.55			
Error (between)	73				74			

Note:*Effect size used is partial eta squared η_p^2.

Table 4.12 *Means and Standard Deviations by Questionnaire Respondents and Non-Respondents, by School, in Percentile Ranks*

School	Logbook	Reading comprehension				Writing			
		Time	*Mean*	*SD*	*n*	*Time*	*Mean*	*SD*	*n*
School A	Yes	1	49.59	33.14	31	1	57.22	28.75	32
		2	62.96	34.39	31	2	62.69	26.46	32
		3	67.31	31.97	31	3	60.19	28.46	32
		4	77.08	30.16	31	4	71.41	25.34	32
	No	1	32.44	28.86	11	1	40.91	22.98	11
		2	54.95	29.22	11	2	49.36	25.52	11
		3	54.89	29.78	11	3	50.82	13.31	11
		4	69.55	27.01	11	4	61.46	22.81	11
School B	Yes	1	19.79	19.08	20	1	27.74	18.77	20
		2	34.92	24.18	20	2	36.15	22.88	20
		3	33.89	27.78	20	3	31.87	19.95	20
		4	57.24	29.04	20	4	43.81	25.04	20
	No	1	13.17	12.02	15	1	22.60	15.60	15
		2	36.14	23.34	15	2	32.33	19.06	15
		3	33.22	25.22	15	3	28.19	19.21	15
		4	56.53	25.61	15	4	38.93	18.70	15
Whole sample	Yes	1	37.91	31.83	51	1	45.88	29.04	52
		2	51.96	33.51	51	2	52.48	28.12	52
		3	54.20	34.33	51	3	49.30	28.88	52
		4	69.30	31.01	51	4	60.79	28.44	52
	No	1	21.32	22.55	26	1	30.35	20.80	26
		2	44.10	27.13	26	2	39.54	23.19	26
		3	42.39	28.81	26	3	38.11	23.39	26
		4	62.04	26.49	26	4	48.46	23.08	26

4.2.4 Summary

In summary, the questionnaire data revealed two quite different student populations in regard to parents' education level, occupations and occupation status at the two schools. The data clearly corroborated the SES status given to the schools on the basis of the publicly available district data. While parents at School A (high SES) held mostly well-paid, professional occupations in full time employment, parents at School B (low SES) mainly worked in manual occupations, or were currently not working. Differences were especially apparent in regard to mother's education level and employment. Mothers at School A had higher education levels and were more often working in full-time, as well as part-time, positions. In the end, mother's education was the only factor having a moderating effect on summer learning patterns.

In regard to household size and language spoken at home, families at School A had on average smaller families and spoke mostly German at home. At School B, only a third of the families spoke German at home. However, the language at home was not a significant predictor for achievement over summer.

As could be expected from previous research findings (OECD, 2010a, 2011), families from the high socio-economic school (School A) had considerably more books and children's books at home than families from the low socio-economic school (School B). However, access to a greater number of books and children's books did not prove to be a significant predictor of summer learning.

4.3 Students' literacy activities over summer

Literacy logbooks recorded students' literacy activities on a daily basis over the first two weeks of summer. Fifty-one students returned their logbooks after summer, but two students had only partially completed their logbooks and their logbook data were thus not included in the analysis. Hence, logbook data were analysed for a total of 49 students (62% of students in the whole sample). The logbook data originated from a sample of 31 students from School A and 18 students from School B. There were slightly fewer males (n=21, 42.9%) than female students (n=28, 57.1%) in the sample.

4.3.1 Frequency of reading and writing activities

The literacy logbook firstly recorded the frequency of reading and writing activities by asking students if they had read or written something on the given day. See Figure 4.10 and Figure 4.11 for an overview of the relevant data (see Appendix J for a summary table).

The absence from school did not keep the students from reading. All students reported reading on at least five out of the fourteen days. However, students at School A read more frequently than students at School B. Two-thirds of students from School A (63.6%) read every day or almost every day, reporting to read on thirteen or fourteen days. Only one third of students from School B (33.3%) reported reading that often.

When it came to practising any kind of writing, students' engagement was less frequent overall. The data are presented in Figure 4.11. Interestingly, no student from School B, but 16.1% of students from School A reported writing something on one or two days or not at all. An equal share of students at the two schools engaged in writing activities almost every day or every day, that is on thirteen or fourteen out of the fourteen days (25.8% of students at School A and 27.8% of students at School B). Otherwise, the student reports of their writing activities show fairly equal distributed frequencies. Roughly half or 48.5% of students at School A and 50.1 % of students at School B engaged in writing activities.
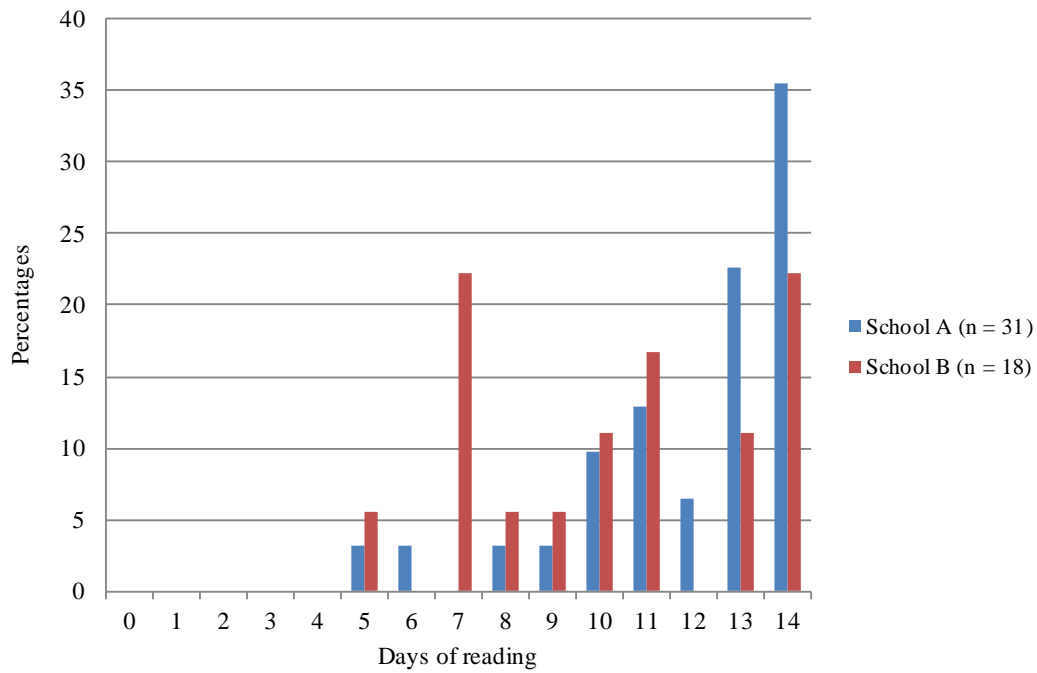
Figure 4.10 Days students engaged in reading activities over the first two weeks of summer (in percentages of students)
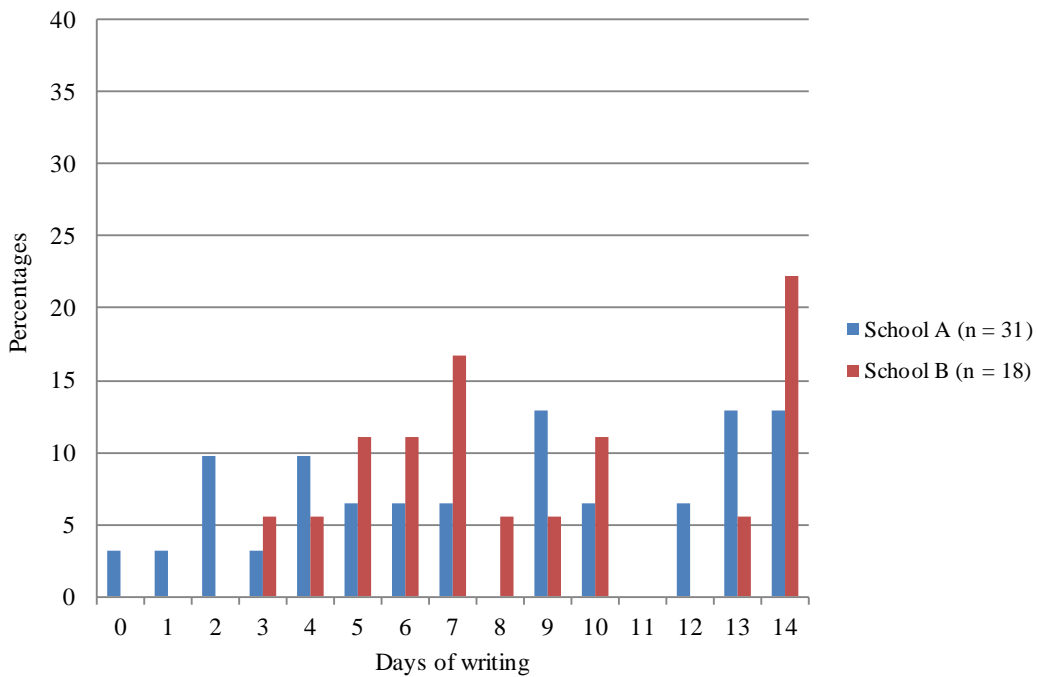
Figure 4.11 Days students engaged in writing activities over the first two weeks of summer (in percentages of students)

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4.3.2 Time spent reading and writing

Besides recording how often students had engaged in literacy practices, the literacy logbooks also documented how long students read or wrote on the given day. Estimations were given in prescribed categories.

The overall pattern of reading times appeared to be similar for students at the two schools (see Figure 4.12). However, students at School B read more often for longer periods of time; 10.4% of entries recorded showed students read two hours or more, compared with only 2.8% of entries with that reading time at School B. Similarly, 19.4% of entries showed students at School A reading half an hour or an hour, compared to 15.5% of entries of students at School B. Most often students at both schools only read between five to fifteen minutes (55.9% for School A and 52.4% for School B).
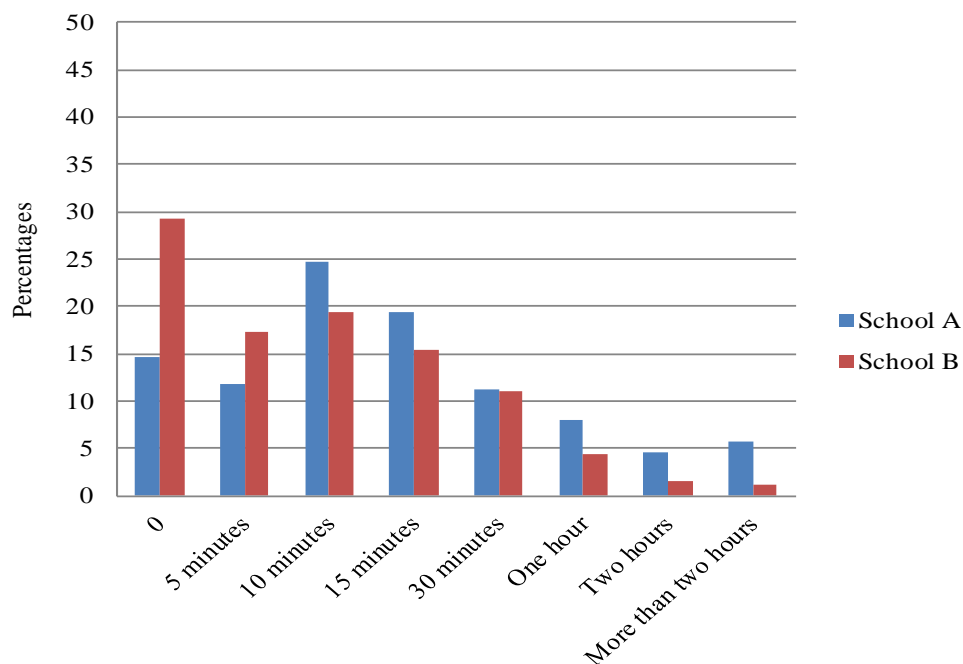
Figure 4.12 Time spent reading by percentages of literacy logbook entries, by school

Note: n = number of students x fourteen days; 434 responses for School A and 252 responses for School B

It seems less time is spent writing than reading in both school communities (see Figure 4.13). Furthermore, students from School A spent less time writing than their peers at School B. Only 0.5% of entries showed students from School A reading two hours or more compared to 2.8% of entries in this category in School B. Similar to the reading patterns, students at both schools engaged most often in writing activities for a time period of five to fifteen minutes (49% School A, 46.9% School B).
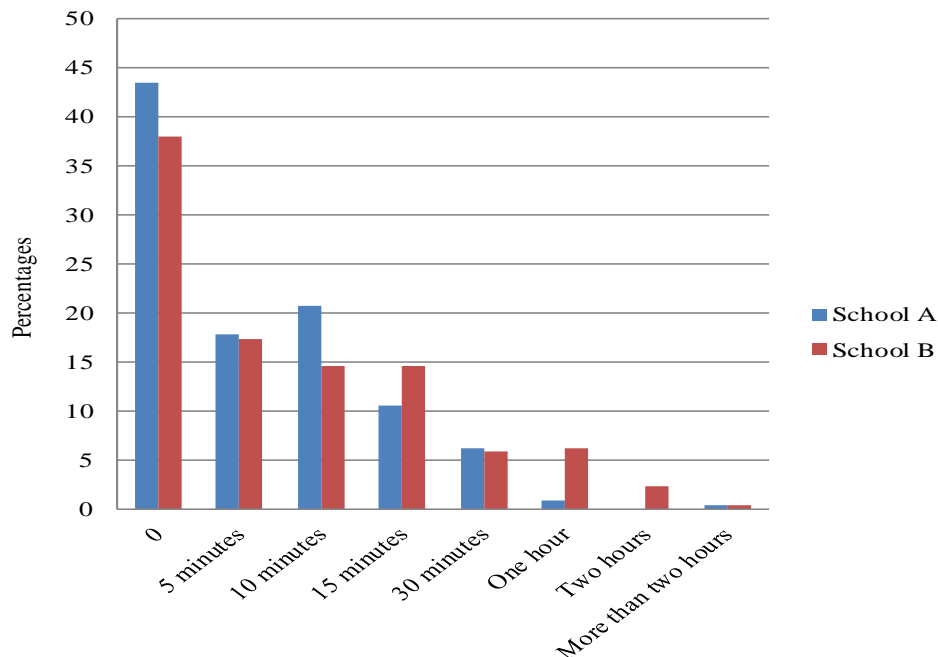
Figure 4.13 Time spent writing by percentages of literacy logbook entries, by school

Note: n = number of students x fourteen days; 434 responses for school A and 252 responses for school B

For further analysis, the category 'more than two hours' was treated as 'two hours'. Thereby, the total time and the average time a student spent reading and writing over the two weeks period could be calculated. In total, the thirty-one students at School A accrued 11,525 minutes of reading time in two weeks; this means the average student spent 26.56 minutes ($SD = 28.21$) reading every day. At School B, the eighteen students read for a total of 3,635 minutes which resulted in an estimate for the average student of 14.43 minutes ($SD = 14.42$) of reading each day. The picture was almost reversed in writing. Firstly, the total time spent in writing activities was lower; 3,300 minutes in the community of School A and 3,365 minutes in School B.

However, this resulted in an estimated average daily writing time of only 7.6 minutes for students from School A and 13.36 minutes for students from School B. Calculating these values is an interesting exercise, but the results should be treated cautiously as one steps further and further away from the actual raw data.

4.3.3   What students read and wrote

The subsequent logbook items asked students to state what kind of reading materials they engaged with on the day. In terms of writing, it was recorded what students wrote. Again data on these two questions were collected in prescribed categories. This time, however, the item had multiple choice answers. Furthermore, an open category was given for students to record any activity not covered by the given categories.

The most favourite type of reading for students at both schools remained the book (see Figure 4.14). Students picked up a book 59% of times they had reported to read at School A and 47% of times at School B. The second favourite for students were comics (17% of times at School A, 15% of times at School B). Apparently, other reading materials were more popular with students from School B than School A. Students from School B read magazines or newspapers (11% of times), used the internet for their reading (4% of times), played games that demanded some reading (9% of times), and read recipes, songs or poems (5% of times). Under the open category, students from School B recorded materials such as a letter, a friendship book, words and simply an 'explanation'. Students from School A read magazines or newspapers on 8% of times and only used the internet for reading on 2% of times. The remaining reading materials accounted for 14% of times of their reading. Under the open category, students listed traffic signs, restaurant menus, posters, friendship books and notes or messages.
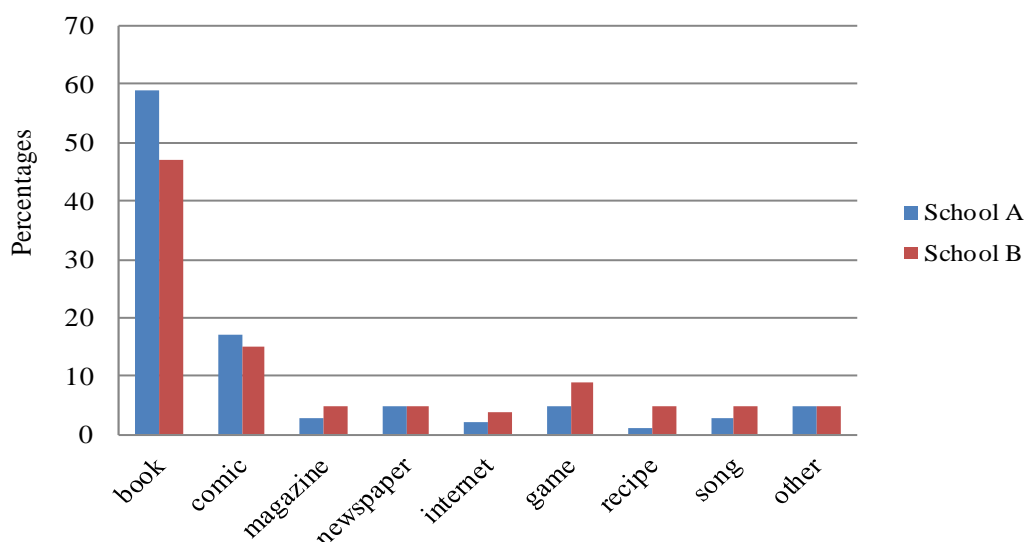
Figure 4.14 Materials read by students over summer in percentages of logbook entries by school

Note: Multiple choice answers were recorded over fourteen days from 31 students from School A and 18 students from School B ; n = 420 answers from School A, n = 201 answers from School B

Figure 4.15 presents the different kinds of writing activities of students in the first two weeks of summer. It has to be noted that the high percentages of mentions for the category 'diary' might be due to the interchangebility of the terms 'diary' and 'logbook'. It could be assumed that students recorded filling in the logbook as a writing activity. It had been emphasized not to record this activity in the explanatory session with the students, but students may not have followed these instructions. In further research, it should be even more strongly emphasized with students not to record this activity, and maybe a reminding note should be added in the logbooks. Nevertheless, first of all removing the time spent completing the logbook did not dramatically change the reported results. Secondly, it cannot be distinguished which times students wrote in their own diaries, and at which times they actually recorded completing the logbook. As a result, the data set was analysed including the diary category and the times recorded for this category.
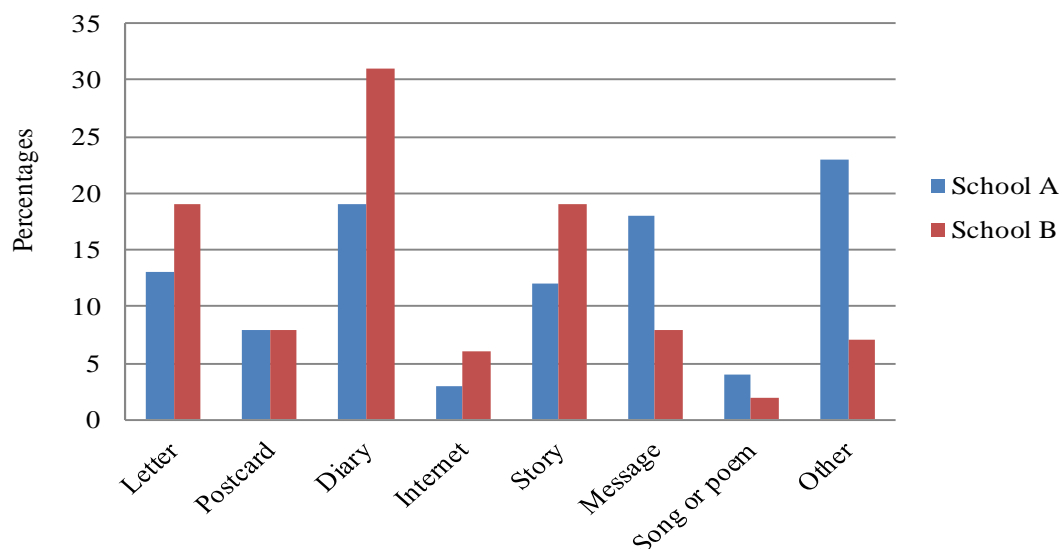
Figure 4.15 Kind of writing activities engaged in by students over summer in percentages of logbook entries, by school

Note: Multiple choice responses were recorded over fourteen days from 31 students from School A and 18 students from School B; n = 249 responses from School A, n = 169 responses from School B

The data showed that students often wrote letters or postcards (21% of times at School A, 27% of times at School B) and stories (12% of times at School A, 19% of times at School B). More seldomly they wrote songs or poems (4% of times at School A and 2% of times at School B) or used the internet for the purpose of writing (3% of times at School A, 6% of times at School B). A difference between students from the two schools is clearly noticeable in the remaining two categories. Students from School A more frequently wrote messages (18% of times) than their peers at School B (8% of times). Furthermore, students from School A reported markedly more writing activities not matching the given categories (23% of times). These included: notes, names, words, puzzles, descriptions, text messages, lists, a treasure hunt map, a poster and friendship books. Five students reported to have worked in their school workbooks, and one student stated to have been taking a dictation ten minutes each day. On the other hand, students from School B reported other writing activities only 7% of times. The activities listed were: filling in a fan booklet of a current TV show and school work.

4.3.4 With whom students engaged in literacy activities

The final logbook items asked students with whom they participated in reading and writing activities. Once again, data on these two questions were collected in prescribed categories and allowed multiple choice responses. Figure 4.16 and Figure 4.17 give an overview of the resulting data.

Habits at the two school communities seemed fairly similar when it came to choosing a reading partner. Students at both schools read mostly by themselves (64% of times at School A, 56% of times at School B). However, they also repeatedly engaged in reading activities with their parents, with students from School A reading more often with their mothers (17% of times) than their peers at School B (12% of times). Reading with friends or reading with siblings was a more frequent practice with students from School B.
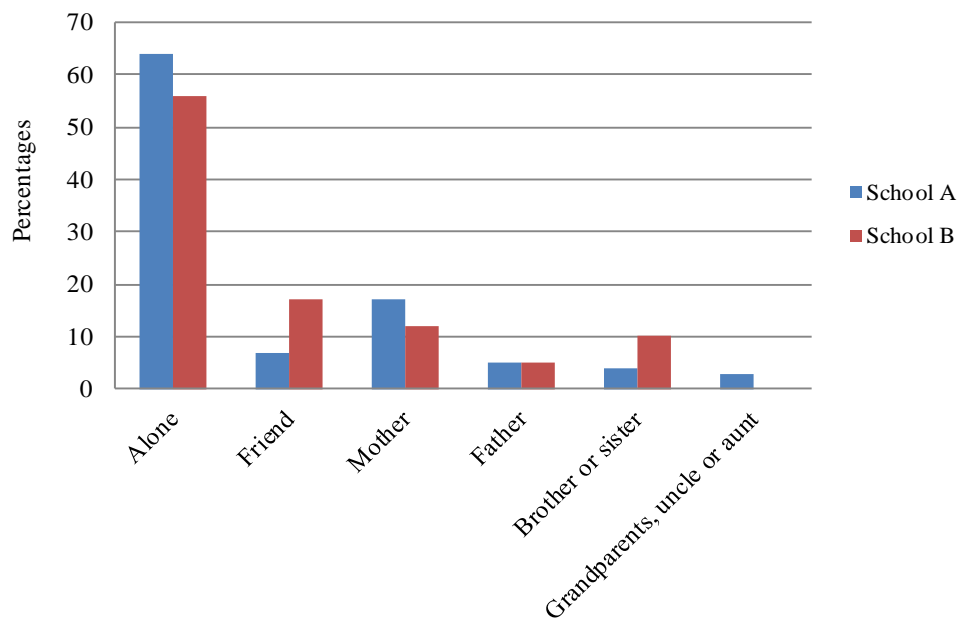
Figure 4.16 With whom students engaged in reading activities over summer in percentages of logbook entries, by school

Note: Multiple choice responses were recorded over fourteen days from 31 students from School A and 18 students from School B; n = 420 responses from School A, n = 201 responses from School B
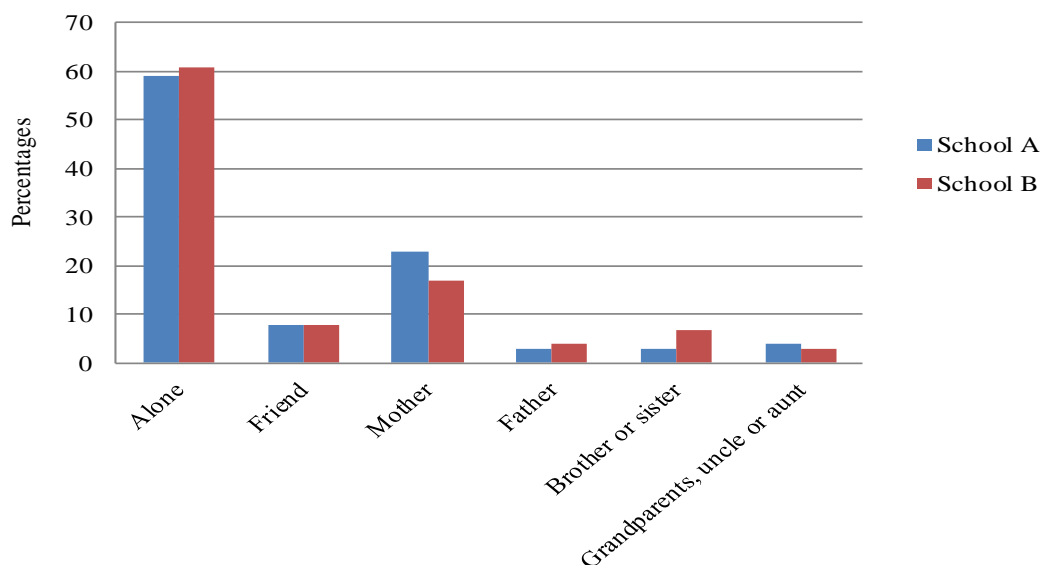
Figure 4.17 With whom students engaged in writing activities over summer in percentages of logbook entries, by school

Note: Multiple choice answers were recorded over fourteen days from 31 students from School A and 18 students from School B ; n = 261 answers from School A, n = 425 answers from School B

Similar habits were observed in writing activities. Again, students at both schools wrote mostly by themselves (59% of times at School A, 61% of times at School B) and mothers were occasionally involved in writing activities. However, mothers were more involved in writing activities with students from School A (23% of times compared to 17% of times at School B).

4.3.5   *Summer literacy activities and the summer effect*

Two stepwise regressions were used to investigate the contributions of students' summer literacy practices as reported in the logbooks on reading comprehension and writing achievement over summer.

The first stepwise regression revealed that the frequency of reading ('reading every day') and the amount of reading ('reading up to 4 hours over the two weeks') contributed significantly to the prediction of reading achievement over summer, see Table 4.13 for a summary of results. Reading every day thus accounted for 19.8% of variance, while the two variables together

explained 32.7% of variance in summer achievement gains. Other literacy practices, including the specific kinds of literacy practices and with whom students engaged into literacy practices, did not add to the prediction of reading achievement over summer.

Table 4.13 *Result Summary of Stepwise Regression*

	B	SE *β*	*β*	*t*	*p*
Model 1					
Constant	-2.29	*2.17*		-1.06	.30
Reading every day	13.23	3.97	.45	3.33	.002
Model 2					
Constant	-4.96	2.21		-2.25	.030
Reading every day	11.97	3.71	.40	3.23	.002
reading up to 4 hours	11.00	3.79	.36	2.90	.006

Note: R^2 = .198 and adjusted R^2 = .18 for Model 1, R^2 changed = .13 for Model 2 (p < .001)

For the analysis process, the reading frequency variable had been re-coded to achieve a more equal distribution. The variable was re-coded from the scale of 1-14 days read into three categories: (1) read sometimes = student read on 5 -10 days, (2) read often = student read on 11-13 days, and (3) read every day = student read on all 14 days[25]. Figure 4.18 presents the differences between the three groups of students, and Table 4.14 presents the corresponding means and standard deviations. The data indicated that students who read daily made continues gains over summer, thus not experiencing a summer learning effect, and gained on average 13.04 PR or 14.35 PR more than students who read often or sometimes. Students who read often or only sometimes however dropped in their achievement levels over summer.

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[25] For the regression analysis the variable was then dummy coded into dichotomous variables.
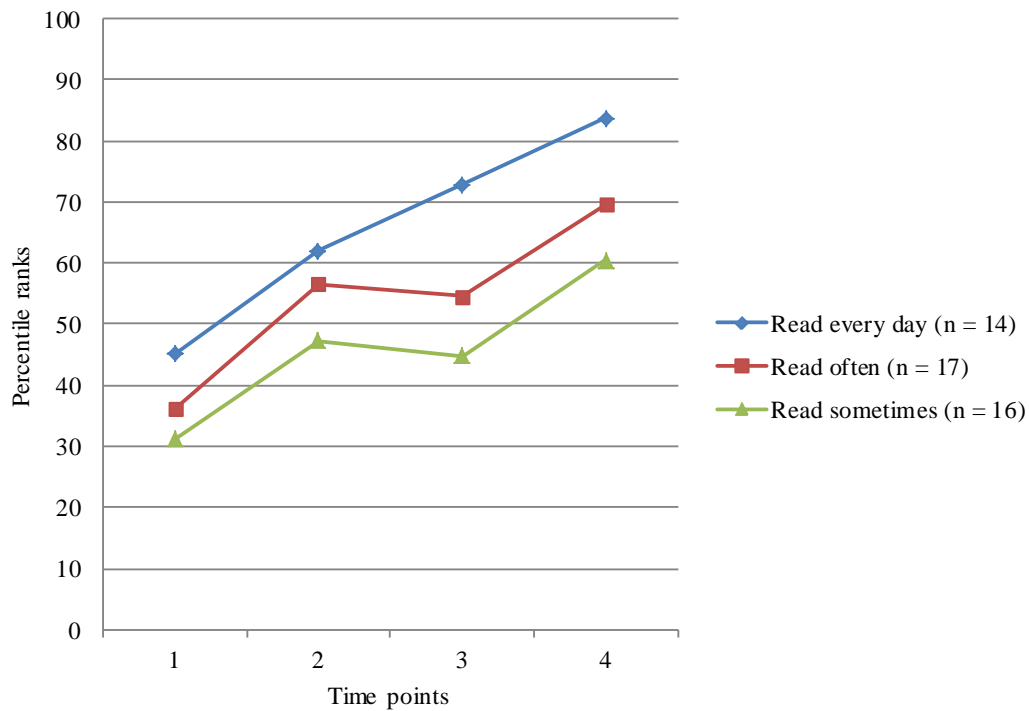
Figure 4.18 Percentile ranks in reading over school periods (T1-T2, T2-T3) and summer (T2-T3) by students grouped by reading frequency over summer as reported in the literacy logbook

Table 4.14 *Means and Standard Deviations of Reading Achievement by Frequency of Reading – in Percentile Ranks*

Frequency of reading	Time	*Mean*	*SD*	*n*
Read sometimes	1	31.12	32.54	16
	2	47.28	35.60	16
	3	44.76	35.91	16
	4	60.41	33.18	16
Read often	1	36.10	33.03	17
	2	56.61	36.18	17
	3	54.53	36.82	17
	4	69.56	33.94	17
Read every day	1	45.11	32.59	14
	2	61.94	29.72	14
	3	72.87	18.58	14
	4	83.73	12.91	14

The variable for total time reading had also been re-coded from a scale score into three categories: (1) read up to 2 ½ hours = 45-140 minutes total reading time over the two weeks, (2) read up to 4 hours = 150-250 minutes total reading time over the two weeks, and (3) read more than 4 hours = 265-1680 minutes total reading time over the two weeks. Figure 4.19 presents the differences between the three groups of students and Table 4.15 presents the corresponding means and standard deviations. Interestingly, the groups started out with quite different achievement levels. Students, who had read the most over summer, had scored more than 20 percentile ranks higher on the first test date. However, over summer the students who read between 2 ½ hours and 4 hours in total showed continuous gains over summer. The data could indicate that not only reading time alone is a predictor of summer learning, as the group of students who read even more over summer had continuous gains over summer, and thus did not show a SLE in comparison.
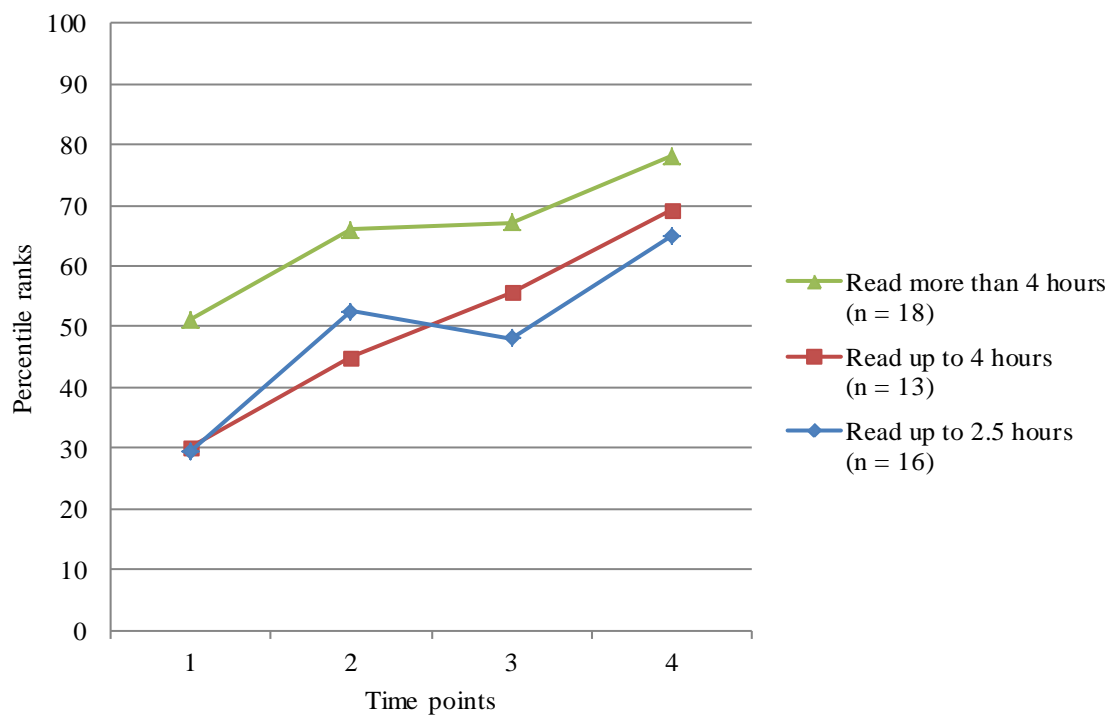
Figure 4.19 Percentile ranks in reading over school periods (T1-T2, T2-T3) and summer (T2-T3) by students grouped by total reading time over summer as reported in the literacy logbook

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Table 4.15 *Means and Standard Deviations of Reading Achievement by Total Time Reading – in Percentile Ranks*

Total reading time over two weeks	Time	*Mean*	*SD*	*n*
Read up to 2.5 hours	1	29.51	28.53	18
	2	52.53	34.95	18
	3	48.08	34.39	18
	4	65.03	32.76	18
Read up to 4 hours	1	30.16	27.84	13
	2	45.05	31.03	13
	3	55.69	30.13	13
	4	69.34	27.58	13
Read more than 4 hours	1	51.24	37.09	16
	2	65.92	34.13	16
	3	67.12	34.12	16
	4	78.08	28.72	16

A second stepwise regression examined the contributions of students' writing practices on their writing achievement over summer. The results showed that the frequency of shared writing activities ('writing often alone') contributed significantly to the prediction. Writing alone was negatively related to achievement gains over summer and accounted for 18% of variance in achievement over summer. See Table 4.16 for a result summary.

Table 4.16 *Result Summary of Stepwise Regression*

	B	SE β	β	t	p
Model 1					
Constant	-.24	1.95		-.13	.90
Writing often alone	-10.57	3.38	-.42	-3.13	.003

Note: R^2 = .18, adjusted R^2 = .16, R^2 changed = .18 (p = .003)

For the regression analysis, the variable 'writing alone' had also been re-coded to achieve a more equal distribution. The variable was re-coded from the scale of 1-14 days students wrote on their own into three categories: (1) wrote seldom alone = student who engaged in writing activities on their own on 0-2 days, (2) wrote sometimes alone = student who engaged in writing activities on their own on 3-6 days, and (3) wrote often alone = student who engaged in writing activities on their own on 7-14 days. Figure 4.20 presents the differences between these three groups of students visually and Table 4.17 presents the corresponding means and standard deviations.
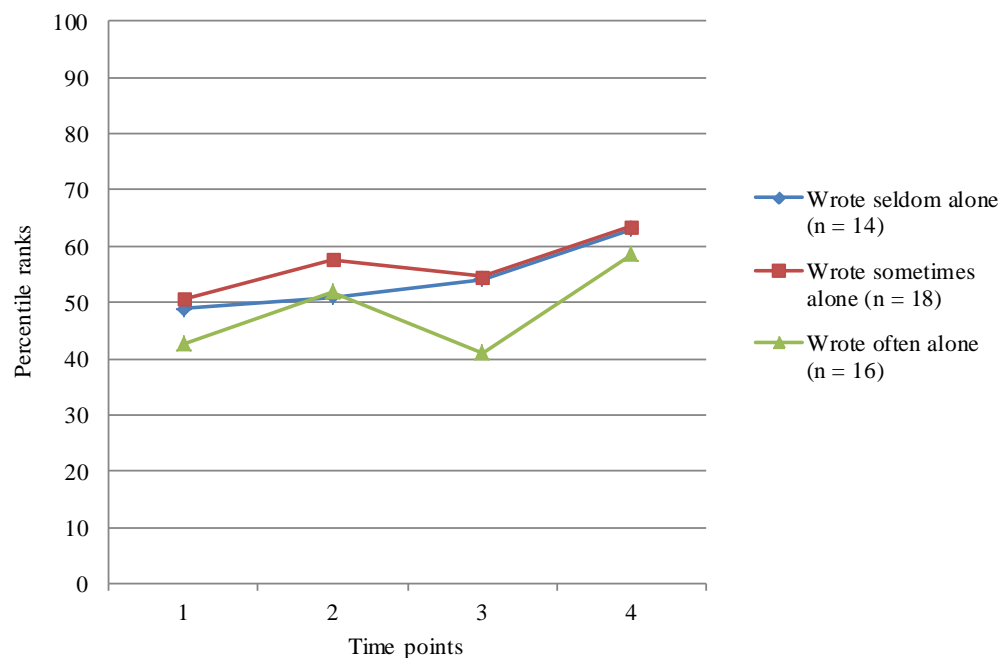
Figure 4.20 Percentile ranks in writing over school periods (T1-T2, T2-T3) and summer (T2-T3) by students grouped by frequency of writing alone as reported in the literacy logbook

Table 4.17 *Means and Standard Deviations of Writing Achievement by Frequency of Writing Alone – in Percentile Ranks*

Frequency of reading	Time	*Mean*	*SD*	*n*
Wrote often alone	1	42.63	23.40	16
	2	51.88	24.72	16
	3	41.06	24.65	16
	4	58.56	25.07	16
Wrote sometimes alone	1	50.64	29.66	18
	2	57.61	27.26	18
	3	54.67	30.88	18
	4	63.50	27.76	18
Wrote seldom alone	1	48.80	34.82	14
	2	50.93	34.99	14
	3	54.16	34.18	14
	4	63.09	34.71	14

The data indicated that students who seldom wrote alone showed a flatter achievement trajectory than the other two groups of students before summer, then made continues gains over summer, and had similar achievement gains in the school period after summer. The students in this group did not experience a SLE as they had made similar gains over summer than they had over school periods. Students who sometimes or often wrote on their own dropped in their achievement levels over summer. The drop was more pronounced for students who often engaged in writing activities on their own. These findings could indicate that students were missing support and scaffolding in their writing when writing on their own, especially as these are second/third grade students, who have not yet fully mastered the full set of writing strategies.

4.3.6   Sample of respondents and non-respondents

Thirty students did not return the literacy logbook after summer. To evaluate if the sample of students, who returned the logbook after summer and the ones who did not, differed significantly, the groups of students were compared in regard to their socio-economic

background, their overall achievement levels, and their achievement growth over time and over summer. The process could be compared to a non-response bias analysis (Brick et al., 2000).

Firstly, the group of students who returned the logbook and who did not return the logbook had a very similar range of HISEI scores (20-88) and mean HISEI scores (logbook: $M = 48.59$, $SD = 17.35$; no logbook: $M = 47.69$, $SD = 21.79$). An independent t-test confirmed that the groups were not significantly different in regard to socio-economic background (t(50)= -.151, $p = .88$, two tailed, $d = .05$).

Secondly, two repeated-measures ANOVA were conducted to compare reading comprehension and writing scores across all the four time points, and to test whether there was a main effect of logbook (students who returned the logbook) or an interaction effect of logbook*school or time*logbook*school. See Table 4.18 for summary statistics and Table 4.19 for corresponding means and standard deviations.

Table 4.18 *ANOVA Summary Statistics*

	Reading comprehension				Writing			
	df	*F*	*p*	ES*	*df*	*F*	*p*	ES*
Time	2.43	108.6	< .001	.6	2.80	53.89	< .001	.42
Logbook	1	2.02	.16	.03	1	2.98	.09	.04
School	1	14.2	< .001	.16	1	20.28	< .001	.22
Logbook*school	1	.08	.78	.001	1	.32	.57	.004
Time*logbook	2.43	.66	.55	.01	2.80	1.92	.132	.03
Time*school	2.43	2.996	.04	.04	2.80	.63	.586	.01
Time*logbook *school	2.43	2.4	.08	.03	2.80	.61	.596	.01
Error (within)	177.05				207.29			
Error (between)	73				74			

*Note:*Effect size used is partial eta squared η_p^2.

Table 4.19 *Means and Standard Deviations – in Percentile Ranks*

School	Logbook	Reading comprehension				Writing			
		Time	*Mean*	*SD*	*n*	*Time*	*Mean*	*SD*	*n*
School A	Yes	1	49.76	33.09	29	1	58.27	28.41	30
		2	64.69	34.39	29	2	63.33	27.23	30
		3	67.05	31.75	29	3	60.67	29.65	30
		4	76.86	28.89	29	4	71.67	26.74	30
	No	1	34.69	30.24	13	1	41.00	24.10	13
		2	52.32	28.93	13	2	49.92	23.34	13
		3	57.38	31.26	13	3	51.15	20.29	13
		4	71.21	30.80	13	4	62.39	19.27	13
School B	Yes	1	16.67	18.50	18	1	29.37	19.86	18
		2	39.44	27.55	18	2	37.78	23.39	18
		3	39.93	29.87	18	3	32.18	21.41	18
		4	60.69	29.64	18	4	45.18	24.02	18
	No	1	17.26	14.79	17	1	21.48	13.85	17
		2	31.21	18.12	17	2	31.05	18.48	17
		3	26.89	20.79	17	3	28.82	17.54	17
		4	52.96	24.69	17	4	38.05	20.55	17
Overall	Yes	1	37.09	32.52	47	1	47.43	28.99	47
		2	55.02	33.98	47	2	53.75	28.49	47
		3	56.67	33.48	47	3	49.98	30.04	47
		4	70.67	29.93	47	4	61.73	28.60	47
	No	1	24.82	24.00	30	1	29.94	21.05	30
		2	40.36	25.31	30	2	39.23	22.46	30
		3	40.10	29.65	30	3	38.50	21.61	30
		4	60.87	28.52	30	4	48.60	23.17	30

As reported from earlier analysis, there was a significant main effect for time and school and a significant interaction effect of time*school. However, what is more interesting here, is the fact that there was no significant main effect for logbook and no significant interaction effect of time*logbook, logbook*school or time*logbook*school in either subject area.

In summary, students, who returned the logbook and those who did not return the logbook after summer, did not differ significantly in their socio-economic backgrounds, overall achievement, and achievement growth over time or in their learning over summer. Thus, there was no evidence of what one could call a non-response bias for the literacy logbook data.

4.3.7   Summary

In summary, the literacy logbook data revealed similar literacy habits at the two schools with some differences in reading frequencies and total reading time. Overall, students frequently engaged in reading and writing activities over the summer. Almost two-thirds of students at School A read daily or almost daily, whereas students at School B read typically less frequently. However, all students read at least every second day. Students usually spent between five and fifteen minutes reading or writing, while students spent more time reading than writing. Differences between schools were small. However, they resulted in different reading times on average. While students at School A on average read 26.65 minutes every day, students at School B only read 14.43 minutes on average every day. There were only small differences between the two student populations, when looking at reading materials or shared reading activities. Mostly students read books and occasionally read comics, magazines, newspaper or other reading materials. They read mostly alone and only sometimes read with their mother or a friend. Even less often they read with other family members.

Engagement in writing activities was more varied and less frequent than in reading. Students on average only wrote every second or third day and usually spent between five and fifteen minutes reading. They mostly wrote in diaries, or wrote letters, stories or messages. Similar to reading, they mostly wrote by themselves and occasionally with their mother. Less often they wrote with friends or other family members. Writing habits at the two schools proved to be quite similar.

The regression analysis found that reading every day, and the time spent reading ('reading up to 4 hours over the two weeks'), were significant predictors for reading achievement over summer. While 'reading up to 4 hours' was a significant predictor, 'reading more than 4 hours' did not add to the prediction. The data thus seemed to indicate that not only reading time alone is a predictor of summer learning, but that other factors than reading time alone seem to at play. However, taking the initial achievement levels into consideration of the students who read up to 4 hours, the data could also indicate that reading time is even more beneficial for students with lower initial achievement levels.

In writing, the analysis showed that 'writing often alone' contributed to the prediction of writing achievement over summer. However, the relationship to achievement over summer was negative. It seems second grade students did not gain in writing when mainly writing on their own, but that writing with others, who might support or help them in their writing, had a positive impact on their achievement over summer.

4.4   Summary of results

In summary of the different sections in the present chapter, the achievement data confirmed a summer learning effect in both subject areas at both schools. Statistical comparison of summer and school gains showed that these were significantly different. Further, ANOVAs also showed that achievement growth over school periods was significant, while achievement growth over summer was not significant. In both subject areas, the SLE seemed more pronounced at the low socio-economic school. However, no statistical evidence was found for a moderating effect of school in either subject areas. Also gender, language or initial achievement had no moderating effect. Examining the individual gain scores of students over summer and the distribution of summer learning patterns revealed a high variability of the effect at both schools and in both subject areas. It indicates that the summer learning effect was not more prevalent at the low socio-economic school than at their high socio-economic counterpart.

The questionnaire data revealed two quite different student populations at the two schools in regard to parents' education level, occupations and occupation status. The data clearly corroborated the SES given to the schools on the basis of the public community statistics. While parents at School A (high SES) held mostly well-paid, professional occupations in full time

employment, parents at School B (low SES) mainly worked in manual occupations or were currently not working. Differences were especially apparent in regard to mother's education level and employment. Mothers at School A had higher education levels and were more often working in full as well as part-time positions. In regard to household size, language spoken at home and number of books at home, families at School A had on average smaller families, spoke mostly German at home, and had considerably more books and children's books at home than families from the low socio-economic school (School B). However, in the end, mother's education was the only factor showing to have a moderating effect on the summer learning effect.

The literacy logbook data showed that literacy habits were quite similar at the two schools. Overall, students frequently engaged in reading and writing activities over the summer. However, students at School B read on average less frequently and for shorter periods of time than their peers at School B. Mostly students read books and occasionally read comics, magazines, newspaper or other reading materials. They read mostly alone and only sometimes read with their mother or a friend. Even less often, they read with other family members. Engagement in writing activities was more varied and less frequent than in reading at both schools. Students mostly wrote in diaries, wrote letters, stories or messages, and mostly wrote by themselves and occasionally with their mother. Reading every day and the total time spent reading over the two weeks ('reading up to 4 hours') proved to be significant predictors for reading achievement over summer. In writing, the analysis showed that 'writing often alone' contributed to the prediction of writing achievement over summer. However, the relationship to achievement over summer was negative. It seems second grade students did not gain in writing when mainly writing on their own, but that writing with others, who might support or help them in their writing, had a positive impact on their achievement over summer.

The findings underline a further need to investigate the variability of the effect, and to examine more in-depth possible impacting factors. Especially, a focus on literacy practices at home and how these impact on summer learning seems of importance as it appears not only the time spent reading and writing moderated the summer learning effect, but also what the nature of students' and family literacy practices is. The students' and parents' interview data enabled this more in-depth investigation of these practices, which is reported on in the following chapter.

5 Chapter Five: Students' and Families' Summer Literacy Practices

As the previous chapter concluded, in the present study a summer learning effect was not a phenomenon prevalent only with students from a low socio-economic background. Different summer learning patterns were revealed at both schools, in both reading and writing. Students from both, low and high socio-economic backgrounds, continuously gained, gained, stalled or dropped in their achievement levels over summer. To gain a more in-depth understanding of the identified learning patterns, and to identify literacy practices that might be associated with more sustained learning over summer, sixteen students and their parents were interviewed about their summer literacy practices. The reported data analysis drew primarily on data from students' and parents' interviews, but was also informed by achievement data, literacy logbooks and parents' questionnaires.

The following chapter firstly describes the sample and secondly outlines how students were ascribed to different profile groups on the basis of their achievement patterns over summer – continuous gain or gain, stall or drop. In the third section, students' involvement in summer community programmes and parents' knowledge of summer programmes is summarised. In the remaining two sections of the chapter, students' and families' summer literacy practices are described for each of the profile groups under overarching themes. Themes for reading practices include: appreciation of reading and reading mileage, appropriateness of reading materials and parental guidance, access to reading material, shared reading practices, parental reading practices and perceived importance of reading. Themes for writing practices include: appreciation of writing, writing mileage and the kind of writing activities, shared writing practices and parental involvement, parental writing practices and perceived importance of writing.

5.1 Sample

The sample included data from a total of sixteen students and their parents, eight students from each school respectively. The group comprised nine girls and seven boys. Ten students reported to speak German at home; two students respectively reported to speak Turkish or Polish and one student spoke English. One student was raised bilingually, speaking German and Dutch at home.

Parents held a range of occupations from unskilled elementary occupations to highly trained medical occupations. As a result, HISEI values ranged from 20 to 88 with five families having low scores below 35, five having scores between 40 and 51, and four families with high HISEI scores at 69 or above. The mean HISEI score for the group of students was 46.44 (SD = 19.89).

The parents had a range of educational backgrounds. Six fathers and four mothers had completed a degree at university or polytechnic, three fathers and two mothers had participated in a vocational training course, and five fathers and eight mothers reported having some level of schooling. Data were missing for two fathers and two mothers.

Twelve fathers reported working full-time, and one stated not to be working at the moment. Data were missing for three fathers. Only two mothers were working full-time, eight were working part-time and six were not working. All students but four lived in a two parent household, three lived with their mother and one with his father in a one parent household. Three students were an only child; six lived with one other sibling and four with two other siblings. Two families reported having four children and one family had five children living at home.

5.2 Profile groups

In this study, the summer learning effect was a phenomenon apparent in different forms across the populations of both schools. Students from both schools - irrespective of their socio-economic background – continuously gained or made small gains, stalled or dropped in their literacy achievement over summer. For the analysis, students were thus ascribed to different profile groups for reading and writing, depending on their achievement patterns over summer rather than their socio-economic background. Figure 5.1 and Figure 5.2 depict the individual gain scores in reading and writing over summer and the division of the sixteen students into the different profile groups. Students were ascribed to the stall profile group if their achievement gains or drops were zero or less than one PR. Students with higher gains or higher drops in achievement were assigned to the gain profile group, or the drop profile group. The gain group encompassed students who gained slightly, as well as students who showed continuous gains. In reading, no students with continuous gains over summer could be interviewed. A continuous gain over summer would have meant a similar gain over summer compared to the average achievement over school periods. Students on average gained 17 PR in reading and 10 PR in

writing over the school periods. In writing, the dashed line indicates the students who gained, to the left of the line, and the students who gained continuously over summer (above 10 PR), thus experiencing no summer effect in writing, to the right of the line.

The profile groups in reading encompassed five students who dropped in their achievement, six students who stalled, and five students who gained in their achievement over summer. The profile groups in writing encompassed eight students who dropped in their achievement, two students who stalled, and six students who gained in their achievement over summer.
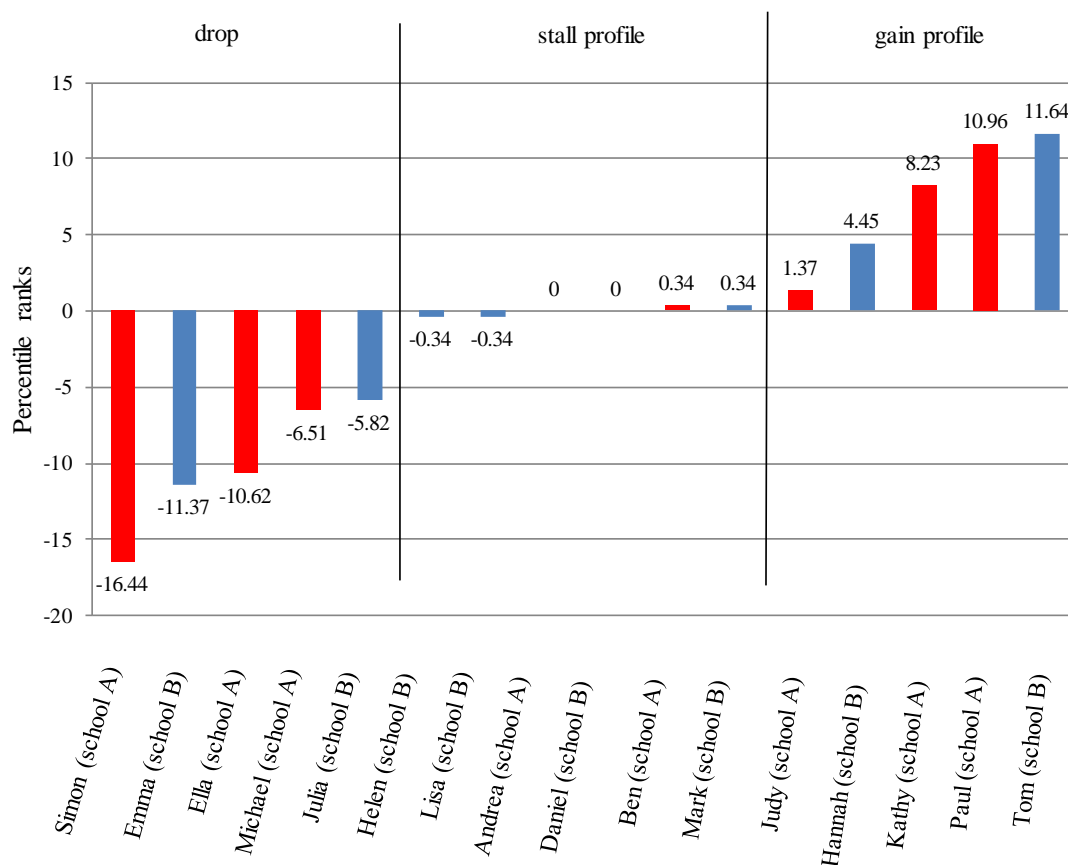
Figure 5.1 Achievement differences in reading over summer (n = 16)
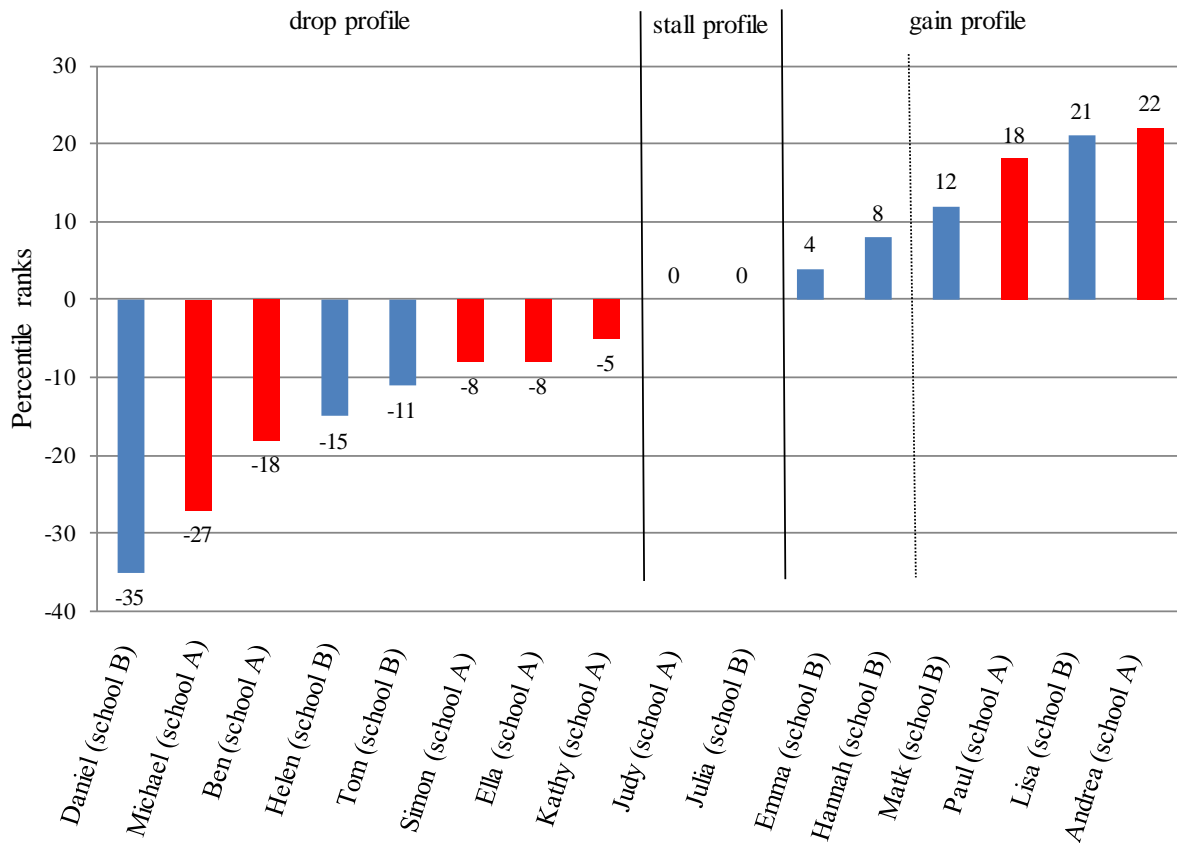
Figure 5.2 Achievement differences in writing over summer (n = 16)

Interestingly, as noted when discussing the variability of the effect, summer learning patterns of students often varied in the two subject areas for individual students. This is also apparent in this subsample of students, while some students showed similar summer learning rates in reading comprehension and writing; others had very different patterns, see Figure 5.3.
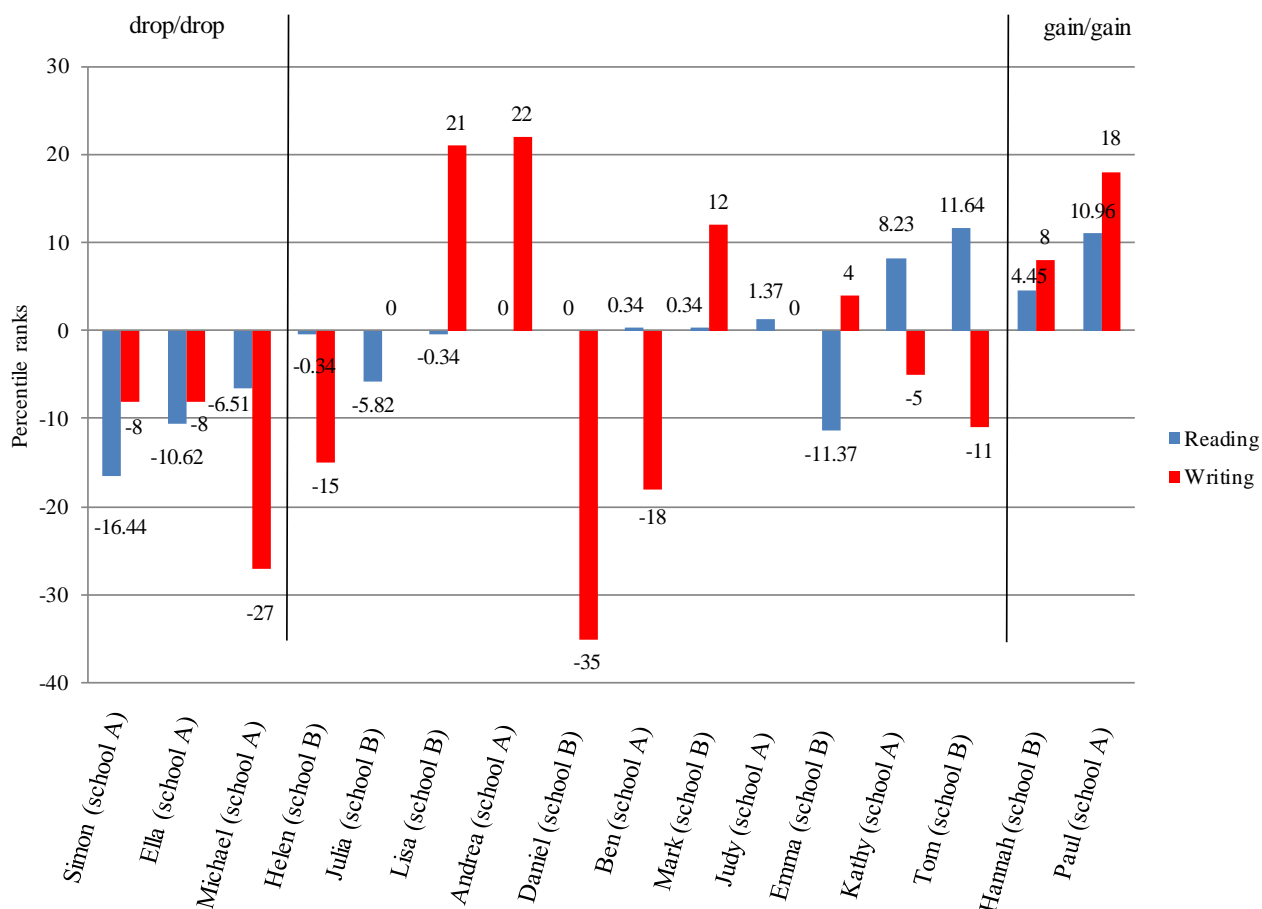
Figure 5.3 Achievement differences in reading and writing over summer (n = 16)

5.3   Summer school programmes and summer activities

In the North American context, students often attend summer school programmes; however, such programmes are not very prevalent in Germany. German communities and schools usually offer programmes for children that run over summer that have less of a focus on school related activities, but on sport, the arts or other activities. Parents and students were asked if students had participated in any programmes over summer.

Parents across all three groups did not show a high interest in summer programmes for their children, and often commented that children had enough activities over summer. Most of the

students had spent the summer mainly with their families at home; some visited relatives or took holiday trips. One student who had gained in reading as well as writing was in the holiday care programme at school over the summer. When asked about the programme, he explained that they would take trips to the zoo or the swimming pool, but would not engage in any school related activities. Two other students had been in scout's camps. None of the students had visited a programme or participated in an activity over the summer that had an explicit focus on reading or writing.

When parents were asked if they knew about any literacy focussed summer programmes, only three parents could name any providers. One pointed to programmes at the city library and the community centres. Two parents mentioned that the school had informed them about summer programmes in their last newsletter before the summer, and one parent reported the school had handed out the *holiday pass*[26] which included some activities with a literacy focus. Two of the students had used the holiday pass; however, they had chosen outdoor activities and not reading or writing related activities.

Two parents reported that teachers had suggested activities in mathematics and literacy. One of the parents reported her son had done these activities. Her son however did not mention these activities. One father, whose son's achievement had stalled in reading and dropped in writing over summer, had explicitly asked the teacher for some ideas and had received some worksheets.

> *Ich habe bei der Lehrerin nachgefragt und sie hat mir Arbeitsblätter in Deutsch und Mathe gegeben. Die haben wir gemacht. (I inquired with the teacher and she handed me work sheets for mathematics and German. These we have done.) (Daniel's father, interview on the phone)*

Only three out of the sixteen parents stated that they would like to be more informed about programmes on offer. The other parents commented that they saw no need for any additional programmes over summer for their children.

> *Nein, die Schule birgt genug Druck und Anstrengung und Kinder sollen auch einfach spielen können. Sie ist auch noch klein. (No. school is enough pressure and effort and children should sometimes just be able to play. She is also still little.) (Kathy's mother, interview on the phone)*

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[26] The holiday pass is a council initiative which publishes a booklet that compiles all children activities offered in the region over the summer holidays.

Sie ist ausgelastet, sie beschäftigt sich selber. Wir brauchen keine zusätzlichen Angebote (She is busy, she occupies herself. We don't need additional activities.) (Emma's mother, interview on the phone)

Thus, parents showed no great interest in summer activities or summer school programmes for their children, even though the schools seemed to offer information to parents. Only three parents wanted to receive more information about summer programmes, and only one father had inquired directly with the teacher about literacy activities for the summer.

In conclusion, none of students interviewed took part in any summer schools programmes or any summer activities that had a specific focus on reading and writing and could have thus impacted on literacy achievement over summer.

5.4 Students' and families' summer reading practices

In the following section, aspects of family reading practices over summer are described and differences apparent in these practices between the three profile groups (gain, stall, and drop) are made explicit. Aspects of family reading practices are organised around six themes: appreciation of reading and reading mileage, appropriateness of reading materials and parental guidance, access to reading material, shared reading practices, parental reading practices and perceived importance of reading.

5.4.1   *Appreciation of reading and reading frequency*

Students and parents were asked if the students themselves liked reading. Answers to this question were taken as an indicator for students' appreciation of reading. An appreciation of reading seemed to have an influence on the reading frequency with which students engaged in reading activities across the three groups.

Gain in reading. All five parents in this group reported that their children liked to read. Correspondingly, three out of the five students stated to like reading. The other two students expressed some reservation saying that they sometimes liked to read. Interestingly, these two students still told of daily reading activities over summer. The parents of these two students stated that their children were not often reading. Unfortunately, logbook data for these two students were missing. Two more students in this group reported reading every day or almost

every day in the summer which was mirrored by their parents' answers and their logbook data. Only one student in this group was unsure and reported that he probably only read once a week. His parents stated that he had read sometimes.

It seemed that an appreciation of reading was reflected in a higher frequency of reading activities. One of the students, who had marked a reading activity every day in the logbook, read from five minutes to half an hour and the other student always read an hour or longer. These two students also told of prolonged reading sessions in their interview:

> *Ja, ich lese ziemlich gerne. Wenn dann lese ich immer ein oder zwei Stunden. Einmal habe ich bis Mitternacht gelesen. (Yes, I like reading quite a bit. When I read, I always read for one or two hours. One time I read until midnight.) (Judy, interview)*

> *Ich lese manchmal soviel, bis spät in die Nacht hinein. (I sometimes read a lot, until late at night) (Kathy, interview)*

For this group of students reading seemed to be a 'normal' activity that was part of daily life. One parent reported of their child's enthusiasm, another labelled reading as always normal, and two parents told that their children would read without any extra encouragement. Examples are:

> *Ja, [sie] ist begeistert beim Lesen dabei, liest auch gerne laut und probiert was sie schon kann. Sie liest alles was sie um sich herum mit Buchstaben sieht. Ich habe kaum Ruhe die Zeitung zu lesen. (Yes, she is enthusiastic about reading; she also likes to read out loud and tries out what she can do already. She reads everything she sees that has letters: traffic signs, the newspaper – I have no peace when reading the newspaper) (Kathy's father, interview on the phone)*

> *"Täglich! Lesen ist immer normal! (Daily! Reading is always normal!)(Judy's mother, interview on the phone)*

> *Er liest ohne daß man ihn ermuntern muss. (He just reads you don't have to encourage him.) (Carlo's mother, interview on the phone)*

Stall in reading. Students, who had neither gained nor dropped in their reading achievement over summer, also showed a general appreciation of reading. Five out of the six students stated that they liked reading. One student said she only liked reading if it was a good book. Parents' answers to the same question closely mirrored those of their children.

The appreciation of reading was again reflected in a higher frequency of reading activities. Four students reported reading every day or almost every day over summer. This was confirmed by

the logbook data, which was available for three of the students. The other two students stated to have read two to three times a week or once a week. In their logbooks, they had marked a reading activity every second day. The frequency was thus higher than what the students had reported in their interviews. Reported reading times were overall shorter than in the previous group and always ranged from five minutes to half an hour. The following quotes in this group reveal the frequent reading activities of the students:

> *Ja, ich lese fast immer! (…) Ich habe auch immer im Bett gelesen wenn ich schlafen gehe. Ich wollte weiter lesen das [Buch] war so toll. (Yes I almost always read (…) I also always read when I went to bed. I wanted to keep on reading, the book was so good.) (Lisa, interview)*

> *Jeden Tage, eigentlich jeden Abend lese ich. (Every day actually, every evening I read.) (Andrea, interview)*

Drop in reading. The data of the group of students who dropped in their achievement levels over summer showed a number of disparities between students' and parents' answers to the question if they liked to read. Two of the five students in the group stated that they liked reading. Two other students reported to 'not really like reading'. Two parents stated the opposite to their child's response, saying that the child did or did not like reading. One student said that he liked reading, but added reservations that it was 'depending on the book'. His mother mirrored his answer, commenting that her child's appreciation of reading was very prone to change:

> *Ja, kommt auf das Buch drauf an. (Yes depending on the book) (Michael, interview)*

> *Sehr wechselnd, eher nein. Nur wenn ihn etwas interessiert (Very changeable, rather no. Only if something interests him.) (Michael's mother, interview on the phone)*

The changing nature of students' interest in reading in this group was evident in another student's and a parent's answer:

> *Ab und zu lese ich mal gerne, aber sonst ist lesen nicht so mein Fall. (Now and then I like reading, but otherwise it is not for me.) (Emma, interview)*

> *Ja und Nein. [Er] kann sich nicht lange konzentrieren, mal ne halbe Stunde lesen dann ist Schluß. Kann nicht still sitzen. (Yes and no. he can't concentrate for long, sometimes he reads for half an hour and that that was it with reading. He can't sit still.) (Simon's mother, interview on the phone)*

The mixed reactions to reading were reflected in the reported frequency of reading activities over summer. Two out of the five students stated to 'maybe have read twice or three times a week'

over summer. Their parents commented that their children were reading 'now and then' or 'not regularly'. The other three students reported to have read 'once a week' or 'sometimes' over summer, which was mirrored by two of the parents. Only one mother reported that her son had to read to her every night, but she acknowledged that she mostly read to him on these occasions and that he would read little otherwise. Her son had not mentioned these reading times in his interview.

Logbook data were available for four of the five students in this group and showed quite regular reading activities. They had read thirteen and fourteen of the fourteen days. Two other students had read eight and ten days of the fourteen days. Reported reading times ranged from five minutes to half an hour.

5.4.2 *Appropriateness of reading materials and parental guidance*

In their interviews students and parents often identified specific reading materials. The appropriateness of these reading materials, which were mainly books, was evaluated in relation to students' reading achievement levels reached at the second test date just before summer. Students and parents were also asked to report who helped and how they helped to choose reading materials.

Gain in reading. Two out of the five students who showed gains in their reading achievement over summer had low reading achievement levels before summer; around 30 PR. Two other students had medium reading levels before summer; around 50 PR. Only one student had a very high reading level before summer with 90 PR. Interestingly in this group three out of the five parents could identify quite specifically what their children had been reading over summer. Only two parents referred to children's books in general and a teen magazine. Overall, specific reading materials that the students had read over summer could be identified for four students. For three of the students the books and comics identified had appropriate reading levels. For two of the students the reading materials they had read over summer were far above their reading level. However, their parents recognized that the reading materials were not appropriate:

Sie versucht manchmal 'Bravo' [teen magazine] zu lesen, aber ich sage dann daß das noch etwas zu schwer ist (She sometimes tries to read 'Bravo' [teen magazine], but I tell her that it is still a little too hard for her) (Hannah's mother, interview on the phone)

Er hat 'Harry Potter' angefangen, aber das war noch etwas zu schwer. Er will oft mehr oder etwas anderes lesen, das noch zu schwer ist. (He started 'Harry Potter', but it was still too hard. He often wants to read more or other things, which are too hard for him) (Paul's mother, interview on the phone)

Thus, parents in this group mostly knew what their children were reading. They were also generally involved in choosing reading materials. Four out of five parents reported helping to choose reading materials and identified explicit strategies they used to choose materials. Two of them stated to look at the reading level, and two looked for the reading level as well as the format and topic of the book. One parent, whose mother tongue was not German, said she referred to grade level stickers as a reference guide to help her access the appropriateness of the book.

Format also Seitenzahl etc., Thema und Schwierigkeitslevel muss stimmen. (Format so number of pages etc, topic and reading level must fit.) (Kathy's father, interview on the phone)

Ich schaue nach Schwierigkeitslevel und Thema. (I look for the reading level and topic)(Judy's mother, interview on the phone)

Ich sage ihr wenn etwas zu schwer ist. (I tell her if something is too hard.) (Hannah's mother, interview on the phone)

Ich gucke nach Aufklebern für die richtige Klassenstufe. (I look for stickers for the correct grade level) (Tom's mother, interview on the phone)

Only one parent reported not helping her child select materials; however, when asked how books and other reading materials were accessed, parent and child reported to have them at home or from the library, which they visited together. Four out of the five students reported that no one helped them choose books, but similarly when asked how they accessed the books, three of them told that they had them from their parents. One student acknowledged that his mother and sister helped him to choose reading materials.

S*tall in reading.* Four of the students, who neither gained nor dropped in their reading achievement over summer, had very high reading levels around 90 percentile ranks and two students had low and very low reading levels before summer at 32 and 12 percentile ranks. For

five of the six students in this group, specific reading materials that the students had read over summer could be identified. The materials were all named by the students. The parents in this group could or did not name specific books, but referred generally to children's books. One parent admitted that she was unsure what her child had read over summer.

Four students had read books that were appropriate for their reading levels. Only one student who had a high reading level before summer had chosen an easier book when he could have engaged in more sophisticated reading materials. Two of the students had read a book that their teacher had handed out before the summer holidays.

Thus, parents in this group seemed less knowledgeable about the reading materials their children engaged with. They also seemed less involved in choosing or helping to choose reading materials. Only two parents reported to help their children select reading materials. They stated to look for the reading level and the topic of the book.

> *Ich gucke nach Schwierigkeitslevel. (I look for the reading level) (Andrea's mother, interview on the phone)*

> *Ich achte auf den Schwierigkeitslevel und dann gucke ich ob ihm das Thema zusagt. (I pay attention to the reading level and then I see if the topic would appeal to him) (Ben's mother, interview on the phone)*

Four of the six students said that someone helped them to choose reading materials. Three identified their parents as the ones helping, and one student stated her friends would help her as she mostly borrowed books from them.

> *Ja, meine Mutter. Ich darf ein bisschen dickere Bücher lesen. (Yes, my mother. I am allowed to read a little bit thicker books). (Lisa, interview)*

> *Also wenn wir in der Bücherei was kaufen, dann sucht meine Mama mit aus und sie weiß auf jeden Fall immer was ich lese. (When we buy something from the library, then my mother always chooses with me and in any case she always knows what I am reading) (Andrea, interview)*

> *Meine Freunde haben gesagt ich darf aussuchen und wenn mir eins gefällt dann sagen die ob es schön ist. (My friends said I can choose and if I like one they tell me if it is a good) (Helen, interview)*

Drop in reading. Three of the five students who showed drops in their achievement over summer had low or very low reading levels before summer around 25 PR and 15 PR and two had

high and very high reading levels around 80 PR. Overall, in this group a disparity was evident between students' reading levels and the reading level of the materials they read. Only two students had read books appropriate to their reading level. Another student had read a book below her actual reading level. Two of the students had read books above their reading levels.

Parents in this group seemed only somewhat knowledgeable about the reading materials their children were engaged with. However, they seemed to be little involved in choosing or helping to choose reading materials. Two parents stated to help their children choose reading materials. To identify appropriate books, they looked for the book's reading level.

> *Ich schaue welche zum selber lesen sind und welche zum vorlesen. (I have a look which ones he can read on his own and which ones are to be read to him) (Simon's mother, interview on the phone)*

> *Ich gucke nach Schwierigkeitslevel, ansonsten sucht sich [Michael] Bücher nach Themengebieten aus. (I look for the reading level, but otherwise Michael selects based on topics) (Michael's mother, interview on the phone)*

However, one parent reported to help her child selecting books by looking for the thickness of the book:

> *Das Buch darf nicht zu dick sein. (The book must not be too thick) (Julia's mother, interview on the phone)*

Another parent commented that the older sister would choose the books:

> *Die Schwester bringt die Bücher [aus der Bücherei] mit und dann sucht [Emma] nach Thema aus. (The sister brings books [from the library] and [Emma] chooses by topic.) (Emma's mother, interview on the phone)*

When the students were asked if someone helped them to choose reading materials, four students denied.

> *Nein, eigentlich achte ich nur darauf, dass die Buchstaben groß sind. (No, actually I only make sure that the letters are big) (Emma, interview)*

> *Nein, ich darf mir irgendwelche aussuchen. (No, I can choose any) (Michael, interview)*

> *Nein, ich weiß das schon. (No, I know that already) (Simon, interview)*

One student, whose mother had denied helping her, said her mother would help her choose:

> *Ella: Ich gehe mit meiner Mutter in den Buchladen. (I go to the book shop with my mother)*

Interviewer: Und hilft sie dir gucken oder weißt du wonach du guckst? (And does she help you look
for books or do you know what you are looking for?)
Ella: Sie hilft mir. (She helps me). (Ella, interview)

5.4.3   Access to reading material

An important aspect for students' reading is access to reading materials. The following section looks at the numbers of books and children's books at students' homes as reported in the parents' questionnaires, how reading materials were accessed, and families' use of the library, as reported in the interviews.

Gain in reading. The group of students, who showed gains in their reading achievement over summer, had varying numbers of books at home. Numbers ranged from zero to ten books, to over 200 books at home. However, in regard to children's books, the numbers were more alike. Four of the five families owned 51 to 100 children's books, and one family had eleven to twenty-five children's books at home. Interestingly, two families owned more children's books than adult books.

Parents often reported multiple ways their children accessed reading materials. Three of the five parents reported that their children were given books as gifts; two stated that they owned a lot of books, and one said that her child also often inherited books from siblings or from the wider family. Three parents also pointed to the classroom library and/ or the public library from where their children would borrow books.

Bücher leiht sie sich meist aus der Klassenbücherei aus. Wir kaufen Bücher auf dem Flohmarkt und
sie bekommt Bücher zu Weihnachten oder zum Geburtstag. (She mostly borrows books from the
classroom library. We buy books on the flea market and she gets given books for Christmas or for
her birthday). (Hannah's mother, interview on the phone)

Er hat sie [Bücher] aus der Schule oder aus der Bücherei. (He has them [books] from school or
from the library). (Tom's mother, interview on the phone)

Sie 'erbt' Bücher von anderen Kindern aus der Familie und von Freunden oder bekommt sie
geschenkt und aus der Bücherei. (She 'inherits' books from other children in the family and from
friends or she gets them given and from the library). (Kathy's father, interview on the phone)

The students reported getting books mostly from their parents (four out of five students). One of them also identified the library as a way he accessed books. Another student named the library and her older sisters as her means to access books.

> *Ich habe von meinen Schwestern noch ganz viele [Bücher] und von denen kriege ich manchmal Bücher. Aber die meisten Bücher haben wir eigentlich aus der Bücherei. (I still have a lot [of books] from my sisters and I sometimes get books from them. But most books we get from the library.) (Judy, interview)*

All parents in this group affirmed visiting the library with their children over summer. Three students had only gone once. The other two parents stated having been to the library with their children 'less than normal', but still two or three times over summer:

> *Wir waren seltener als sonst, vielleicht zwei oder dreimal. (We went less often than normal, maybe two or three times) (Kathy's father, interview on the phone)*

> *Wir sind viel in der Bücherei, in den Ferien vielleicht alle zwei oder drei Wochen, wenn Bedarf ist. (We are a lot in the library, in the holidays maybe every two or three weeks, if there is a need.) (Judy's mother, interview on the phone)*

Students' responses in regard to the library visits mostly mirrored each other. Four out of the students remembered going to the library with their parents in the summer holidays. One student could not remember to have been to the library in the summer holidays, even though her mother stated that she had been with a friend.

Stall in reading. The families in this group also had varying numbers of books at home. Number of books ranged from eleven to twenty-five, to over 200 books at home; similar children's books ranged from eleven to twenty-five, to over 100 children's books.

Again, parents and students reported various ways in which their children accessed reading materials. All parents stated that they usually bought the books, or had the books at home. Two parents told that their children got books given, or borrowed books from their siblings, the wider family or friends:

> *Die Bücher gehören ihr bereits. Sie leiht sich auch Bücher bei der Tochter der Nachbarin aus, die im gleichen Alter ist (She already owns the books. She also borrows books from the neighbour's daughter who is the same age) (Helen's mother, interview on the phone)*

Sie liest was sie zu Hause hat. Bücher. (She reads what she has at home. Books.) (Lisa's mother, interview on the phone)

Er hat viele Bücher zu Hause von älteren Geschwistern und aus der Familie. (He has a lot of books and comics at home from older siblings and from the family) (Ben's mother, interview on the phone)

Three of the students also mainly pointed to their parents or their siblings for providing access to reading materials. Two students also borrowed books from friends. Neither parents nor students identified the library as a means to access reading materials. Only one mother added that she used to go to the library, but that for a while she had not found the time to go.

Ich gehe normalerweise in auch immer in die Bücherei aber seit einiger Zeit hatte ich keine Zeit oder Gelegenheit zu gehen. (I also normally go to the library, but for a while now I don't find time or an opportunity to go.) (Lisa's mother, interview on the phone)

When explicitly asked about their use of the library, four parents said that their children had not been to the library over summer, and two of them admitted that they did not have a library card, in other words they also did not use the library at other times. Only two parents stated having visited the library with their child over summer. One had been twice, and one explained that they would go regularly in the school term, but had only been once over summer. In both cases the students went to the library with their mothers. The students' responses mirrored those of their parents.

Außerhalb der Ferien gehen wir regelmässig, diesmal waren wir zu viel weg, da waren wir nur einmal in der Bücherei (Outside of the holidays we go regularly, this time we were away too much, hence we were only once in the library) (Andrea's mother, interview on the phone)

Wir waren zweimal. Ich hole mir auch selber Bücher, er sucht sich Comics aus, muss sich aber auch ein Buch Minimum ausleihen. (We went twice. I also borrow books for myself. He looks for comics but he also has to get one book - minimum.) (Ben's mother, interview on the phone)

Drop in reading. Three of the five families in this group owned more than 200 books. One family owned 101 to 200 books, and one family eleven to twenty-five books. In regard to children's books, two families owned over 100, two owned 51 to 100 and one family had eleven to twenty-five children's books. Parents reported two ways in which their children accessed reading materials. Four of the five parents stated that they bought books or that they had books at home. Two of these parents also said that books were given to their children from family members, from siblings, cousins, older nephews and nieces.

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Wir gehen zusammen in die Buchhandlung und jeder sucht sich etwas aus. (We go to the book shop together and everyone chooses something) (Julia's mother, interview on the phone)

Wir haben viele Bücher zu Hause und kaufen gerne Bücher. Ich habe Bücher für ihn auf Vorrat zu Hause und biete ihm Bücher an sobald er eins ausgelesen hat. (We have a lot of books at home and like buying books. I have a stock of books at home for him and offer him books as soon as he has finished one) (Simon's mother, interview on the phone)

Gekauft. Wir kaufen viel auf dem Flohmarkt. Und von der Cousine hat sie Bücher bekommen. (Bought. We buy a lot on the flea market. And she got books from her cousin.) (Ella's mother, interview on the phone)

Von uns. Oder von älteren Neffen und Nichten. (From us. Or from older nieces and nephews.) (Michael's mother, interview on the phone)

Sie bekommt Bücher von ihrer großen Schwester. (She gets the books from her older sister.) (Emma's mother, interview on the phone)

The students also stated they had books at home, or had them given to them. Two students explained that they would buy the books, or in one case comics, themselves.

Die Bücher habe ich alle geschenkt bekommen. (All the books I got given.) (Michael, interview)

Die Comics kaufe ich mir, aber ich habe jetzt einen Vorrat da muss ich erst einmal sehen wie ich die weglese. (I buy the comics but I have a stack of themnow, so I have to have a look how to read them all.) (Simon, interview)

Meine Schwester und ich haben es [das Buch] selber gekauft. (My sister and I bought the book ourselves) (Julia, interview)

None of the parents or students in this group identified the library as a means to access reading materials, and only one student in this group had visited the library over summer, once with his mother. His mother stated that they had gone to the library, because they wanted to get books in regard to a certain topic. She explained that they otherwise seldom used the library.

In der letzten Ferienwoche waren wir einmal dort, wir haben Bücher über Katzen ausgeliehen weil er ein kleines Kätzchen bekommen hat. Sonst gehen wir eher selten. (We went once in the last week of the holiday to get books about cats, because he got given a little kitten. Otherwise we go seldom.) (Simon's mother interview on the phone)

Three parents explained that they not yet or not often used the library. One of the mothers hoped that the school would organise a card for her daughter, as the school had done for her older

daughter. Another parent explained that the older daughter would bring books for the younger one from the library.

> *Wir haben eine Büchereikarte, waren aber fast nie dort im letzten Jahr. (We have a library card but we have almost never been to the library this year.) (Michael's mother, interview on the phone)*

> *Die große Schwester hat eine Karte. Ich hatte gedacht oder gehofft, dass die Schule einen Gang zur Bücherei und eine Karte organisiert, wie bei der Schwester. (The older sister has a card. I had thought or hoped that the school organises a trip to the library and a card, as they did for the older sister) (Julia's mother, interview on the phone)*

> *Die große Schwester bringt ihr manchmal Bücher aus der Bücherei mit. (Her older sister sometimes brings her books from the library) (Emma's mother interview on the phone)*

5.4.4 Shared reading practices

The next section explores if reading at home was a shared practice for students or if they engaged in reading practices mostly by themselves. Another aspect examined is whether someone helped students with their reading, or encouraged them to read.

Gain in reading: Three students in this group reported to have read alone over the summer and their parents' responses confirmed this:

> *Ich lese immer alleine und tue so als würde ich vorlesen. Manchmal lese ich auch ganz leise so daß ich nicht mal die Lippen oder die Zunge bewege, einfach im Denken. (I always read alone and play that I read to someone. Sometimes I also read very quietly, so that I do not even move the lips or tongue, just in my mind) (Kathy, interview)*

> *Ich lese immer alleine. (I always read alone) (Tom, interview)*

One student stated reading alone or with friends, but her mother stated that she mostly read with her daughter or her daughter read to her younger siblings:

> *I lese mit ihr oder sie liest den jüngeren Geschwistern etwas vor. (I read with her or she reads something to her younger siblings) (Hannah's mother, interview on the phone)*

One student reported to often read alone; however, she also described shared reading practices in her family:

Also so machen wir es: Wir fahren wohin und dann lesen wir uns auf der Autofahrt gegenseitig vor. (We do it like this: We drive somewhere and then we read to each other on the drive) (Judy, interview)

Thus students in this group mostly read alone, some shared reading practices emerged when parents were asked if someone had read to the child over summer. Two parents reported to have read every day to their child and the students confirmed this:

Ja, das ist bei uns ein Ritual, immer zum Einschlafen. (Yes that is a ritual for us, every night when she goes to bed) (Kathy's father, interview on the phone)

Ja, jeden Abend lesen wir vor, oft auch mal am Tag. (Yes, we read to her every evening, often we also read to her over the day) (Judy's mother, interview on the phone)

Jeden Abend. Und wenn Papa aufhören will mir vorzulesen dann sage ich immer dann lies ich dir jetzt eben vor. (Every evening. And when my father wants to stop reading to me then I say that I now just read to him) (Judy, interview)

Three students reported that no one had read to them over summer. However, two parents stated that they sometimes or seldom had read to their child:

Ja ich habe manchmal vorgelesen. (Yes I sometimes read to him) (Tom's mother, interview on the phone)

Ja, ich habe vorgelesen, aber sehr selten, vielleicht zwei oder dreimal in den Sommerferien. (Yes, I did read to her, but very seldom, maybe two or three times in the holidays) (Hannah's mother, interview on the phone)

One parent explained that she used to read to her child but that she stopped doing so:

Nein, früher jeden Abend aber jetzt nicht mehr. (No, in the past I read to him every evening but not anymore). (Paul's mother, interview on the phone)

When asked if they helped their child to read or encouraged them to read, two of the five parents said they would encourage their child to read:

Ja, ich habe ihn aufgefordert zu lesen. (Yes, I prompted him to read.) (Paul's mother, interview on the phone)

Ja ich ermuntere sie zum lesen, ich lese ihr vor und besorge ihr Bücher. (Yes, I encourage her to read, I read to her and I organize books for her) (Judy's mother, interview on the phone)

Two parents stated that their child would not need any encouragement:

Sie braucht keine Ermunterung, sie liest von alleine. (She does not need any encouragement, she just reads) (Kathy's father, interview on the phone)

Nein. Er liest von alleine. (No. he just reads) (Tom's mother, interview on the phone)

One mother said she would check her daughter's homework, but would not push her to read in her spare time:

Ich gucke nach den Hausaufgaben und helfe ihr. In der Freizeit dränge ich sie nicht zum lesen. (I check her homework and help her. In her spare time I don't push her to read) (Hannah's mother, interview on the phone)

Stall in reading. All students in this group reported to have mostly read alone over summer. Two students added that they had also read with friends or parents:

Alleine. Vorher habe ich mit Mama und Papa gelesen. (Alone. Before I read with mum and dad.) (Daniel, interview)

Helen Manchmal [lese ich] mit einer Freundin, und mit meiner Mutter lese ich immer wenn ich schlafen gehe. (Sometimes I read with a friend and I always read with my mother when I go to bed) Interviewer: Hast du dann mit deiner Mutter gelesen oder hat sie dir vorgelesen? (Did you then read with your mother or did she read to you?) Helen: Ich lese vor. (I read to her). (Helen, interview)

Ich habe immer alleine gelesen, weil ich schon lesen konnte und meine Mutter weiß ja dass ich lesen kann also habe ich alleine gelesen. (I always read alone, because I could already read and my mother knows that I can read so I read alone). (Lisa, interview)

The parents' answers in regard to shared reading practices mirrored the students' accounts. When further asked if parents read to their children, not many shared reading practices could be identified. Three out of the six parents had not read to their children over summer. Two parents stated reading to their child infrequently, and only one parent in this group said that they read every evening to their child.

Nein, früher schon. (No, we did in the past though.) (Daniel's father, interview on the phone)

Ja, aber eher selten. (Yes, but rather seldomly.) (Mark's mother interview on the phone)

Ja, jeden Abend. Es ist ein Einschlafritual. (Yes, every evening. It is a bed time ritual) (Ben's mother, interview on the phone)

Even though few shared reading practices were evident in this group, four parents stated they helped or encouraged their children to read. Two parents said they reminded or told their child to

read, one did so daily. Only one parent described further ways of encouraging her child to read. She accounted going to the library with her son, reading to him, helping him with his reading, checking what he was reading and always having reading materials available for him.

> *Wir gehen zusammen zu Bücherei, lesen vor, helfen ihm beim Lesen und achten darauf was er liest. Wir haben auch immer Bücher etc. in der Hinterhand. (We go to the library with him, read to him, help him with reading and we look for what he is reading. We also always have books etc. up our sleeve). (Ben's mother, interview on the phone)*

One parent stated that they would not need to encourage her daughter as she would read without any encouragement, and one mother commented that she would check her daughter's homework in the school term.

Drop in reading. Students in this group also read alone or mostly alone. Two students, mentioned to read sometimes with their mother. Two students also mentioned reading with their brother or sister. Two parents commented that their children would mostly read with their mothers. However, from the students' interviews a different picture emerged as those students had reported to mostly read on their own.

Parents and students gave somewhat different accounts when asked if someone had read to the students over the summer. All parents commented that someone had read to their child. Three said that someone read to their child every evening. However, in one case the student commented that his mother would only sometimes read to him. In another case, the mother said that the older sister had read to her younger daughter every evening. The daughter, however, described that her older sister read her own book and not to her and also not every night.

> *Manchmal habe ich mit meiner Schwester gelesen. Nur sie hat immer gesagt wir spielen was wenn wir zwei Stunden leise gelesen haben. Ich habe viele Pausen gemacht. (Sometimes I read with my sister. Only that she always said we would play something if we would have read quietly for two hours. I took a lot of breaks)*
> *Hat dir auch jemand vorgelesen? (Did someone also read to you?)*
> *Nein, als ich noch kleiner war. (No, only when I was younger.) (Emma, interview)*

The other two parents described that either mother or father had sometimes or 'now and then' read to the child. One student confirmed this; the other student only reported that she and her brother would sometimes read to each other.

When asked if they had encouraged their children to read, only two of the five parents reported to have done so. One described encouraging her son by reading to him. The other mother said that she went to the library with him, read to him, had books available for him and tried to enthuse him.

> *Ich besuche die Bücherei mit ihm, Ich habe immer Bücher da für ihn. Ich lese ihm vor und versuche ihn zu begeistern. (I visit the library with him. I always have books for him at home. I read to him and I try to enthuse him.) (Simon's mother, interview on the phone)*

One parent commented that she would not take an active stance towards helping her daughter, but if her daughter came to her and wanted to read to her she would help.

> *Manchmal will sie mir etwas vorlesen, dann helfe ich ihr. (Sometimes she wants to read something to me, then I help her.) (Emma's mother, interview on the phone)*

The other parents stated that they did not help with or encourage their children to read.

5.4.5 Parental reading practices

Parents were also invited to speak about their own reading practices in their interviews. It was hoped to learn more about the families' reading practices, and to identify reading practices of parents that might have had an effect on their children's reading over summer. Parents were asked if they liked reading, how often they engaged in reading activities themselves, what kind of materials they liked to read and for what purposes they usually read.

Gain in reading. The parents in this group gave mixed reports about their reading. Three of the five parents liked to read, and two did not like to read. One parent who disliked reading explained that she worked very early in the morning and was too tired in the evening. Nevertheless she would read the news every day on the internet. Two more parents reported to read daily. The three parents who liked reading identified books, mainly novels and the daily or weekly newspaper as reading materials they engaged with. When asked for the purpose of their reading or why they were reading, two of the parents stated to primarily read 'to be informed', one parent did not have an answer to this explicit question, and two parents named 'entertainment' as the main purpose of their reading.

> *Ich lese gerne Romane und das Zeitunglesen ist ein tägliches Ritual. Ich lese eigentlich zur Unterhaltung und Zeitung natürlich auch um mich zu informieren. (I like to read novels and reading*

the newspaper is a daily ritual. I literally read for entertainment and the newspaper of course also to be informed.) (Kathy's mother, interview on the phone)

Ich lese zum Vergnügen. (I read for fun.) (Judy's mother, interview on the phone)

Stall in reading. All parents in this group stated they liked reading. However, even though they liked to read, only two parents read daily. The other parents read maybe two to three times a week, once a week or less. Two parents explained that they lacked time to sit down and read. In regard to reading materials, four parents primarily read books (especially novels), three read a daily or weekly newspaper, and two also read magazines. One parent reported mainly reading religious texts. When asked for the purpose of their reading, four of the six parents named entertainment either as the main or secondary purpose of their reading. Three parents also read 'to be informed', and one parent pointed out that she would need to read a lot for her work. One parent did not give an explicit reason for her reading.

Drop in reading. All parents in this group liked to read and reported to read daily. All of them favoured books, especially novels, for reading. Only two of the parents read a newspaper, and one of them said she would only sometimes skim read the paper. Two parents said they read a lot of technical or academic texts which were work related, and one mother liked to read magazines. Accordingly, all five parents primarily saw entertainment as the main purpose of their reading. Two parents also pointed out to read for professional development, or 'to be informed'.

5.4.6 *Perceived importance of reading*

A further interview question was used to gather a sense of how parents rated the importance of reading for their children. All parents across the three groups rated reading as highly important for their children; however, parents endorsed different arguments for why reading was important and often gave multiple reasons.

Gain in reading. Three of the five parents in this group pointed out that reading was important for children so they could develop their thinking and their imagination. Three parents emphasized that reading supported child's language development.

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Es ist sehr wichtig zur Entwicklung der Phantasie, zum Verstehen lernen und natürlich um die Sprache zu lernen. (It is very important to develop imagination, to understand language and to learn the language as well.) (Hannah's mother, interview on the phone)

Es ist enorm wichtig für die Sprachbildung, den Ausdruck und für ihr Denken. (It is enormously important for their language development, for their expression and for their thinking!) (Kathy's father, interview on the phone)

Two parents also associated reading with the children's school education or as a means 'to draw information' from what one was reading:

Ich glaube, es ist sehr wichtig. Es ist einfach toll wenn man in andere Welten eintauchen kann. Und es ist wichtig ein geübter Leser zu sein um Informationen aus Texten ziehen zu können. (I think it is very important. It is just amazing to be able to dive into another world. And to be a proficient reader is very important to be able to draw information from what you are reading.) (Judy's mother, interview on the phone)

Sehr wichtig für ihre Ausbildung. (Very important for their education.) (Tom's mother, interview on the phone)

Stall in reading. Two parents in this group saw reading as an activity that was better than time spent on the computer or in front of the television, and pointed out that it was calmer and nicer form of entertainment for children.

Es ist sehr wichtig, es ist besser als Fernsehen oder Computer. Lesen ist einfach schöne Unterhaltung. (It is very important, it is better than TV or computer. Reading is just nice entertainment.) (Andrea's mother, interview on the phone)

Sehr wichtig! Das Leben ist zu schnelllebig geworden durch Computer. Lesen ist ruhiger. (Very important! Life has become too fast moving. Reading is calmer.) (Daniel's mother, interview on the phone)

One parent in this group pointed out that reading was important for the 'education of the mind and soul', and one parent mentioned the importance of reading for the child's language development. One parent stressed the point that reading was important for their child's education, and to be able to go to university.

Es ist sehr wichtig für die Ausbildung, die Kinder sollen später studieren. (It is very important, for the education, the children should go to university later) (Helen's mother, interview on the phone)

Drop in reading. Three parents in this group emphasized that they thought reading was important for children's development of their imagination, their creative intelligence, and that it was a means to dive into another world. One of them also mentioned the child's language development as an important aspect of reading.

> *Lesen ist sehr wichtig für Kinder. Es ist ein Tor zu einer anderen Welt. Es hilft der Vorstellungskraft. (Reading is very important for children. It is a gateway to another world. It helps the imagination.) (Julia's mother, interview on the phone)*

> *Sehr wichtig. Für die Vorstellungskraft, die Phantasie, es fördert die kreative Intelligenz und den Sprachschatz. Und es ist nötig für die Weiterentwicklung des Denkens und für die Mitteilung und für den Sprachschatz. (Very important, for the imagination, the fantasy, it fosters the further development of the thinking and the expression and the vocabulary.) (Simon's mother, interview on the phone)*

> *Es ist super wichtig. Es regt die Phantasie an, man kann Abtauchen und zur Ruhe kommen. (It is super important. It stimulates fantasy, you can descent and calm down.)(Michael's mother, interview on the phone)*

One parent pointed out that reading was important for children to achieve a media competence, and one mother did not give further reasons why she thought reading was important.

5.4.7 Summary

In summary, different patterns emerged in families' reading practices in the profile groups. For an overview of patterns see Table 5.1, key findings are highlighted in the following text.

The main differences between groups of students, who gained, stalled or dropped in their achievement over summer, lay in students' appreciation of reading, which seemed indicative of the frequency with which students engaged in reading practices, the way students accessed reading materials and especially the families' use of the library, the appropriateness of the materials, and shared reading experiences. No distinct patterns were revealed in relation to numbers of books at home, parental reading and how important parents rated reading.

Students who had gained in their reading achievement over summer showed a general appreciation of reading. These students had regularly engaged in reading activities on their own over summer, and reading was described as a part of daily life. Parents were informed about

what their children were reading and involved in choosing reading materials. They had explicit strategies to identify appropriate materials. As a result, the students in this group were reading books appropriate to their reading levels. Parents and students reported multiple ways of accessing materials. Books were often given as gifts, inherited from siblings and from the wider family, or were already owned. Parents and students also identified the classroom or public library as a means to access books. All students had visited the library over summer, mostly more than once, and visited regularly during the school term. Students were often reading by themselves, but families in this group also shared reading practices. Parents read to or with their children, some did so daily.

Students, who had stalled in their reading achievement over summer, showed a general appreciation of reading, and had engaged in reading activities on their own regularly over summer. Parents in this group were somewhat less knowledgeable about what their children were reading, and seemed less involved in choosing or helping to choose materials. Students had mostly read books appropriate to their reading levels. Parents and students identified similar ways to access books as students from the gain-group; however, neither parents nor students named the library as a way to access books. Only two students had visited the library in summer, and two students stated they never used the library. Students mostly read alone and not many shared reading practices could be accounted for.

Students, who had dropped in their reading achievement over summer, showed mixed reactions to reading. In some cases theirs' and their parents' answers to the question if they liked reading contradicted each other. These students had read three to four times a week, but reported not regularly engaging in reading activities over summer. Parents were somewhat knowledgeable about what their children were reading, but did not seem very involved in choosing or helping to choose reading materials. Some parents and students named strategies to identify reading materials; however, these could be seen as not effective (e.g. looking for thickness of the book or size of the letters). Consequently, students mostly read books not appropriate to their reading levels. Parents only identified two ways to access reading materials: buying books or inheriting them from siblings or the wider family. Students also reported to buying books or comics themselves. Neither parents nor students named the library as a means to access materials, and only one student had visited the library over summer, but reported not normally to visit the

library. Other parents stated they did not use the library in general. Students in this group had mostly read alone and mixed accounts were given when asked if someone read to the child.

Table 5.1 *Comparison of Reading Themes across Profile Groups*

Theme	Profile group		
	Gain	Stall	Drop
Appreciation of reading	Liked reading; agreement between parents and students	Liked reading; agreement between parents and students	Mixed appreciation of reading, prone to change, dependent on subject or book; mixed agreement between parents and students
Reading mileage	Daily, reading seen as 'normal'	Daily or almost daily	Two or three times a week, irregular reading times
Appropriateness of reading materials	Materials with appropriate reading levels	Mostly materials with appropriate reading levels	Materials not appropriate to students' reading levels
Parental guidance	Knew what their children were reading, generally involved in choosing materials, had effective strategies to identify appropriate materials	Unsure what their children were reading, less involved in choosing materials, had effective strategies to identify appropriate materials	Sometimes knew what their children were reading, less involved in choosing materials, had no effective strategies to identify appropriate materials
Access to reading material	Books as gifts, owned books, inherited books (from siblings and wider family), borrowed from the library	Owned books, inherited books (from siblings and wider family), borrowed from friends	Owned books, inherited books (from siblings and wider family), students bought books or comics themselves
Use of the library	Regular visits, also in the holidays	Irregular use of the library	No use of the library
Shared reading practices	Students read mostly by themselves, parents regularly read to their children	Students read mostly by themselves, parents regularly read to their children	Students read mostly by themselves, different accounts on someone reading to the child
Parental help and encouragement	'No need' for encouragement	Helped, encouraged and reminded students to read	Mostly did not help or encourage, helped if children asked for help
Parental reading practices	Mixed reports about their reading, mostly daily reading activities for entertainment or to be informed	Mostly liked reading, mainly read two or three times a week for entertainment and to be informed	Liked reading and did so daily for entertainment, some referred to work related reading tasks
Parental perception of importance of reading	Rated as important, to develop thinking, imagination and language, for education	Rated as important, entertainment, to develop 'mind and soul', language	Rated as important, to develop imagination, creative intelligence and means to dive into another world, to achieve a media competence

5.5 Families' writing practices

In this section, aspects of families' writing practices over summer are described, and differences apparent in these practices between the three profile groups (gain, stall, and drop) are made explicit. Aspects of families' writing practices are organised around the following themes: appreciation of writing, writing mileage and the kind of writing activities; shared writing practices and parental guidance; parental writing practices and perceived importance of writing.

5.5.1 *Appreciation of writing, writing mileage and the kinds of writing activities*

Differences between students' appreciation of writing were clearly apparent between the three groups. Similar to the relationship between students' appreciation of reading and the frequency of reading activities they engaged in, an appreciation of writing was also indicative of a higher frequency of writing activities over summer. More than with reading, parents and students often related writing to school-related activities such as homework and not to other writing activities such as writing letters, stories or keeping a diary.

Gain in writing. All six parents in this group reported that their children liked writing and four out of the six students confirmed this. One parent even explained that her child liked writing better than reading:

> *Ja, sie mag schreiben lieber als lesen. (Yes, she likes writing better than reading.) (Andrea's mother, interview on the phone)*

Frequencies of writing activities were overall lower than for reading activities. However, in this group the incidences of writing activities were still quite frequent. Three parents reported their children had written something two to three times a week. Only two parents stated that their children had not engaged in writing activities over summer. However, their children stated to have written something often or sometimes:

> *Immer fast, aber jetzt ist es voll [das Tagebuch]. (Almost always, but now it is full [the diary]) (Lisa, interview).*

> *Ja, ich habe Geschichten geschrieben… einmal die Woche vielleicht. (Yes, I wrote stories …once a week maybe.) (Mark, interview)*

One of the students reported to have written less often, and one student reported to have written more often than reported by their parents. Andrea had the greatest gains in writing over summer, and also reported the highest frequency of writing:

> *Also ich habe ganz viele Brieffreundinnen und ich schreibe eigentlich fast jeden Tag eine Postkarte. Ich schreibe eigentlich sehr viel. (Well, I have a lot of pen pals and I write a postcard every day really. I actually write a lot.) (Andrea, interview)*

The students in this group mainly engaged in communicative writing, or activities that offered personal meaning and enjoyment. Four students said they wrote letters, postcards or emails. Two students kept a diary, and three students also engaged in other writing projects such as superscribing drawings, writing jokes or writing stories.

> *Ich schreibe immer Emails auf dem Computer. (I always write emails on the computer) (Hannah, interview)*

> *Manchmal schreibe ich einfach nur Briefe oder Geburtstagskarten. (Sometimes, I just write letters or birthday cards.) (Emma, interview)*

> *Er hat in sein Tagebuch geschrieben, kleine Texte abgeschrieben, er hat Witze geschrieben oder Bildunterschriften. (He wrote in his dairy, copied short texts, he wrote jokes or picture captions.) (Paul's mother, interview on the phone)*

Stall in writing. Both of the students, who stalled in their writing achievement over summer, reported no appreciation of writing. However, both students had still engaged in writing activities every few days or once a week over summer. The students reported to have written into a diary, written a postcard and copied text from a book.

> *Manchmal, ich habe so ein Buch abgeschrieben, aber nur rein bisschen, ein Geisterbuch. Ich habe auch noch andere Sachen geschrieben, aber ich weiss nicht mehr was das war. (Sometimes, I copied a book, just some of it, a book about ghosts. I also wrote other things but I forgot what that was.) (Julia, interview)*

> *Zu Hause schreibe ich nicht so oft aber auf Sommerlager habe ich Tagebuch geschrieben. Ich schreibe immer gerne Ferientagebuch. Und ich habe Mama und Papa eine Postkarte geschickt. (I don't write that much when at home, but when I was at summer camp I wrote in my diary. I always like writing into my holiday diary. And I sent a postcard to my mother and father.) (Judy, interview)*

The parents' interviews confirmed the students' reports on their appreciation of writing and the frequency of their writing activities. Julia's mother added that Julia had sometimes written into her diary and had sent a postcard. Judy's mother added that Judy had also written stories.

Drop in writing. In this group, the responses in regard to students' appreciation of writing were somewhat incongruent and mostly negative. Four of the eight students reported to like writing. One student said he liked writing, but not as much as reading, and three students disliked writing.

> *Ja, aber nicht so gerne wie Lesen. (Michael, interview)*

> *Nein, wenn ich schreibe tut mir immer die Hand weh. (No, my hand hurts when I am writing) (Daniel, interview).*

Only two of the four parents confirmed their children's enjoyment of writing. Three parents stated that their children liked writing, but added reservations that it was prone to change or that it was restricted to doing homework. Three parents admitted that their children did not like writing.

> *Ja aber es ist sehr wechselnd. (Yes, but it is very changeable.)(Michael's mother, interview on the phone)*

> *Nein, er vermeidet es, er findet es zu mühsam. (No, he avoids it, he thinks it is too tedious.)(Ben's mother, interview on the phone)*

> *Nein, er ist auch Linkshänder. (No, he is also left-handed) (Daniel's father, interview on the phone)*

> *Nein, nicht so gerne. (No, not so much.) (Helen's mother, interview on the phone)*

Writing activities were not as frequent in this group as in the other two groups. Only two parents stated that their children wrote daily over summer. The students mitigated these statements a little as they explained to have writen something almost every day. These two students also had the smallest drops in their writing achievement over summer. They and their parents reported that they had written letters and postcards, notes to friends or their parents and kept a diary.

> *Ja, eine Postkarte, drei oder vier Briefe, die habe ich aber vergessen zu verschicken.(Yes, one postcard, three or four letters, but I forgot to send them.) (Kathy, interview)*

> *Sie hat einen Brief an uns geschickt als sie bei den Pfadfindern war, sie hat in ihrem Tagebuch geschrieben und Nachrichten an Freunde oder an uns. Das hat sie sich wohl bei uns abgeguckt.*

(She sent us a letter when she was at the scout's camp, she wrote into her diary and messages for friends or for us. That she probably copied from us.) (Ella's mother, interview on the phone)

The other six parents and students described to only have written seldom, or sometimes, over summer, and one parent stated that her child had not written anything over summer. The student also at first reported not to have written anything, but later remembered to have completed a workbook that was left over from the previous school year.

Ja, das Elefantenbuch das war übrig vom letzten Jahr. (Yes, the elephant book that was left over from last year) (Tom, interview)

In general, the writing activities in this group were less communicative and more school related. In three more instances either the student or the parent stated that students had used school materials for writing; they had picked up their workbook, or practised in their calligraphy book.

Ja, manchmal in meinem Schreibschriftheft...ich finde Schreibschrift bringt Spass.(Yes, sometimes I worked in my calligraphy book...I think calligraphy is fun.) (Simon, interview)

Er hat in den ersten beiden Wochen sein Nomen- und Schreibschriftheft zu Ende bearbeitet aus dem letzten Schuljahr. (In the first two weeks, he finished his noun book and his calligraphy book from the last school year.) (Ben's mother, interview on the phone)

Ich weiss nicht wie oft er was geschrieben hat ... etwas von der Lehrerin. (I don't know how often he wrote something...something the teacher had given him.) (Daniel's father, interview on the phone)

For two students, including the one mentioned above, only these school-related writing activities were reported. The other two students had also written a text message or a postcard. One other student only reported to have crafted some cards and to have written a greeting for her mother on them.

Zzwei sms an meine Schwester, sonst nicht. (Two text messages to my sister, otherwise nothing.) (Ben, interview)

Vielleicht ein bisschen. Ich habe manchmal meiner Mama Karten gebastelt und etwas drauf geschrieben. Ich habe viel gemalt. (Maybe a little, I sometimes crafted cards for my mother and wrote something on them. I drew a lot.) (Helen, interview)

The one remaining student was told daily by his mother to write in a personal diary; however, the mother admitted that he only sometimes did, and when she had stopped telling him, he had stopped entirely.

Ich habe ihn sehr ermutigt in ein Ferientagebuch zu schreiben. Manchmal hat er mehr, manachmal gar nicht geschrieben. Als ich nicht mehr gedrängt habe ist es dann eingeschlafen. (I very much encouraged him to write into a holiday diary. Sometimes he wrote more, sometimes nothing at all. When I stopped pressing, it dropped off.) (Michael's mother, interview on the phone)

5.5.2 *Shared writing practices and parental guidance*

In writing, there are not as many common practices that families could share as there are in reading. Thus as expected, there were not many shared writing activities to be accounted for across all three groups of students. However, incidences of encouragement to write were also low across all three groups, and involvement of parents seemed mostly concerned with correcting child's writing.

Gain in writing. All six students in this group reported to engage in writing activities on their own. Only one of the six students added that he sometimes would write together with his brother.

Alleine und manchmal mit meinem Bruder (Alone and sometimes with my brother.) (Mark, interview)

When the interview focussed on parental encouragement to write, or if parents helped their children to write, only one parent stated to encourage her daughter in her writing, for example by buying her letter paper.

Ich ermuntere sie zum Schreiben und korrigiere was sie schreibt. Wir haben ihr Briefpapier geschenkt. (I encourage her to write and correct her writing. We gave her letter paper as a gift) (Andrea's mother, interview on the phone)

In five instances, either students or their parents pointed out that their mother or another family member would correct their writing. Two parents related writing mainly to their children's homework, and stated that they would check the homework during the school term.

Students in this group seemed more self-determined about their writing than in the other two groups. Four out of the six students pointed out that they asked their parents to check their work, or asked their parents when they had questions about their writing. Examples are:

Also bevor ich es losschicke [Brief], dann guckt Mama und kontrolliert nochmal. (Well, before I send it off [letter], my mother has a look and checks it.) (Andrea, interview)

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Wenn ich was nicht weiss dann frage ich. (If I don't know something I ask.) (Hannah, interview)

Ich frage manchmal, weil ich nicht immer alles richtig weiss. (I sometimes ask, because I do not always know everything correctly) (Lisa, interview)

Stall in writing. Both students in this group reported to engage in writing activities on their own. Judy and her mother reported that no one would encourage or help with her writing. Julia's mother stated that she seldom said something about Julia's writing so as not to interfere, as Julia would not like it:

I sage selten etwas, Julia mag es nicht und ich will sie auch nicht behindern in ihrem Schreiben oder sie zwingen zu schreiben. (I seldom say anything, Julia does not like it and I do not want to interfere with her writing or force her to write.) (Julia's mother, interview on the phone)

Julia stated that her mother would correct her written products once finished:

Ich schreibe es zuerst alleine und dann kontrolliert meine Mama und dann mache [berichtige] ich die Fehler. (I write it by myself first and then my mother checks it and then I make [correct] the mistakes) (Julia, interview)

Drop in writing. Six of the eight students in this group reported to write on their own. One student stated to write on his own or with friends, and one student explained to write with either his mother or father. The parents' reports mainly confirmed the students' statements; however, three out of the eight parents stated that their children would not write on their own, but would write with either the mother or father. Five of the eight parents stated to help or encourage their children. Three parents commented that they corrected their child's writing, and one parent pointed out that she also looked for readability of the writing.

Ich gucke dass er leserlich schreibt und ich korrigiere ... (I look that he writes readable and I correct ... (Ben's mother, interview on the phone)

Three parents explained that they helped or practised writing with their children during the school year; however, they did not help or encourage their children with writing over summer. For example:

Nein, während der Schulzeit diktiere ich manchmal Texte und korrigiere sie dann, nicht in den Ferien. (No, during the school term I sometimes dictate texts and correct them, but not in the holidays)(Ella's mother, interview on the phone)

Only three parents described encouraging their children through giving ideas for writing. These parents emphasized that writing should be fun, and that the child should write freely without being pressured into writing correctly.

> *Ich versuche Ideen beizusteuern. (I try to give ideas.) (Michael's mother, interview on the phone)*

> *Wir ermuntern sie. Wir freuen uns über ihre Nachrichten. Wir möchten keine Briefe berichtigen oder sie drängen. Sie schreibt noch stark in Lautschrift, aber die richtige Rechtschreibung soll in der Schule von Experten unterrichtet warden. (We encourage her. We get excited about her messages. We don't want to correct letters or push her with her writing. She still writes very phonetically, but the correct spelling should be taught by the experts in school.)(Kathy's father, interview on the phone)*

> *Ich habe Ideen gegeben. Er soll frei schreiben und Freude an der Ausdruckswelt bekommen. (I gave ideas. He should write freely and have fun expressing himself) (Simon's mother, interview on the phone)*

Three students from this group reported that no one would help or encourage them with their writing. Three more students stated that their parents corrected their homework, and one student said his father would answer questions if he had some. One student stated his friends would help him.

> *Meistens schreibe ich solche Sachen alleine [Briefe, Postkarten] und bei anderen Sachen – bei Schulsachen gucken sie [die Eltern].(Mostly I write such things [letters, postcard] on my own – they look at my school work) (Kathy, interview)*

> *Ja, bei den Hausaufgaben. (Yes, with homework) (Ben, interview)*

5.5.3   *Parental writing practices*

As for reading, parents were also invited to speak about their own writing practices. It was hoped to identify writing practices of parents that might have had an effect on their children's writing over summer. Parents were asked if they liked writing, how often they engaged in writing activities and what kind of writing activities, they engaged in.

   Gain in writing. Three of the six parents in this group stated they liked writing, and three parents did not like writing. Only two parents engaged daily in writing activities. One parent wrote two or three times a week, and others wrote seldom or 'now and then'. One parent, who had said she did not like writing, commented that she did not write at all. Three parents primarily

wrote emails, one parent added to use skype, chat functions and 'facebook' for her writing, and one parent named postcards and letters. Another parent primarily referred to work related writing tasks.

> *Der PC läuft den ganzen Tag und ich schreibe emails, skype, chat und bin bei facebook. Ich chatte mit meinem Mann auf der Arbeit. (The computer runs the whole day and I write emails, use skype, chat and I am on facebook. I chat with my husband, who is at work.) (Emma's mother, interview on the phone)*

> *Wenn, schreibe ich Briefe oder Postkarten. (If I write, I write letters or postcards) (Andrea's mother, interview on the phone)*

> *Ich schreibe beruflich viele emails und das eben täglich. (Due to my work I write a lot of emails and that daily.) (Paul's mother, interview on the phone)*

Stall in writing. Both of the parents in this group disliked writing, and as a result only wrote seldom. If they engaged in writing activities, they mostly wrote emails.

> *Ich schreibe eher sachliche Sachen: Nachrichten und Emails. (I write rather factual things: messages and emails.) (Judy's mother, interview on the phone)*

> *Nein, ich schreibe nicht gerne... selten Emails. (No, I do not like writing ... seldom emails) (Julia's mother, interview on the phone)*

Drop in writing. Three of the eight parents in this group liked to write, four did not like to write, and one parent stated to sometimes like to write. Interestingly, five parents in this group reported to write daily. The other parents reported to write two or three times a week, seldom or not at all. However, the parents, who had reported to write daily, referred to work related writing. Only four parents in this group also referred to private writing activities such as private emails, notes and writing lyrics.

> *Ich schreibe täglich. Emails beruflich auch akademische Texte. Ich schreibe auch eigene Lyrik und übersetze Texte. (I write daily, Emails, job-related also academic texts. I also write my owns lyric and translate texts.) (Ben's mother, interview on the phone)*

> *Nein, aber berufsbedingt muss ich jeden Tag schreiben, Notizen, Zettel, etc. (No, but work-related I have to write every day – notes, papers.) (Michael's mother, interview on the phone)*

> *Viel beruflich am PC, aber ich schreibe auch private emails. (A lot work-related on the computer, but I also write private emails) (Kathy's father, interview on the phone)*

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5.5.4 Perceived importance of writing

A further interview question gathered a sense of how parents rated the importance of writing for their children. Parents across the three groups mostly rated writing as important for their children. However, they described different aspects of writing they thought were important and endorsed different arguments for why writing was important. Writing was rather described as a skill than as a fun activity to engage in.

Gain in writing. Two of the six parents in this group rated writing as very important, and four parents rated writing as important. Three parents described writing as a skill that the child needed, and one of the parents emphasized aspects such as writing correctly and nice handwriting.

> *Sehr wichtig, vor allem richtig schrieben ist wichtig und Schreibschrift... (Very important, especially to write correctly and the handwriting...) (Andrea's mother, interview on the phone)*

> *Wichtig, da lernen sie ja, das sind ja Kinder die sollen lernen mit schreiben und lernen zurechtzukommen. (Important, that is how they learn, they are children, they should learn how to grapple writing and learning) (Lisa's mother, interview on the phone)*

Two parents also saw a developmental value in writing, e.g. writing facilitated language development and helped to develop an understanding and perception of the world.

> *Es ist wichtig für die Verständigung, für die Mitteilung, ob im Brief oder sms. Es hilft beim Verstehen und Erkennen der Welt. (It is important for communication, if in a letter or in a text message. It helps with understanding and discovering the world.)(Hannah's mother, interview on the phone)*

> *Sehr wichtig für die Entwicklung der Sprache. (Very important for the language development.) (Paul's mother, interview on the phone)*

Stall in writing. The two parents in this group rated writing as important for their child, specifically for their later work context, to be able to express themselves, and for language development. One parent commented that writing correctly was important.

> *Es ist beruflich sehr wichtig und es ist ist wichtig sich ausdrücken zu können. (It is work-related very important and it is important to be able to express yourself.) (Judy's mother, interview on the phone)*

Es ist wichtig für die Sprachentwicklung. Richtig schreiben ist wichtig und sich mitteilen können ist wichtig. (It is important for the language development. To write correctly is important and to be able to express oneself is important.) (Leila's mother, interview on the phone)

Drop in writing. Three of the eight parents rated writing as very important for their children, and another three parents rated writing as important. Two parents commented that writing was 'also' important (besides reading) and that one needed 'to be able to do it':

Lesen ist wichtiger, aber schreiben ist auch wichtig … zum kommunizieren. Er soll es können. (Reading is more important, but writing is also important … to communicate. He ought to be able to do it.) (Daniel's mother, interview on the phone)

Es ist nicht das einzige Ausdrucksmittel, aber auch wichtig. Man muss es nicht lieben, aber man muss es können. (It is not the only means of expression, but also important. One does not have to love it, but one has to be able to do it.) (Ben's mother, interview on the phone)

Two parents saw a relationship between reading and writing and saw them as equally important:

Sehr wichtig, Lesen und Schreiben gehören zusammen. (Very important, reading and writing belong together.) (Helen's mother, interview on the phone)

Sehr wichtig, genauso wichtig wie lesen, desto mehr man liest desto richtiger oder besser kann man schreiben. (Very important, just as important as reading, the more one reads the more correctly or better one can write.) (Ella's mother, interview on the phone)

Ella's mother in the last quote also highlighted that writing correctly was important, so did two more parents in this group. They emphasized that writing, especially writing correctly, was an important skill in regard to later employment.

Wichtig, es ist wichtig richtig zu schreiben, für später. Aber es ist nicht wichtig wie sie schreiben [Schreibschrift]. (Important, it is important to write correctly, for later. But it is not so important how they write[handwriting]) (Michael's mother, interview on the phone)

Sehr wichtig, eine schöne Handschrift und eine gute Rechtschreibung sind wichtig in der Berufswelt. (Very important, a nice handwriting and good orthography [and grammar] are import in the professional world.) (Kathy's mother, interview on the phone)

5.5.5 Summary

In summary, different patterns emerged in families' writing practices for the profile groups. For an overview of patterns see Table 5.2, key findings are highlighted in the following text. The

main differences between the goups of students lay in students' appreciation of writing, which seemed indicative for the frequency with which students' engaged in writing activities, the kind of writing activities students engaged in, parental guidance and parental writing. No distinct patterns were revealed in relation to the perceived importance of writing. Parents in all three groups rated writing as important or very important and highlighted different aspects of writing. Writing was mostly described as a necessary skill.

Students who had gained in their writing achievement over summer showed a general appreciation of writing, and had engaged in writing activities frequently over summer. They had mainly engaged in communicative writing (letters, postcards), or in writing activities that offered personal meaning or enjoyment (stories, jokes, and diary). Parents hardly encouraged their children to write; however, students seemed self-determined about writing asking their parents questions about writing, or asking them or other family members to correct their work. Parents partly liked writing, but would not engage in writing activities daily. However, parents reported personal writing activities which were communicative, such as writing emails, letters and postcards.

Students who had stalled in their writing achievement over summer did not show an appreciation of writing. They had engaged in writing activities every few days, including: copying text, writing postcards, stories, or keeping a diary. Students wrote by themselves, and parents did not encourage or help them. The parents in this group disliked writing and only seldom engaged in writing activities.

Students, who had dropped in their writing achievement over summer, showed mixed, mostly negative reactions to writing. In several cases students' and parents' answers to the question if students liked writing contradicted each other. Students in this group had only sometimes or seldom engaged in writing activities over summer. Often writing activities were school related and involved school materials. Some parents encouraged their child to write, and most corrected their child's writing. Parents in this group reported regular writing activities, which however were mainly work related.

Table 5.2 *Comparison of Writing Themes across Profile Groups*

Theme	Profile groups		
	Gain	Stall	Drop
Appreciation of writing	Liked writing, agreement between parents and students	No appreciation of writing, agreement between parents and students	Mixed appreciation of writing, prone to change or writing activities restricted to homework, mixed agreement between parents and students
Writing mileage	Two to three times a week	Every few days or once a week	Seldom or sometimes
Writing activities	Communicative writing (letters, postcards, emails) or activities that offered personal meaning and enjoyment (diary, superscribing drawings, jokes, stories)	Communicative writing (postcard), or activities that offered personal meaning and enjoyment (diary, writing stories)	Mostly school related writing task (used school materials)
Shared writing practices	Students wrote mostly by themselves	Students wrote mostly by themselves	Students wrote mostly by themselves
Parental guidance	Students asked their parents to correct their work or asked questions, no encouragement	No encouragement, parents corrected students' writing	Parents encouraged students and corrected their writing, some parents gave ideas for writing
Parental writing practices	Mixed reports about their writing, mostly wrote two or three times a week, mostly emails	Disliked writing, only wrote seldom, mostly emails	Mixed reports about their writing, parents, who wrote daily, referred to work related writing activities
Parental perception of importance of writing	Important for the language development, developing an understanding and perception of the world	Important for later work context, to be able to express themselves and for language development	An important skill in regard to later employment

6 Chapter Six: Classroom Literacy Practices

The students' and parents' interviews, which were discussed in the previous chapter, coupled with student achievement data, identified families' literacy practices that were associated with sustained reading and writing achievement over summer. The teachers' interviews, teacher logs and classroom environment observations, which are discussed in this chapter, were designed to gain an understanding of classroom literacy practices that could be associated with sustained reading and writing achievement over summer.

In this chapter, an initial section provides a short overview of the two schools and the five teachers that took part in the study. This overview is based on teacher interviews and classroom environment observations, and is intended to offer a general picture of the teachers and their schools.

The subsequently discussed findings are reported separately for reading and writing. The analyses focused in large parts on the literacy practices in the classrooms before summer, but also on specific guidance and preparation the teachers had given their students in view of the preceding summer break. The analyses drew on data from teacher interviews, teacher logs and classroom environment observations. For both analyses, the students' achievement data for the six classrooms are presented and discussed in terms of achievement patterns over summer.

For reading, one classroom could be associated with average continues gains over summer, in comparison to the other classrooms where students on average stalled or dropped in their reading achievement. The analysis thus describes the classroom practices of the different classrooms, and also compares specific practices in the 'outlier' classroom to practices in the other five classrooms.

For writing, student achievement in all classrooms on average stalled or dropped slightly; thus no 'outlier' classroom could be found, and no further analysis or comparison of the data in regard to classroom writing practices took place. The section thus only presents an overview of the achievement data on classroom level and a description of general teaching practices in writing across classrooms.

6.1 The teachers and their schools

The two schools were purposefully sampled from distinct different suburbs. School A was situated in a predominantly middle class suburb or high socio-economic community, whereas School B was set in low socio-economic community, characterised by high unemployment and high numbers of people working as unskilled labourers. The schools were similar in size, having about 400 students from year 1 to 4 in two strings of classrooms. School B had combined Year 1 and 2 classrooms. Year levels were split again from the third year onwards. Due to the combined year level classrooms, all four year 1 and 2 classrooms took part in this study, but only the Year 2 students from these classrooms participated in achievement tests and interviews. As a result, sample sizes were small for each classroom at this school.

School A had an active parents' board which organized fundraisers, reading mentors[27] and extracurricular projects. The school applied for funding from different agencies, and had an after-school care programme which was also available in the holidays. Through the received funding and book gifts from parents, the school managed to open a well-stacked school library just after the research project had ended. At School B there was no existing parents' board. The principal and the teachers were trying to apply for funding; however, teachers reported that financial means were often missing (e.g. lacked complete sets of textbooks for all classrooms). The school also attempted to open a school library; however, without funding the project stalled.

Five teachers filled in teacher logs and participated in interviews after summer. One of the teachers from School B was responsible for the reading and writing instruction in her own classroom and in the neighbouring classroom, hence the sixth classroom teacher who had taken on the mathematics instruction in the two classrooms was not asked to fill in the teacher log or participate in an interview. The teachers ranged in experience between 2 years and 30 years. Three teachers were very early in their teaching career and were teaching in their first school. One teacher was teaching for 10 years and had already taken on a leadership position within her school, and one teacher had 30 years of experience in different schools and settings. All the participating teachers were women, reflecting the general profile of primary school teachers in Germany, as well as at the two schools in this study.

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[27] Reading mentors were assigned to low achieving readers, but only from Year 3 onwards.

6.2   Patterns of reading achievement across classrooms

Reading comprehension data across the six classrooms in percentile ranks are presented in Figure 6.1. The corresponding means and standard deviations are given in Table 6.1. No statistical testing took place as sample sizes per classroom were considered too small. The data depict a wide range of achievement levels across the six classrooms. A substantial gap between achievement levels of the highest achieving classroom and the lowest achieving classroom is apparent. Over the course of six months, the achievement gap between these two classrooms (School A, Classroom B and School B, Classroom A), however, narrowed slightly. Students in the six classrooms learned at different rates over periods of school, gaining from 10.68 PR (School A, Classroom A, T1 - T2) to 34.45 PR (Classroom D, School B, T3 – T4). Over summer, achievement levels stalled or dropped in all but one classroom, with drops of up to 4 PR (Classroom C, School B) or little gains of .88 PR (Classroom B, School B). Only students in School A, classroom A exhibited substantial growth in reading comprehension over summer. Students in this classroom on average gained 10.68 and 9.25 PR over the school periods (T1 – T2, T3 – T4) and 8.72 PR over summer (T2-T3).
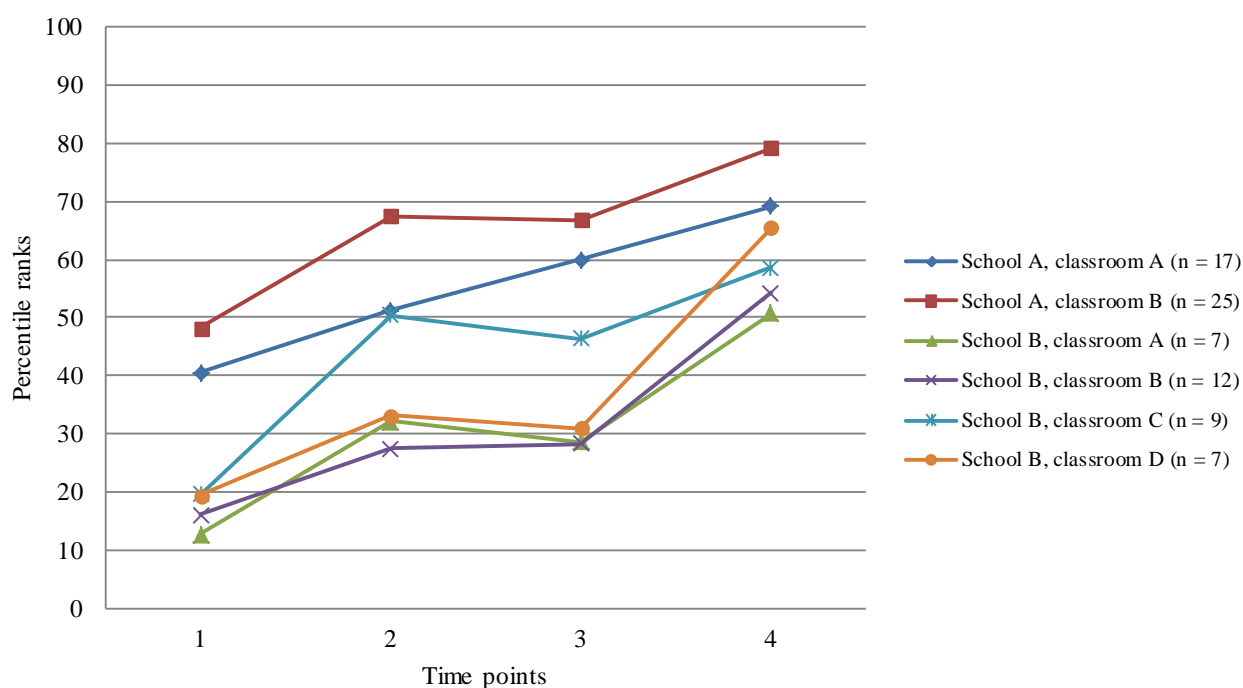
Figure 6.1 Mean reading achievement in percentile ranks – across classrooms

Table 6.1 *Means and Standard Deviations in Reading in Percentile Ranks - Across Classrooms*

School	Classroom	*Time*	*Mean*	*SD*	*n*
School A	A	1	40.53	37.83	17
		2	51.21	37.16	17
		3	59.93	35.17	17
		4	69.18	32.98	17
	B	1	48.20	28.99	25
		2	67.43	28.71	25
		3	66.86	29.24	25
		4	79.14	26.34	25
School B	A	1	12.67	8.42	7
		2	32.24	12.08	7
		3	28.72	17.49	7
		4	50.73	23.86	7
	B	1	16.04	16.24	12
		2	27.49	23.90	12
		3	28.37	26.66	12
		4	54.28	26.15	12
	C	1	19.56	20.60	9
		2	50.34	26.90	9
		3	46.35	32.98	9
		4	58.64	30.61	9
	D	1	19.47	19.80	7
		2	33.12	22.12	7
		3	31.07	23.12	7
		4	65.51	31.31	7

As a result, it was assumed that the teacher in Classroom A (School A), here named Sue, implemented classroom reading practices that could be associated with sustained learning over summer. Classroom reading practices of the different teachers are thus described, with a special focus on practices in Sue's classroom. However, it has to be noted that the effects of practices at school, and the effects of practices at home, cannot be entangled in a study that does not use random assignment of students into classrooms, and which cannot control for the different intial achievement of students.

6.3 Classroom reading practices

The following section presents the findings on the comparison of classroom reading practices across the six classrooms. First, findings on teachers' reading instruction are presented in regard to the following themes: creating a community of readers, connecting home and school reading practices, reading instruction, and access to reading materials. Secondly, there are findings specifically in regard to teachers' practices in view of the preceding summer break. These include: access to reading materials over summer, encouraging summer reading, and informing families about summer programmes and activities and are subsequently discussed.

6.3.1 Creating a community of readers

All of the five teachers had a primary focus on reading comprehension in their reading instruction, highlighting the importance for the students to understand what they read. Two of the teachers noted that it was essential for students to be able to read, understand and exert task descriptors in the daily classroom instruction, thus emphasizing the importance of reading comprehension for classroom routines. Emily exemplified this:

> *Die Praktiken des sinnentnehmenden Lesens täglich. Aufgabenstellen lesen, verstehen und anwenden! (The practices of comprehensive reading daily: reading, understanding and exerting task descriptors!)(Emily, Classroom B, School A, interview)*

Sue and Claire emphasized the importance to have students enjoy reading. Claire talked about pleasurable reading experiences and engaging students into conversations about books:

> *Genussvolles Lesen und sie auch einfach ins Gespräch bringen über Bücher. (Pleasure in reading and to bring them into discussions about books.) (Claire, Classroom D, School B, interview)*

However, Claire admitted that she was more successful in doing so in her new classroom, after summer. She felt that students in her former classroom were too competitive in their reading, trying to be better than the younger students. Furthermore, a calm atmosphere within the classroom had been missing to initiate discussions about books and reading:

> *Diese Ruhe war nicht drin, jetzt schon... und sonst war auch immer dieses Konkurrenzding zwischen Klasse eins und zwei. Das ist jetzt nicht mehr so und jetzten nehmen sie Sachen an. (The calmness was not there, now it is... and there was also this competitiveness between grade one and grade two students. That is gone now and now they take things on board.) (Claire, Classroom D, School B, interview)*

Four teachers reported to have one or two reading hours a week set aside when students could read by themselves, and sometimes students read to each other or to the teacher. However, they noted difficulties in keeping to these set times. Denise exemplified:

> *Das geht immer öfter unter, wegen 27 Kindern und überhaupt Alltag in der Schule, weil einfach zuviele Sonderveranstaltungen laufen. (It gets lost more and more often, because we have 27 students in the classroom and anyway because of the daily routines and because there are too many special events happening) (Denise, Classroom B, School A, interview)*

Sue reported that she always has an established daily reading time. Reading times were held in a circle on pillows in the front of the classroom, with the teacher reading and asking questions to engage students in discussion about books, stories or genres. Sue noted that for her it was important to raise students' curiosity about reading and books and thus to create joy in reading:

> *Schwerpunkt is für mich schon das Leseverständnis und wenn ich selber vorlese dann ist es für mich schon dieses neugierig machen auf Lesen und auch das neugierig machen auf schöne Bücher wichtig, Freude am Lesen schaffen. (The focus is for me reading comprehension but when I read for and with them then it is the curiosity to read and the curiosity for good books what is important, to create that joy in reading) (Sue, Classroom A, School A, interview)*

Sue also noted the difficulties to maintain set reading times in the commotion of school events, but argued that they were too important as reading was a basic competency:

> *Ich habe gemerkt wie wichtig das ist, sich wirklich eine feste Zeit zu nehmen. Oft denkt man, man hat keine Zeit dafür, so wie wie für das Vorlesen eben. Man muss den Mut haben bei allem was so auf einen einstürzt sich an solche Dinge zu halten und nicht zu denken oh das und das ist ja jetzt völlig zu kurz gekommen. Es kommt dauernd irgendetwas zu kurz. Weil das so Basissachen sind müssen die einfach sein. (I recognized how important it is to have set times. Often you think, you*

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have no time for it, like reading to the students. You have to have the courage by everything that collapse on you to keep to such things and not to think oh I missed doing this or we have not really worked on that. Because these are basic things they must be.) (Sue, Classroom A, School A, interview)

Sue was also very aware about the problem of students' competitiveness that Claire had pointed out. She seldom let the students read out loud in class:

Vorlesen mache ich in der zweiten Klasse eher selten und nur wo ich mir sicher bin... Es ist immer so eine Gratwanderung zwischen die zu sehr zu loben, die das schon können und daraus aber andererseits ein Ansporn zu machen. Da versuch ich mich immer durchzunavigieren. (I seldom let students read out loud in second grade and only when I am sure they can...it is a tightrope walk between praising the ones too much who can do it already and to use it to motivate others. That is something I constantly try to navigate.) (Sue, Classroom A, School A, interview)

It seems all teachers saw enjoyment of reading as important, and some tried to engage their students in discussions about books; however, the teachers often struggled to set aside time for shared or silent reading. Sue was the only teacher who had a daily reading time established. Sue tried to engage students in discussions in these daily reading times, not only about books she read to them, but also about books students brought to school. Students were allowed to bring one of their own books from home for reading, to read to someone or share their reading with other and lend it to others. Sue explained:

Sie dürfen auch immer ein Buch von Zuhause mitbringen was sie dann in ihrem Fach deponieren können und zwischendurch lesen können oder auch mal in der Pause jemandem was vorlesen. (…) Wer dann mal ein Buch gelesen hat und das besonders schön findet, der kann das mitbringen und etwas dazu sagen und es jemandem verleihen. (They are always allowed to bring one of their books from home which they can have on their shelf and in between tasks they can read in it or in the breaks they can read to someone else. (…) Who has finished a book and really liked it, can bring that book and talk about it and lend it to someone else.) (Sue, Classroom A, School A, interview)

In summary, the data showed some practices in Sue's classroom that connect to the principle of 'creating a community of readers'. She had an established daily reading time in which she read to the students, and engaged them into discussions about books to rouse curiosity for reading. She was well aware not to turn reading into a competition, and encouraged students to bring books, talk about them and exchange them with others. While similar foci where apparent in the

classroom reading practices of the other teachers, they were not as prominent and attempts often seemed to get lost in the general commotion of classrooms and teaching.

6.3.2 Connecting home and school reading practices

Bringing books from home, as students were encouraged to do in Sue's classroom, also meant a step towards establishing a connection between home and school reading practices - another principle of 'reading communities in schools and classroom'. Sue reported to have a good relationship with the parents of her classroom. However, she also seemed to be putting a lot of effort into these relationships. Parent evenings were held three or four times a year and were mostly well attended. She also sent regular parent-newsletters every four to six weeks to inform parents about classroom activities and projects, and to involve them into certain decisions on future classroom events. E.g. she had asked the parents first if they would allow their kids to bring books and lend them to other students before asking students to do so, and she had taken on feedback from parents who asked for more reading homework. The reading homework parents had asked for their children. Sue, however, gave reading homework for the parents and the child, emphasizing the importance of shared reading:

> *Die Eltern haben mir am Elternabend den Auftrag gegeben Lesen zur Hausaufgabe zu machen, weil ich mal keine gegeben habe oder es war nicht deutlich gemacht. Ich habe dann eben Lesepässe ausgegeben. Die gehen über sechs Wochen, täglich 10 Minuten Lesezeit, wo die Eltern unterschreiben mussten, weil es ja auch wirklich so was für die Eltern war, dass die mit ihren Kindern lesen. (The parents gave me the task to give reading as homework, because I did sometimes not give any or did not make it explicit. Well I gave them reading passes. They are for six weeks and ask for ten minutes reading time daily. The parents had to sign them, because it was really for the parents, for them to read with their children.) (Sue, Classroom A, School A, interview)*

Sue was also careful not to put pressure on the children in regard to their home reading. She did not engage in a school-wide programme, in which students could earn points for the books they were reading at home. The programme was available online and she left it to the parents to use it if they felt it would motivate their children. However, she did not want to give grades for the reading students did at home:

> *Ich mache das so, dass ich den Eltern das Passwort zukommen lasse und sie das zuhause machen können, weil ich das nicht bewerte. Ich bewerte ja nicht was sie zu Hause lesen. (…) Ich hasse das,*

das man das dann macht weil man eine Siegerurkunde kriegt. (I do it like this, I give the password
to the parents and they can do it at home, because I do not assess that. I just do not grade what they
read at home. (…) I hate that, that one does it just to get a winner's certificate.) (Sue, Classroom A,
School A, interview)

Parents seemed less involved in the other classrooms. Emily for example, who taught at the same school, seemed to be less enthusiastic in having parents involved. She remarked that the parents were interested, but would not interfere with her teaching, which she preferred.

Es ist eher eine Elternschaft die sehr bedacht ist darauf was mit ihren Kindern so passiert und gerne
Mitspracherecht hat, aber sie reden einem auch nicht unbedingt rein. Das finde ich ganz angenehm.
(These are more parents, who care about their children and who like to have a say, but they don't
interfere with my teaching. I find that agreeable.) (Emily, Classroom B, School A, interview)

At the other school, teachers were concerned about the little interest parents showed in the classroom activities and the schooling of their children. Claire reported only having a third of the parents attend her last parent evening, and she felt parents showed seemingly little concern for their children's achievement:

In der Regel waren von 18 Leuten fünf oder sechs da. Du hast natürlich schon irgendwie Kontakt
aber irgendwie weniger wegen des Leistungsstandes und um sich zu informieren sondern eher
wegen irgendwelchen Verhaltenssachen oder irgendwelche Eltern weil sie mit den Hausaufgaben
überfordert sind. Seit ich hier arbeite hatte ich noch nie jemanden der gefragt hat 'wie ist es den mit
meinem Kind leistungstechnisch?' (Normally, I had five or six out of 18 people coming. Surely you
have some kind of contact to the parents, but somehow less about the students' achievement levels
and parents wanting to be informed, rather about behaviour problems or parents who are unable to
cope with the homework. Since I started working here, I not once had a parent ask me 'how is my
child doing in terms of achievement?') (Claire, Classroom D, School B, interview)

Marie noted that her students were achieving well; however, she joked that her parents were not:

Obwohl ich letztes Jahr leistungsstarke Schüler hatte, hatte ich leistungsschwache Eltern, um das
mal so auszudrücken... (Even though I had well achieving students last year, I had low achieving
parents, to just put it like that.) (Marie, Classroom A and C, School B, interview)

The teachers at School B especially were concerned about the little involvement and interest of parents in classroom activities, and also reported holding parent evening and sending letters to parents two to four times a year. However, they seemed to have little response from parents, except for a few children in their classrooms. Thus, connecting home and school practices

seemed a greater challenge for these teachers than for Sue. She reported that her parents were generally very interested and wanted to be involved.

In summary, Sue put a lot of effort in creating a connection between home and school, which also meant between home and school reading practices. She kept parents informed and involved in classroom activities through regular letters and parent evenings. She encouraged students to bring books to school, making home reading experiences part of the classroom activities. Sue was careful not to grade the reading students did at home for pleasure or to put a competitive stance on reading. Connecting home and school practices seemed a greater challenge for the other teachers.

6.3.3 Reading instruction

The general approach to reading instruction seemed similar across classrooms. A main focus was reading comprehension and reading often played a great role in the teachers' instructional practices. Denise however also pointed out that reading would not play the part it should in daily instruction:

> *Im täglichen Unterricht sollte es eine grosse Rolle spielen, spielt es aber momentan nicht. (It should play a great role in daily instruction, but it does not at the moment.) (Denise, Classroom B, School B, interview)*

In their teacher logs, teachers recorded the estimated time students spend each day of the week on reading. Estimated reading times per students per day were similar across classrooms and ranged from 10 to 20 minutes. However, Sue's reading instruction was slightly different in that she used a wider range of materials. Sue used readings four out of the five days, didactic games twice and only once a worksheet. She also used students' own texts as a reading material (once), non-fictional texts (twice) and poems (twice). In contrast, the most commonly used material for the other teachers were worksheets and readings; in fact Emily only used these two materials throughout the whole week. Claire and Marie also once used students' own text as a reading material, and Marie once used magazines. It is apparent that Sue used a wide range of materials and also texts from different genres such as poems and non-fictional texts. Sue also used the computer as a means to encourage students to read, but pointed out that it is one of many media to engage students:

Ich nutze das, für die das so ein Medium ist, aber es ist eins unter vielen. (I use it for the ones for whom it is a medium, but it is one of many.) (Sue, Classroom A, School A, interview)

Sue noted that she tried to have something to read in every lesson, especially authentic reading materials:

Ich versuche, dass in jeder Stunde Sachen zum Lesen sind und wenn es Arbeitsanweisungen sind oder Briefe die wir bekommen, so kleine alltägliche Dinge. (I try to have things to read in every period and if they are little task descriptors or letters we got sent, just little every day things.) (Sue, Classroom A, School A, interview)

Sue engaged her students in multiple social forms throughout her teaching. She used individual work (four days of the week), partner work (on three days) and group work (twice), which meant regular group work as well as ability grouping. On the other hand, the predominant social forms Denise, Emily, Marie and Claire used in their classroom instruction were individual work and teaching the whole classroom. Indeed, only Claire reported to have used partner work once and group work once in that week, Emily had her students working by themselves throughout the week, and Denise always taught the whole classroom.

When it came to talking about problems they encountered in reading instruction, Denise, Emily, Marie and Claire spoke predominantly about systemic factors, for example group size, time and the volume in the classroom, or factors that lay outside of their perceived sphere of influence, for example limited language skills of the students and missing support from the students' homes. Denise saw time and group size as the main problems:

Zeit und Gruppengrösse, das sind die Probleme. (Time and group size, those are the problems) (Denise, Classroom B, School B, interview)

Claire perceived the incorrect language patterns that students picked up at home as a problem in reading instruction:

Sie [die Schüler] bringen zum Teil wenig mit, sie bringen viel falsches mit was ihnen falsch vermittelt. Sie sprechen einfach ganz falsches Deutsch, nicht nur die Ausländer, auch die Deutschen, die sogar teilweise noch mehr und natürlich sie orientieren sich auch mehr nach den Eltern. (They [the students] partly bring a lot of wrong language skills with them, which they have been taught incorrectly. They just speak very incorrect German, not only the migrants but also the Germans, they often even more so and of course they orient themselves more after their parents.) (Claire, Classroom D, School B, interview)

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Marie saw the family background and the lack of support for the students as a problem:

> *Es kommt von zu Hause oftmals gar nichts. Die Eltern sind teilweise selbst so schwach und habe ganz grosse Probleme beim Lesen und auch bei der Rechtschreibung, so dass man dann von den Kindern auch nicht viel erwarten kann. (There is often not much [support] coming from the homes. The parents themselves often have immense problems in reading and also in writing, so that you then cannot expect much from the children.) (Marie, Classroom A and C, School B, interview)*

In contrast, when asked to point out problems in reading instructions, Sue spoke about barriers that students might encounter when learning to read. She noted the difficulty in identifying these barriers for the individual students and to help the student to overcome these barriers in time, before the student became frustrated with the reading process:

> *Beim Lesen finde ich schon schwierig das hat so Klippen für manche Kinder und wenn sie merken sie scheitern an diesen Klippen und man ihnen da nicht gut drüber hinweghelfen kann, weil man es irgendwie nicht sieht wo sie jetzt was für eine Problem haben, dass das dann zu so einem Frust führt der sie dann auch so anstrengungsmuede macht.(Reading, I find, has these kind of barriers for some children and when they recognize that they fail and you cannot help the them to overcome these barriers, because you somehow don't see where they have the problem, that leads to frustration and makes children tired of trying.) (Sue, Classroom A, School A, interview)*

In summary, Sue seemed to diversify her reading instruction more than other teachers and to use a wide range of materials and social forms in her classroom teaching to keep students engaged and interested. Denise, Emily, Marie and Claire spoke predominantly about systemic factors or factors that lay outside of their perceived sphere of influence when describing problems they saw in reading instruction. Sue reflected on her own practice with the students, and described the barriers the students experienced and her difficulties when helping them to overcome these barriers.

6.3.4   Access to reading materials

Every classroom in the study had an own classroom library with some space for silent or shared reading practices. The classroom libraries mostly contained about fifty books with books of different reading levels and different genres. Students were allowed to read freely and to borrow books to take home for reading. Emily, Marie, Denise and Claire used their classroom library as an open access resource with reading levels ranging from first to fourth year level. They did

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usually not help the students to choose books. Claire pointed out that students would ask for help if they needed it:

> *Ich denke wenn ein Kind merkt es [das Buch] ist zu anstrengend, dann holt es sich entweder meine Hilfe oder die Hilfe von einem Mitschüler oder es nimmt sich ein anderes Buch. (I think that if a child realizes it [the book] is too hard the he or she will come and ask me for help or ask another student or he/she will take a different book.) (Claire, Classroom D, School B, interview)*

Marie sometimes let students read books that were too demanding, as she thought it would help them learn to judge their own reading abilities:

> *Da stehen auch Bücher drin, die für den einen oder anderen noch zu schwierig sind, da gucke ich dann schon. Manche lasse ich einfach probieren, obwohl ich vorher weiss dass sie eigentlich scheitern werden aber die sollen sich auch mal selbst einschätzen können. (There are books which are too hard for one or the other, well then I do have look. Some I let just try, even though I know they will probably fail, but they should also learn to judge their own abilities) (Marie, Classroom A and C, School B, interview)*

Emily thought that picking up a book would not happen often enough for children, thus she already saw a great value in children having access to books through the classroom library:

> *Nein, also es ist schon so dass da [in der Klassenbücherei] nichts steht was die Kinder überfordern könnte. Es kommt natürlich immer auf den Lesestand (des Kindes) an, aber es soll ja auch frei animiert sein und wenn ein Kind einfach nur drin blättert und nur ein bisschen was versteht dann ist das auch nicht so tragisch. Hauptsache es hat mal ein Buch in der Hand. Das passiert ja auch nicht genug. (No, well there are no books [in the classroom library] that will demand too much of them. Surely, it always depends on the reading level, but it should also be freely accessible and when a child only leaves through a book and only understands a little that is also not so tragic. The main thing is the child had a book in its hands. That also does not happen often enough.) (Emily, Classroom B, School A, interview)*

Sue also did not help her students to choose reading materials, but she had a smaller classroom library, which contained books with reading levels more closely aligned to the grade's reading level. Her classroom library contained mostly second grade books, as was noted in the classroom observation sheet; however, it only contained about thirty books at a time. Classroom libraries of other teachers usually contained about 100 to 200 books. She would exchange the books or add books every now and again throughout the school year to sustain students' interest in the library.

Sue pointed out that having the right reading material for each child was difficult, as reading interests were different for each child:

> *…und dann auch wirklich die Schwierigkeiten… Ja das man halt nicht immer für alles genau das richtige bietet, weil es doch individuel ist. (…and then also the difficulty. Well that you cannot always offer something for everyone, because it is different for each child.)(Sue, Classroom A, School A, interview)*

As an example, she pointed out that boys and girls often needed different texts, and that as a result she made sure she always had some non-fiction books available for the boys in the classroom.

> *…zum Beispiel, das Jungs auch andere Texte brauchen als Mädchen um zum Lesen verlockt zu werden. […]Aber ich gucke auch wirklich immer, dass ich auch solche Bücher - technische Sachbücher - da habe. (… for example, that boys also need other texts than girls to get tempted to read. […] but I try to always also have some of those books – technical, non-fiction books – available. .) (Sue, Classroom A, School A, interview)*

Sue also often had additional books displayed on a central table in relation to the current thematic unit she was teaching. She also added students' work to the classroom library or put them on display. These were for example: a joint portfolio about a recent excursion to a farm; a portfolio about the last school trip, and a booklet that contained stories and drawings of the students. These were recent student works produced in the last half year. Students also had an additional reading booklet series which students kept on their shelf or under their desks to read when they had finished their tasks. Additionally, Sue brought in flyers and programmes of events that could be of interest to the students, and displayed letters and postcards sent to the classroom on a notice board.

Libraries in the other classrooms contained no student work, but teachers would also bring in books in relation to the unit they were teaching. Claire also had a costume box as part of her library, and encouraged her student to re-enact stories they had read or which they had written themselves. The classrooms had few flyers or programmes displayed, but teachers did bring in flyers of activities and read them to their students.

In summary, all students had access to reading materials in their classrooms, and teachers put a lot of effort into stacking their libraries. While Sue only had a small stack of books available at a

time at the classroom reading level, other teachers had all of their books freely available. This meant that students also had access to books that were below or above their reading levels. Sue tried to keep students interested in the classroom library by changing reading materials, by catering for different interests, and by keeping the individual student in mind. She also added students' works, reading material related to recent classroom activities, as well as authentic reading materials which were connected to the world outside of the classroom, to the classroom library. These practices seemed less apparent in the other teachers' classrooms.

6.3.5   *Access to reading materials over summer*

As previously mentioned, all classrooms had a classroom library, and children were allowed to borrow books freely throughout the school year. All teachers, except Claire and Emily, also allowed students to borrow books over summer. Claire was concerned that students would not return the books after summer:

> *Also ich habe das nicht gemacht. (Well I did not do that.) (Emily, Classroom B, School A, interview)*

> *Über die Sommerferien nicht nein, weil ich weiss, dass sie dann nicht wiederkommen. Das ist nach sechs Wochen einfach vergessen und dann haben die Eltern das auch vergessen. (Not over the summer holidays, because I know that I won't get them back. That is forgotten after six weeks and then the parents have also forgotten.) (Claire, Classroom D, School B, interview)*

Marie and Denise pointed out that only a few children had actually borrowed books from their classroom library over summer and that they had brought them back:

> *Einige Kinder habe sich auch noch aus der Klassenbücherei ein paar Bücher ausgeliehen. Und ich hoffe, dass sie sie auch gelesen haben. Sie haben sie auf jeden Fall auch zurück gebracht. (A few children had borrowed books from the classroom library and I hope they read them. In any case, they did bring them back.) (Marie, Classroom A and C, School B, interview*

> *Ich glaube zwei Kinder haben sich Bücher ausgeliehen für die Ferien.(I think two children had borrowed books for the holidays.) (Denise, Classroom B, School B, interview)*

Sue explained that students could always borrow things from the classroom library and the classroom, also over the summer. Thus, the students were not only allowed to borrow books or reading materials, but also other materials. However, Sue noted that this was not often the case, as the parents in her present classroom would provide well for their children.

Jeder der etwas aus der Klasse leihen möchte, der kann das auch über die Ferien leihen, wenn er es nachher wieder bringt. Aber das ist nicht so oft der Fall, also das kommt aber wirklich daher dass bei uns die Eltern auch gut für die Kinder sorgen. Aber die Kinder wissen immer dass sie das tun können. (Everyone, who wants to borrow something from the classroom, can do that also over summer, if he or she brings it back. However, it is not often the case, but that is because our parents provide well for the children. But the children know that they can always do that.) (Sue, Classroom A, School A, interview)

In summary, some teachers let students borrow books over summer and other did not. It was noted that even though students were allowed to borrow materials they would not often do so.

6.3.6   Encouraging summer reading

All of the teachers did not have specific classroom activities in view of the preceding summer break. Denise, Marie and Emily had not purposely motivated their students to read over summer. They had mentioned reading over summer to either the students and/or their parents, and gave students the option to continue working on left over tasks in their workbooks.

Marie for example hoped she had motivated her students. She had told her students and their parents that it was important to read over summer. Marie had pointed out to the parents that reading was getting more and more important in regard to their child's education, not only in reading lessons, but also in other subjects:

Ich hoffe, also motiviert meiner Meinung nach schon, ob sie es getan haben letztendlich weiss ich nicht. Ich habe gesagt, dass es wichtig ist und ich habe es den Eltern auch gesagt. Wir haben (…) Zeugnisgespräche und da habe ich den Eltern auch nahegelegt dass das wirklich wichtig ist. und gerade dass das Lesen jetzt auch wichtig ist für andere Fächer und das sie sonst nicht weiterkommen. (I hope I motivated them, well in my opinion yes, however if they in the end did I don't know. I said that it is important and I have also said it to the parents. We have end-of-year parents teacher interviews and there I suggested, that it is really important and especially as reading is now also getting more important for other subjects and that they otherwise don't advance) (Marie, Classroom A and C, School B, interview)

Denise did not specifically encourage her students, but had told her students that they could always continue working in their workbooks:

Ich glaube nicht dass ich sie ermutigt habe, ich habe einigen Kindern Material mitgegeben und sag auch meinen Kindern immer, dass wenn sie weiterarbeiten möchten in ihren Heften können sie das

tun. (I don't think I encouraged them, I gave some children materials and I always say to them that if they want they can continue working in their workbooks.) (Denise, Classroom B, School B, interview)

Emily encouraged the parents to give their children 'something to do' in the summer break:

Eher als Anregung an die Eltern ihren Kindern doch etwas zu tun zu geben. (Rather as an encouragement to the parents to give their children something to do.) (Emily, Classroom B, School A, interview)

When prompted if she had given students any activities to engage in over summer, Emily noted that she had mentioned in a letter to the parents that the students could complete left over tasks in their workbooks:

Einiges zum Lesen und zum Schreiben, was halt noch so übrig war. Das man das eben noch fertig arbeiten konnte, nicht musste aber konnte und das habe ich im Elternbrief angesprochen. (...some things for reading and writing, what had been left over. I mentioned in the letter to the parents that students can finish these things that they don't have to but that they could) (Emily, Classroom B, School A, interview)

Claire did not prompt her students to read, but she had put together a homework-plan for the summer holidays, which was voluntary. It contained reading and writing tasks as well as some puzzles. However, she pointed out that only two students had made use of it.

Ja, ich habe sogar einen Sommerferien-Hausaufgabeplan gemacht also einen Aufgabenplan falls man sich langweilt, da waren unterschiedliche Aufgaben drin. Das haben glaube ich von 18 zwei gemacht aber immerhin. was zum schreiben, was zum lesen und auch so ein paar Sachen wie Kreuzworträtsel etc. Es war so ein zusammengetackertes Heftchen mit einer Heftklammer und einem schönen Deckblatt und auch bunt extra, aber das hat nicht soviel gebracht.) (Yes, I have even put together a homework plan for the summer to be worked on in case students got bored. There were different tasks in it. I think from 18 two worked on it, but at least there was something for writing, for reading and also a few puzzles etc. in it. It was a stapled booklet with a nice cover sheet, in colour, but that did not take off.) (Claire, Classroom D, School B, interview)

Sue reported that she had encouraged her students to read for pleasure over the summer, telling her students to read a book in the summer break, and to talk about the book in class after the holidays:

Ja, in den Ferien ein Buch zu lesen und auch davon nach den Ferien zu berichten. (Yes, to read a book and to tell something about it after the holidays.)*(Sue, Classroom A, School A, interview)*

Marie, Sue and Emily had not given materials or specific tasks to individual students over the summer break. Sue commented that she would give students tasks over summer, in co-operation with the parents if the students had missed a lot of class teaching.

> *Bei Kindern mit langen Fehlzeiten mache ich das in Zusammenarbeit mit den Eltern. (If I have children who have been absent a lot, I do that in cooperation with the parents.) (Sue, Classroom A, School A, interview)*

Denise and Claire had given materials to parents or students after they had been approached by parents. Denise had put a set of tasks together, and had given out workbooks that she had still at home. Denise pointed out that the materials contained mainly writing tasks.

> *Bei einigen haben die Eltern gefragt ob ich etwas zusammenstellen kann und dann habe ich denen entweder Sachen zusammengestellt und ich habe ihnen nochmal ein Heft gegegeben, das ich noch bei mir zu Hause hatte als Verbrauchsmaterial. Das war aber vornehmlich zum Schreiben, lesen nicht so. (For a few students the parents had asked me if I could put something together and I either put them some things together or I had given them a workbook that I had at home anyway as consumable materials. They were mainly for writing not so much reading materials.) (Denise, Classroom B, School B, interview)*

Claire commented that one father had asked her before summer what support his daughter could receive and how he could judge her reading level. Claire remarked that otherwise no one had approached her before summer.

> *Ja es gab einen Vater, der hat mich wirklich mal interessiert gefragt was seine Tochter als Unterstützung bekommen könnte und was ich ihm empfehlen würde und da habe ich ihm auch ein paar Sachen aufgeschrieben und aus dem Internet ausgedruckt, weil er überhaupt nicht wusste wie er den Wissensstand seiner Tochter einschätzen sollte, was Fähigkeiten wie Lesen angeht (…) ja aber sonst vor den Sommerferien war da nichts.(Yes well there was one father, who for once was really interested and asked me what support his daughter could receive and what I could recommend and so I wrote him a few things down and printed some things of the internet, because he actually did not know how to judge his daughter's reading level.) (Claire, Classroom D, School B, interview)*

In summary, all teachers had encouraged their students to read over summer in one way or another. Claire had even created a booklet students could work on over summer. Sue had also encouraged her students to read and had given a specific task (reading a book and talking about it in class after the break). Two teachers had given materials to individual students and parents

after being approached. Neither of them had followed up with the students if they used the materials.

6.3.7   Informing families about summer programmes and activities

Denise, Claire, Marie and Emily had not discussed any holiday programmes or activities on offer over summer with the students or parents. Denise had handed out the holiday pass[28] and the programme for the local youth centre to all families, but had not further discussed these initiatives with the students or parents:

> *Nein, sie bekommen den Ferienpass und dann gibt es ja das Netzwerk hier in [Stadtteilname] da sind auch Ferienangebote.(…) Also wir verteilen jedes Jahr das Programmheft an die Eltern. (No, they get the holiday pass and then there is the 'Network' here in [name of the suburb] they have holiday activities as well. (…) Well we hand out the programme to the parents every year.) (Denise, Classroom B, School B, interview)*

Sue had talked about the holiday pass with her students:

> *In [Name der Stadt] gibt ja den Ferienpass, denn bekommen die Schüler in der Schule und da sprechen wir auch drüber. (In [name of the city] the students receive the holiday pass in school and we also talk about it with them.) (Sue, Classroom A, School A, interview)*

She noted that she did not feel it had been necessary in her classroom to give the parents further materials or information. However, if there were certain activities the students could take part in, she purposely pointed them out. As an example, she described the time when the city had offered a student pass for the museum, which entailed free entrance to all museums in the city for the summer months, she had gone to the museum with the whole classroom to make sure everyone got a pass.

> *Wie gesagt da habe ich in der Klasse nicht das Gefühl dass das nötig ist. Da würde ich dann eher gezielt etwas sagen, also ich habe es zum Beispiel so gemacht wenn es einen Museumpass gab, dass ich dann mit allen noch einmal ins Museum gegangen bin, damit ich sicher war, dass auch jeder einen hat. (As I said I don't have the feeling that is necessary with this classroom. I would rather say something directly/purposefully, for example when there was a museum pass that I then once*

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[28] The holiday pass is a council initiative which supports and sponsors free and inexpensive holiday activities for children and publishes them in a booklet which is distributed to all students through the schools in the district

again went with everyone to the museum so I could be sure everyone had one.) (Sue, Classroom A, School A, interview)

In summary, all teachers handed out the holiday pass and often further information about programmes available over summer. Denise, Claire, Marie and Emily did not discuss any of these activities on offer over summer with the students or parents. Sue did talk about the holiday pass with her students, and made sure students knew about activities and how they could take part.

6.3.8   Summary

The main aspects of classroom reading practices were similar across classrooms. All teachers had a key focus on reading comprehension and emphasized that reading should play a main role in daily teaching. All classrooms had a classroom library where students could read and borrow books freely, and some reading times were established in the classrooms. Certain aspects emerged in Sue's classroom reading practices that were different to those of the other teachers. Firstly, she put some effort into creating a community of readers within her classroom. She had an established daily reading time in which she read to the students and engaged them in discussions about books to rouse curiosity for reading. She was well aware not to turn reading into a competition, and encouraged students to bring books, to talk about them and to exchange them with others. Secondly, Sue also put a lot of effort in creating a connection between home and school, which also meant between home and school reading practices. She kept parents informed and involved in classroom activities, and encouraged students to bring books to school, making home reading experiences part of the classroom activities. However, she was careful to not grade students' home reading or put a competitive stance on it. Thirdly, Sue tried to keep students interested in the classroom library by changing reading materials, by catering for different interests, and by keeping the individual student in mind. Sue also added student work, reading materials related to recent classroom activities, as well as authentic reading materials to the classroom library. Additionally, Sue diversified her reading instruction and used a wide range of materials and social forms in her classroom teaching to keep her students engaged and interested. Finally, Sue reflected on her own practice, described students' barriers in learning to read, and her difficulties when helping them to overcome these barriers.

In view of the upcoming summer break, teachers' practices did not hugely differ. While some teachers let their students borrow books over summer, others did not. All teachers had encouraged their students to read over summer. Sue encouraged her students to read over summer, and also invited their students to talk about their summer reading in class after the break, again trying to link home and school reading activities. In conclusion, the main theme that set Sue's practice apart from those of her fellow teachers was her strong attempts to create a community of readers in her classroom. While similar practices where apparent in the classroom reading practices of the other teachers, they were not as prominent, and attempts often seemed to get lost in the general commotion of classrooms and teaching.

6.4 Classroom writing practices

For writing, student achievement in all classrooms on average stalled or dropped slightly; thus, no 'outlier' classroom could be found and no further analysis or comparison of data in regard to classroom writing practices took place. The following section thus only presents an overview of the achievement data on classroom level, and a description of general teaching practices in writing across classrooms.

The writing comprehension data across classrooms in percentile ranks are presented in Figure 6.2 and the corresponding means and standard deviations are given in Table 6.2. Similar to the results in reading comprehension, the data showed a great range of achievement levels in writing across classrooms, as well as a persistent achievement gap between the schools. Learning trajectories in writing over the six months were fairly similar across the six classrooms. Students gained at similar rates over the course of school periods, but writing achievement dropped by moderately equal amounts over summer. It also seems students made smaller gains in writing than in reading while in school; however drops over summer were also typically smaller in writing than in reading. It could be hypothesized that development in writing is not as rapid as in reading in this early stage of writing instruction.
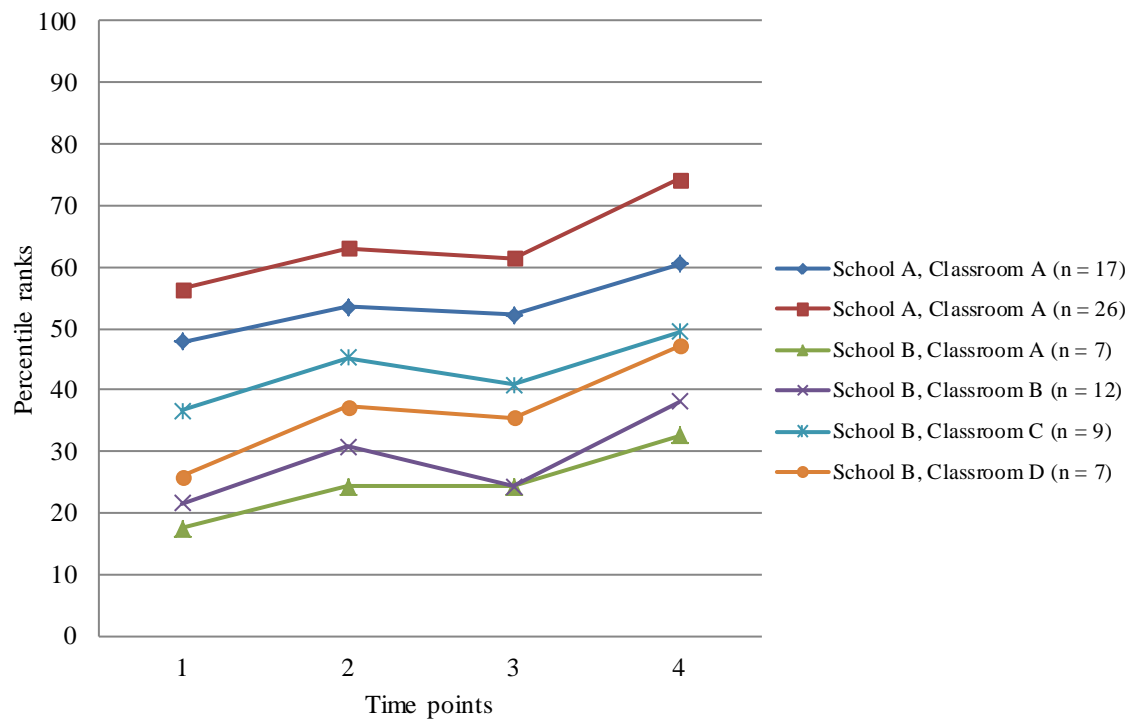
Figure 6.2 Mean writing achievement in percentile ranks – across classrooms

Table 6.2 *Means and Standard Deviations in Writing in Percentile Ranks - Across Classrooms*

School	Classroom	Time	*Mean*	*SD*	*n*
School A	A	1	47.77	31.73	17
		2	53.47	31.11	17
		3	52.24	30.06	17
		4	60.47	28.40	17
	B	1	56.50	25.45	26
		2	63.08	23.01	26
		3	61.42	25.25	26
		4	74.35	21.06	26
School B	A	1	17.50	13.75	7
		2	24.29	14.74	7
		3	23.27	17.89	7
		4	32.57	22.93	7
	B	1	21.59	16.08	12
		2	30.83	22.13	12
		3	24.26	18.33	12
		4	38.08	22.32	12
	C	1	36.69	21.01	9
		2	45.22	23.36	9
		3	40.80	24.58	9
		4	49.47	27.54	9
	D	1	26.00	13.24	7
		2	37.29	18.80	7
		3	35.43	8.20	7
		4	47.14	11.67	7

As pointed out above, based on the achievement data no 'outlier' classroom could be found. Classrooms showed very similar achievement trajectories over school periods as well as summer. Hence, no further analysis or comparison of the data in regard to classroom writing practices took place.

In general, the approach to writing instruction in the six classrooms seemed similar. Estimated writing times, as recorded in the teacher logs, per student per day, were similar across classrooms and ranged from 10 to 25 minutes. The teacher logs also showed that the main forms of instruction were individual work or partner work. When introducing a new assignment or topic, teachers used whole classroom teaching, and three teachers used ability groupings once a week. The main materials were textbooks or worksheets, Sue once used writing games.

All teachers described writing instruction as playing a great role in daily instruction. Emily and Denise pointed out that writing played an even greater role in their instruction than reading:

> *Eine grössere Rolle als Lesen... Also im Vergleich zum Lesen mehr. (It plays a greater role than reading.. In comparison to reading, more...) (Denise, Classroom B, School B, interview)*

> *Mehr als Lesen, wir schreiben natürlich ganz viel. (More than reading, we are of course writing a lot) (Emily, Classroom B, School A, interview)*

A main focus in writing instruction for all of the teachers was copying text and creative writing. Copying text correctly seemed to be a regular practice writing instruction. Denise and Sue exemplify:

> *Ich versuche einen Grundwortschatz fuer die Kinder aufzubauen... ich finde abschreiben insgesamt wichtig, dass machen wir auch relativ regelmässig. (I am trying to build the students' vocabulary base...I find copying text in general very important and we practice that relatively regurlarly.) (Denise, Classroom B, School B, interview)*

> *Ich gucke immer auch wenn es was ganz kleines ist, eine Überschrift oder so, abschreiben und das muss richtig sein, das ist von Anfang an so. (I always have them copy something, even if it is something small, like a heading, and that must be copied correctly, that is like that from the beginning (Sue, Classroom A, School A, interview)*

The other main focus of writing instruction was creative writing. All teachers had a set writing time on Mondays, for the 'Monday story', and often students had an own booklet or diary to write in. Here, students were asked to write about their weekend or write a free story. Three teachers had an 'idea box' with pictures to give ideas for writing. However all teachers reported that most students usually struggled to write something for the 'Monday story'. Marie and Emily described:

> *Den meisten Schülern fällt freies Schreiben relativ schwer, weil sie keine Ideen haben, weil sie einfach nicht über den Wortschatz verfügen oder über die sprachlichen Mittel. (Most students*

struggle with creative writing, because they have no idea what to write, beacuase they don't have the vocabulary or they don't have the langauge skills) (Marie, Classroom A and C, School B, interview)

Freies Schreiben faellt meinen Kindern schwer. Den Kindern faellt nichts ein und wenn sie Anregungen bekommen faellt ihnen nicht wirklich mehr dazu ein.(Creative writing is very difficult for my students. They have no ideas and if you give them some ideas, they are usually not much more creative. (Emily, Classroom B, School A, interview)

In summary, teachers' writing instruction seemed similar across classrooms in regard to the focus, practices and materials used. Teachers focussed on writing practice, mainly in the form of copying texts, and free writing. Instruction was mainly based on textbooks and work sheets, and students worked on individual tasks or together with a partner. The creative writing time that all teachers had implemented seemed to set a challenge for students, as teachers reported students would struggle with coming up with ideas or the needed language skills.

In conclusion, the similarity of instruction across classroom could indicate that the approaches used in teaching by the teachers in this study might have transferred similarly into out-of-school learning for students or might not have transfered into out-of-school learning for students.

7 Chapter Seven: Discussion

To date, most research on summer learning has been conducted in North America and, in literacy, has been limited to reading. However countries differ on a number of important and relevant characteristics of their demographic situations and educational systems. These differences in aspects that might influence the patterns of summer learning make it necessary that studies are systematically replicated and explore the phenomenon of the summer learning effect in different countries. Country analyses add to the existing understanding of the summer learning effect and help explicate social contextual aspects of summer learning. For example, German children enjoy a summer break of six weeks, which is shorter than in most North American states, German education does not have a tradition of providing summer learning programs, and social disparities tend to be smaller in Germany than in North America (Ehmke & Jude, 2010).

Hence, the present research intended to add to the existing body of research by investigating the summer learning effect in Germany. The first research aim was to explore the extent and nature of the effect in literacy, both reading and writing, in the communities of two primary schools in Germany. The two schools were sampled from contrasting socio-economic communities to investigate the hypothesis drawn by previous research of differential effects of summer for contrasting socio-economic student populations.

Three important findings can be highlighted in view of this strand of analysis. Firstly, German primary students experienced a summer learning effect in reading comprehension and writing, progressing considerably in their achievement over school periods, but making no statistically significant gains over summer. Overall, students stalled in their reading comprehension achievement, and dropped in their writing achievement over summer. Secondly, writing development happened less rapidly during school time than reading, and the variability of the effect was greater in reading than in writing. Thirdly, the results did not support the hypothesis of a differential summer effect moderated by socio-economic background. Even though there were slight differences in achievement over summer at the two schools, these were not statistically significant. The data, however, indicated substantial variations in gain scores over summer across social lines. Thus, the results imply that socio-economic background per se does not

influence literacy development over summer, but that a focus on literacy practices might be more explanatory.

The variability was thus further explored to understand the mechanisms which influence student learning over summer more in-depth. Based on a socio-cultural and ecological framework, a child's literacy development is understood as being influenced by mechanisms within its immediate environments and their inter-relationship (Bronfenbrenner, 1979, 1986; Bronfenbrenner & Crouter, 1983; Bronfenbrenner & Morris, 1998; McNaughton, 1995). The patterns of results suggested that the main effects, along with clustering of certain variables (socio-economic background, education level of parents, etc.), cannot accurately reflect the complex interactions of factors in the environments of which the student is part. Thus, the second aim of the present research, an ecological inquiry, was to explore variables from students' immediate environments, home and classroom, and to identify literacy practices in these environments which could be associated with continued learning over summer. The exploration focused on different 'summer learning profile groups' in contrast to previous research which has mostly compared groups in regard to socio-economic background. It furthermore took into account the perceptions of different members of these environments - students, parents and teachers - to achieve ecological validity. However, as Bronfenbrenner (1979) points out *"ecological validity is a goal to be pursued , approached, but never be achieved"* (p. 33). Thus, as much as this study attempted to achieve ecological validity, there are always limitations inherent in any research.

The second strand of analyses led to four main findings in regard to home and classroom literacy practices. Firstly, gains in reading over summer were associated with specific family reading practices. These practices included: a focus on the enjoyment of reading, embedding reading into daily life, student access to reading materials especially through the use of the public library and parents being involved in choosing reading materials and having effective strategies to do so. Secondly, gains in writing over summer were associated with specific family writing practices. Here, scaffolding activities by parents seemed an important factor for students' sustained writing development over summer. However, an overall lack of scaffolding activities from parents in regard to students' home writing practices was observed, and students' own motivation and self-determination to write thus seemed to be important factors to have students engage into writing

activities outside of the school context. Thirdly, specific classroom reading practices were also associated with sustained reading development over summer. Finally, writing development over summer seemed less susceptible to classroom teaching over summer, or alternately, teaching practices in writing observed in the present study had no sustainable effect on students' writing development over summer.

The following chapter discusses the main findings drawn from the present research and the resulting theoretical implications of these findings. Furthermore, limitations of the study and its design are outlined. Finally, practical implications for research, policy and practice are indicated, and at the same time opportunities for future research are highlighted.

7.1   The extent and nature of the summer learning effect in Germany

The present research provides a systematic replication (in contrast to direct replication) of previous research in German contexts, which compared summer learning of specific groups of students (see Becker et al., 2008; Stanat et al., 2012). The present research compares summer learning with learning over periods of school, to clearly differentiate the impact of summer, and to extend the generality of the phenomenon of summer learning with a different population (Popper, 1963; Sidman, 1960). The results show an almost staircase pattern of literacy development, with non-significant achievement over summer. This pattern is similar to summer learning patterns described in other longitudinal research in contexts with a six week summer break, such as the New Zealand research (Jesson et al., 2009; Lai et al., 2009; McNaughton & Lai, 2009).

North American research has mostly documented a stronger effect, with certain groups of student loosing significantly over summer (Downey et al., 2004; Entwisle et al., 1997; Heyns, 1978; Skibbe et al., 2012). This could be explained by the considerable longer summer break of three months in the North American contexts. Over a longer period of non-schooling, it seems students would loose more of their school related knowledge. The findings of the present study thus challenge the widespread hypothesis that the summer learning effect in North America could be offset through having more dispersed but shorter holiday periods. On the basis of the present findings, it can be hypothesized that the effect would simply be weaker or more dispersed across the different holiday periods.

7.1.1 Socio-economic background and summer learning

In contrast to most previous research, the present study found no moderating effect of socio-economic background. Differences between schools were not significant and also the analysis based on HISEI scores yielded no results in this regard. This might be due to social disparities tending to be smaller in Germany than in North America (e.g. Ehmke & Jude, 2010). Lindahl (2001) argued in his Swedish study that the Swedish society might be homogenous enough to prevent greater summer learning differences, and as he also did not find a moderating effect of socio-economic status, the same might be true for Germany.

However, a socio-cultural and ecological framework suggests that the socio-economic background per se might not be as influencing as maybe other factors within the family. So-called 'social address variables', such as socio-economic background, single parenthood and poverty, are often used in educational research to compare contrasting groups of students (Bronfenbrenner, 1979). Social address variables can be laden with social values that mark children from these backgrounds as coming from dysfunctional family environments and disadvantaged school settings, which are unable to provide resources and learning opportunities to their children (Vernon-Feagans et al., 1998). Irrespective of the values and assumptions made, they do not describe the practices occurring in these environments that influence children's literacy development above and beyond social address variables of the child (Ackerman et al., 2004). The variability of the effect in both subject areas across social lines observed in this study supports the insufficiency of social address variables in fully explaining the mechanisms behind summer learning. It indicates that other factors than socio-economic status as such must be at play when it comes to learning over summer.

The findings thus suggest that the Faucet Theory proposed by Alexander et al. (2001) needs elaborating, at least in the German context. This theory, contrasts families merely on their socio-economic well-being, and focusses on the resources these families can provide based on their financial standing. The variability of the summer learning effect within groups was not examined in the earlier analyses of *Beginning School Study* data (Entwisle et al., 1997). The authors recently also came to this conclusion, and published a paper in which they report similar findings of a variability in low-income groups (Slates et al., 2012). The current study is the first study to

employ an ecological research lens onto summer learning. It attempted to understand practices in their contexts – home and classroom – and how these on their own or related to other factors (or each other) impact on the phenomenon of differential summer learning.

The findings imply that a focus on literacy practices has more potential to provide an explanation of the mechanisms behind summer learning differences. Similar to the point made by Burgess et al. (2002), it is argued here that practices in the home, and therefore literacy practices in the home, are not cultural or context free. Different families embrace different literacy foci, beliefs and thus practices. The second analytical strand of this thesis, which examined literacy practices at home and in the classroom through a socio-cultural and ecological lens, found that the prevalence of certain literacy practices in families' homes is not related to socio-economic status. A finding that is congruent with earlier research in the emergent literacy field (Purcell-Gates, L'Allier, & Smith, 1995). Emergent literacy research already, in contrast to summer learning research, began to narrow its focus of inquiry to literacy practices and characteristics in the home as potentially more explanatory of later academic and literacy achievement than family status characteristics per se (Adams, 1999; Purcell-Gates, 2000).

It is further argued here that a socio-cultural and ecological framework may be better suited to research and apprehend these practices, as it goes beyond social address variables to identify salient education contexts. It further prompts researchers to consider simultaneous influences from multiple sources, or settings of a child's development and their inter-relationship. In the present research, these settings are the most immediate environments or *macrosystem*s of the child, home and school (Bronfenbrenner, 1979). While for older students other groups or system gain more influence, such as the peer group, primary students and their literacy engagement is still highly dependent on these two environments.

7.1.2   *Summer learning patterns in reading*

The summer learning effect observed in reading was not as strong as in writing, and reading gain scores over summer had an even greater variability than in writing. Furthermore, gains over school periods were more accelerated than in reading. Thus, it seems students struggled less to recover from the drop experienced over summer in their reading development in school periods. These findings, along with the qualitative findings on home and classroom reading practices,

indicate that reading and writing development outside of the school context are differentially susceptible to factors in the classroom and home. This parallels findings by Cooper et al. (1996), who showed different summer learning effects for different subject areas (reading and mathematics). The findings, once again, point to different practices at student's homes and classrooms. An explanation also proposed by Cooper, Nye, Charlton, Lindsay, and Greathouse (1996).

The identified family practices supported the enjoyment of reading and embedded reading into daily life. Furthermore, student's access to reading materials, especially through the use of the public library and parents being involved in choosing reading materials and having effective strategies to do so, were important factors in sustaining reading development over summer. These findings are not unanticipated and are well aligned with existing research on reading motivation (Clark & Rumbold, 2006; Guthrie & Wigfield, 2000; McKool, 2007; Morrow & Carol Simon, 1986; Wigfield & Guthrie, 1997), reading frequency (Anderson et al., 1988; Clark & Rumbold, 2006; Heyns, 1978; Hofferth & Sandberg, 2001; National Reading Panel, 2000; Shany & Biemiller, 1995), shared reading practices (L. Baker et al., 1997; Sonnenschein et al., 1996), and access to reading material (L. Baker, 2003; Carver & Leibert, 1995; Johns & Van Leirsburg, 1994; Myrberg & Rosén, 2009; Neuman & Celano, 2006). Thus, it is not surprising that the positive relationship between these different factors in reading development holds true for achievement over summer. Some of these factors have also been shown to have an impact on the summer learning effect by previous research, for example shared reading and parental beliefs (Slates et al., 2012), reading frequency (Heyns, 1978), and access to reading materials through the use of the library (Entwisle et al., 1997; Heyns, 1978; Slates et al., 2012).

However, the current findings highlight that summer reading is more complex than just reading motivation, the mere amount of reading time, or simply the open access to reading materials. It seems the specific nature of these practices and the inter-relationship between the practices of different members in the environments can have an important impact on the students' reading development over summer. Two important findings in regard to students' access to reading materials are indicated.

Firstly, reading motivation is necessary to have students spend time reading, but the relationship of more reading time equals more reading development proved not to be true in the present

research. Furthermore, students need access to reading materials to be able to engage in reading, but also simple access to reading materials could not be seen as making a difference on its own in the present study. The analysis showed that students need to read reading materials appropriate to their reading levels to make positive gains in their reading development. These findings complement the results by Carver and Leibert (1995), who showed that students reading library books that were not matched to their reading levels for six weeks showed no significant gains in their reading level, vocabulary, rate, or efficiency. Intervention studies which showed positive effects on summer reading and reading achievement after summer, systematically handed books to low-income students that were more or less appropriate to their reading levels (Allington et al., 2007; Kim, 2006; Kim & Guryan, 2010; Kim & White, 2008). Interestingly, especially the study by Allington et al. (2007) had a larger effect size (ES =.14) than what Cooper et al. (2000) reported for attending summer school.

Secondly, for primary grade students, access to literacy resources is highly dependent on their immediate environment, as they would have difficulty to access materials outside of these environments on their own. The present data indicated, however, that parents were often unsuccessful in helping their children to choose appropriate reading materials, because they lacked effective strategies for identifying the reading level of their child and appropriate materials. The findings point to the specific complexity in regard to the necessary condition of access to reading materials, and the (needed) involvement of parents and students in these practices. Even though previous literacy research has found that identifying appropriate reading materials could be a problem for many families, and that parents are not likely to be able to help struggling readers effectively without focused and supported instruction, this issue has been left unaddressed in summer learning research (L. Baker, 2003; McNaughton, Parr, Timperley, & Robinson, 1992). And even though it has direct implications for summer reading interventions, little evidence in the research literature to date could be found that interventions on summer reading focus on giving parents an understanding of effective strategies on how to identify their child's reading level, and how to identify appropriate reading materials.

Another immediate environment of the child is the classroom. The descriptive analysis on the classroom level indicated that specific reading practices in the classroom might similarly have a positive impact on summer reading achievement. These findings have two practical implications

that are based on seemingly common problems in teaching that raise questions regarding *mesosystem* dynamics (the interrelations between *microsystems*), especially the (dis)continuity between the students' learning in and outside of the classroom.

Firstly, the findings point to a common problem in teaching in regard to time. Teachers as well as students might consider only the school year as the time frame for learning. As Jesson et al. (2009) point out *"summative testing at the end of the year becomes the shared goal and the activity of schooling"*. Armed with this perspective, teachers perceive summer as a period of non-schooling and see their responsibility ending when the school year ends. Vale et al. (2013) even report a slow-down or less rigour in classroom teaching in the weeks before and after summer. However, the present findings suggest a more positive conclusion about the role of teaching in making a difference outside of the school year. To achieve this, teachers not only need to focus on the requirements of the school curriculum, but on teaching transferable skills that translate into sustainable development. They need to impart an enjoyment of learning to support their students to become lifelong learners. From an ecological perspective, teachers need to reflect on the impact the teaching and learning occurring in the setting of the classroom has or could have on the learning that takes place for the student in other settings, and vice versa. Aspects such as preparation for summer reading and selected reading materials have also been shown to have in impact on summer learning in experimental studies by e.g. Kim and White (2008) and Allington et al. (2010).

Secondly, another common (and related) problem, it seems, is the focus on classroom teaching, and the lack of connectivity between what happens in the classroom and what happens for students outside of this setting. For primary students this time is mainly spent at home with the family. The present findings point to the importance of building and sustaining home and school connections. Connecting home and school reading practices means to connect the two immediate environments (*microsystems*) of the child (Bronfenbrenner, 1979). Attuning these two settings of the students' reading development means to attune the *mesosystem* dynamics (the interrelations between *microsystems*) to make the student's transition from one setting to another easier, and to enhance the learning opportunities for the student. It puts a focus on the intrinsic rewards of reading, and the notion of reading, as a social experience. It supports students' motivation to read, signals the student that reading is not purely a school task, and puts reading into a wider

context (P. J. Baker & Moss, 2001). Learning more about students' home reading also holds potential for further enhancing student and teacher relations and to encourage more effective teaching (Moll, Amanti, Neff, & Gonzalez, 2009; B. M. Taylor, Pearson, Clark, & Sharon, 2000). Thus, restating the argument made above, teachers need to reflect on the impact of classroom teaching and learning on students' learning occurring in other settings, and vice versa.

7.1.3   Summer learning patterns in writing

The New Zealand research by Jesson et al. (2009) has been the only research previously having examined summer learning in writing. The findings of the present study mirror Jesson et al. (2009) results in that all students regardless their background dropped in their writing achievement over summer. In comparison to the findings in reading comprehension, this indicates a somewhat more general problem about the sustainability of writing development. Not only do students at both schools on average drop in writing over summer, gains over school periods are also less rapid than in reading. Thus, students struggled more to recover in school periods from the drop experienced in writing over summer. In relation to these quantitative findings, the qualitative findings of the present study add three explanations of this aspect of the phenomenon. They focus on subject differences, practices at school and at home, and self-efficacy.

The first explanations relates to the different skill sets needed in different subject areas. Cooper et al. (1996) showed that summer effects are greater in domains involving memorization and procedural knowledge (e.g. mathematics and spelling) than in domains needing conceptual understanding (e.g. mathematics concepts and reading comprehension). Writing and spelling words requires memorisation and procedural knowledge, whereas reading comprehension requires a conceptual understanding. Conceptual understanding might not be as susceptible to disremembering and non-practice over longer periods of time such as summer. Writing development is also seen as a more complex and solitary process than learning to read and thus has different motivational challenges (see Bruning & Horn, 2000; Zimmerman & Risemberg, 1997). The task is more complex and often more solitary in nature, students primarily have to draw on their own knowledge base to produce texts, and they often receive no immediate

feedback (Zimmerman & Risemberg, 1997). Thus, the more prevalent summer learning effect in writing could simply evolve out of the nature of the subject.

The second explanation relates to school and home writing practices. In the present research, as well as in the Jesson et al. (2009) study, classroom teaching practices in writing appeared to have limited transfer into out-of-school learning for students. Again this raises questions regarding the (dis)continuity between the students' learning in and outside of the classroom, or in other words the *mesosystem* dynamics. However, it seems writing is less embedded in classroom activities than reading, even though reading comprehension and writing are main foci of instruction in the early years of schooling. Additionally, literacy research shows considerable more emphasis on reading research, and as a result, there appears to be a lack of knowledge available to teachers about writing development and effective classroom teaching that could transfer into sustainable writing development. Thus, the more prevalent summer learning effect in writing could result from or be affected by a lack of knowledge and implementation of effective teaching that transfers into summer learning.

Similar issues pertain in regard to home writing practices. Writing is less embedded into daily life than reading, as the qualitative findings of this study showed. Parents engaged less in shared activities and scaffolding than they did in reading, and thus students' own motivation and self-determination seemed to be a crucial factor in regard to engagement in writing activities. However, research by Aram and Biron (2004) found that shared writing activities were more effective than storybook reading in facilitating the development of emergent literacy skills. In another study, Aram and Levin (2002) showed that mothers engaging in shared writing activities with their kindergarten children and using scaffolding techniques (e.g., using word segmenting, retrieval of letter shapes and printing) had a positive effect on the child's word writing, word recognition and phonological awareness. Furthermore, there is similarly little research on school-aged students' writing experiences at home. It seems that writing development is more seen as a school task, in research as well as by parents in the studies reviewed, than it is seen as a valuable and enjoyable activity outside of school. Little has been done to disseminate information on how important shared home writing practices can be and how parents can best support their children in their writing (see Mayer, 2007; Pinto et al., 2012). Thus, the more prevalent summer learning effect in writing could also result from, or be affected by, the lack of scaffolding students receive

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outside of the classroom setting. The effect could thus be seen as an issue pertaining the *microsystem* of the family. It could also be debated how, and how well, information is distributed on the importance and impact of scaffolding and shared writing practices. While the past has seen many educational programmes in regard to early reading, voluntary reading and (in North America) summer reading, little has been done to promote writing in the same way.

A third explanation relates to students' own motivation and self-determination, which are important factors to have students engage in writing over summer. Students' self-determination to engage in writing can be seen as a form of self-efficacy (Bandura, 1977). Research has demonstrated that self-efficacy is a significant factor in the engagement and in the prediction of writing performance (Pajares & Valiante, 1997). In conjunction with self-efficacy beliefs, task interest and value represent other core components of human motivation (see Hidi, Berndorff, & Ainley, 2002). Hidi and Boscolo's (2006) research focussed on writing motivation in the school context. While the same concepts might be applicable to students' homes, differences between school writing and home writing persist as students at home are to choose their own writing tasks, depending on the value the ascribed to the task. Here, the initial motivation to write comes from the student or might be triggered by parents' suggestions. This is reflected in the mainly communicative writing students in this study undertook over summer. Students saw personal value in writing messages, letters and postcard to others. Conclusively, students in the present study seemed less motivated to write in households where a focus on school-like writing practices persisted.

7.1.4   Reading and writing

Reading and writing are often seen as interconnected and complementary under the common term literacy. Even though this research has not explicitly analysed the differences between reading and writing development, the findings lead to the conclusion that writing and reading development over summer might not be as interwoven as many researchers suspect, at least at this level (see Entwisle et al., 1997). For example, different developmental trajectories were observed in reading and writing. Home reading practices that were associated with gains in reading over summer did often not appear to directly translate in notable differences in summer writing gain. Similar, home writing practices that were associated with gains in writing over

summer appeared not to directly translate in notable differences in summer reading gains. Additionally, classroom practices that were associated with summer reading gains also seemed not to directly translate in notable differences in summer writing gain. A possible explanation could be seen in the different demands of reading and writing. Even though reading and writing involve similar cognitive processes and are strongly connected, especially in the early stages of emergent literacy, later students have different learning experiences during reading and writing (Brookes, 1988). The reader makes predictions, constructs meaning, and struggles to understand the text he or she is decoding. Decoding skills (e.g., connecting speech sounds to print, building a knowledge of printed words, building vocabulary) have an impact on students prior knowledge they need for writing, and thus recoding sounds and ideas into words and sentences. However, to recode or write, a student has to develop new text using prior knowledge, imagination and other resources. This incurs, as noted above, different motivational challenges (see Brookes, 1988; Bruning & Horn, 2000; Whitehurst & Lonigan, 1998; Zimmerman & Risemberg, 1997). These different skills and motivation needed for writing could explain why engaged readers are not automatically engaged writers, and why the practice of reading does not translate in some linear fashion into a greater skill set in writing.

Research needs to further investigate what the extent of the possible latent relationship between reading and writing is. However, summer learning research needs to focus on reading and writing as different subject areas, as similar patterns of summer learning cannot be assumed in reading and writing. Furthermore, there is a definite need for more research into the summer learning effect in writing and the mechanisms influencing the effect in the subject area of writing.

7.1.5 *Methodological thoughts into summer learning research*

Two methodological aspects of the present study have to be noted when comparing the findings to previous research: the effect might appear less pronounced in the present study, as an absolute measure of change was taken and the study took a close temporal measure of summer learning instead of adjusting data statistically.

Firstly, the achievement changes over summer in the present study were observed on an absolute measure, as students took the same test at all four time points. The studies referred to above

have, on the other hand, used measures of relative change (age adjusted test versions). In comparison, the achievement changes observed in the present study might have appeared differently on a relative measure. Klibanoff and Haggert (1981) for example pointed out, that the relative losses found in their study, "do not support the notion of an absolute loss over summer" (p. xxiv) as relative losses over summer often point to a stagnation of learning over summer. Therefore, the findings of the present research cannot be simply set in comparison against the findings of research, which has used relative measures. The stall of achievement found in the present research might have appeared as a loss in achievement, whereas losses might have appeared more pronounced on a relative measure. While the choice of measure, either absolute or relative, is widely debated in educational literature and the use of absolute measures is not feasible for longer term studies, it can be reasoned that they offer a more genuine picture of summer learning[29].

Secondly, previous research mostly used data from standardized testing cycles, which in most countries occur in spring and fall. The measured summer break was thus confounded by a reasonable amount of school time. For example, the *Sustaining Effect Study* included 8 weeks or 56 days of schooling in its 140 days of summer (see Cooper et al., 2000; Entwisle et al., 1997). Only the more recent summer effect research adjusted data statistically to allow for a more precise picture of summer learning. The present research in contrast depicts a more accurate picture of students' learning development over school and summer periods, as a close measure of summer learning was taken at the two schools. Measurements closer to summer also take into account the occurrence of teaching differences in different periods of the school year, for example, the 'slow down' of teaching in the weeks before and after school which was observed in Vale et al.'s study (2013).

7.2 Implications

The study's findings have several implications for practice, policy and research on summer learning, which are outlined in the following section.

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[29] See Chapter Two of this thesis for a discussion of measurement issues in summer effect research.

Firstly, in regard to teaching practice and practioners working with families, practioners need to reflect on the impact of classroom teaching and learning (or another setting of learning) on students' learning occurring in other settings, and vice versa. They need to recognize their responsibility for their students' learning in and outside the classroom, and when school is not in session. Practioners not only need to focus on the requirements of the school curriculum, but on teaching transferable skills and an enjoyment to learn, to support their students to become lifelong learners. This follows the lines of European policy efforts to emphasize teaching students to be lifelong learners (The European Parliament and the Council, 2007).

One important focus needs to be connecting home and classroom practices to support students' learning. From an ecological perspective, the focus must lie on identifying and building the strength and capabilities of the individuals in these systems to change practices and interactions. Families are diverse, and this diversity is not depending on labels such as socio-economic status. Out of this diversity emanate different understandings, also different understandings of literacy and literacy practices. Practioners need to inquire into their students' out-of school learning and cultural knowledge so that they may better connect with and build on their understandings. On the basis of these understandings, they as Vernon-Feagans et al. (1998, p. 428) point out, *"need to develop strategies for teaching literacy skills regardless of prevalent beliefs about social class and culture as impediments to literacy"*.

Secondly, there are policy implications arising from these findings in regard to initiatives on overcoming the summer learning effect. The research findings do not indicate the need to implement summer school programs, which are the main policy response in North America, but to focus on supporting families with initiatives which demonstrate a greater understanding of the backgrounds and experiences of diverse families. Initiatives could be implemented within schools or communities, informed by local issues and the expressed needs of participants. As noted above, diverse families hold diverse understandings, also diverse understandings of literacy and literacy practices, which need to be explored and taken into account in programme design, implementation and the identification of the 'target group' of the programme. In order to help and serve all children appropriately and effectively, a focus must be on the environmental characteristics within the family that mediate literacy development and the practices already existing. A focus on family literacy practices seems to be a potentially valuable strategy.

Programmes would need to provide parents with effective strategies around access, appropriateness of reading materials, identification of children's reading levels, and scaffolding through shared reading experiences. In writing, there seems to be an emerging understanding what aspects and practices programmes might look at for writing, and how they might impact on student achievement. It seems a focus on shared writing activities and supporting parents in scaffolding children's writing development is of great importance.

Additionally, the results of this study have implications for future research. They underscore the need to collect data that provide a more genuine picture of summer learning versus school learning. While it is tempting and financially more feasible for most researchers to use data from annual testing cycles in fall and spring, measurements closer to summer provide a more precise picture of summer learning and school learning. It takes into account the occurrence of teaching differences in different periods of the school year, and would thus also be a more precise measure of school effectiveness. This line of reasoning follows arguments for adjusting the annual test dates made by Downey, von Hippel, and Hughes (2008) and von Hippel (2009). However, to adjust annual testing cycles, test materials would need to be normed at the end and the beginning of the school year. Furthermore, to be able to recognize summer learning effects on these re-normed measures, the tests would need to be normed on a sample of students not exhibiting a summer learning effect. The availability of relative measures normed at the end and the beginning of the school year would allow for exact longitudinal testing of summer learning, as studies would not rely on absolute measures or on changing measures. Absolute measures incur ceiling effects at some point if used longitudinal (for example Verachtert et al., 2009) and changing measures can affect the comparability of results within the same study (see for example Stanat et al., 2012)[30].

A final implication in regard to research on summer learning is the necessity to move away from social address variables as defining factors of families and family life. Furthermore, the use of an ecological framework as a guide to explore mechanisms underlying the summer learning effect is implicit (Bronfenbrenner, 1979). An ecological framework can be especially important for understanding the academic trajectories of children from diverse backgrounds, because it goes

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[30] Stanat et al. (2012) changed their reading comprehension test for the post-test and follow-up assessments, however not because of ceiling effects or norm dates but because of the length of the test.

beyond social address variables to identify salient education contexts and practices in the different settings of a child's development and their inter-relationship.

7.3 Limitations and future research

The present study yields several limitations which should be kept in mind when interpreting the results, which are summarized in the following section. Furthermore, it seems that the current body of research on the summer learning effect in the European context is yet too small to answer certain issues in these contexts and too diverse internationally to provide a comprehensive understanding of the effect. Thus the following section also points out opportunities for future research.

Firstly, the present study focused on a relative small analytical sample of students of two schools within one urban region of Germany. Thus, the findings need to be validated by a study involving a broader sample of students and schools from different communities. Replicating the results with a larger, possibly nationally representative sample would yield greater analytic capabilities and generalizability in regard to the summer learning effect in Germany.

Samples in summer learning research have been quite diverse in regard to the group of students under study. The North American ECLS-K data were initially gathered from a nationally representative sample; however, analytical samples of resulting studies were sometimes no longer representative (Burkam et al., 2004; Downey et al., 2004; McCoach et al., 2006). The Beginning School Study as well as the study in Australia by Vale et al. (2013) were conducted with schools in disadvantaged communities (Entwisle et al., 1997), other studies have focussed on low achieving students (Slates et al., 2012; Verachtert et al., 2009), or students with migratory backgrounds (Becker et al., 2008; Stanat et al., 2012). The preceding use of such different samples might indeed offer a partial explanation for inconsistencies in research results across contexts.

The sample in the present study only consisted of primary school students. If schooling affects development differently in different stages of schooling (kindergarten, primary school and secondary school), the age of the students in the sample might very well be a crucial factor in studies on summer learning. Again, samples in summer learning research have been quite

diverse, also in regard to the age group under study. The use of different samples might extend our understanding of the summer learning effect across different age groups.

Most summer learning effect research has used samples of students from urban communities. However, McNaughton and Lai (2009) found different summer effect patterns for students from rural and urban communities. Furthermore, Benson and Borman (2010) examined the influence of neighbourhoods on summer learning. The authors found that neighbourhood social context mattered substantially for reading achievement growth during the summer. Similarly, the current research only explored two *microsystem*s of the student (the two systems perceived as the most immediate to the student in regard to literacy learning). The impact of community and neighbourhood characteristics (or *meso-* and *exosystem* charactistics) on summer learning, and the effects of factors in these nested systems, need to be taken into consideration in future research.

Secondly, the present study only investigated the instance of one summer. Longitudinal studies, similar to the Beginning School Study or ECLS-K would be needed to access the long-term impact of summer learning effects on students' academic trajectories in contexts outside of North America. However, future research needs to take into consideration methodological implications arising from measurement issues in summer learning research as discussed previously.

Thirdly, the present research only focussed on two subject areas, reading comprehension and writing. Indeed, more research is needed in the area of writing, as this study has been one of the first studies to investigate summer learning patterns in writing. In regard to classroom writing practices, for example, it is not clear from this study what practices might be associated with sustained writing development over summer. A stronger research focus must lie on effective teaching practices in writing in general, and how these teaching practices can transfer into sustainable writing development in out-of school times especially. Future research additionally should investigate different subject areas to depict an even more complete picture of summer learning patterns. For example, Cooper et al. (1996) revealed greater losses in reading than reading comprehension. Thus the summer learning effect found here in a German context might be even more pronounced in reading.

One final methodological limitation of the present research bears mentioning. The findings on family and classroom literacy practices reported provide a unique description of literacy

practices in these two immediate settings of the students. Schools and homes vary in regard to numerous characteristics which cannot be controlled for, due to the situated nature of educational research. However, they are ecologically valid in the given contexts. Consequently, this research is not a strict causal analysis of the determinants of literacy development over school and summer periods. For example, the present research drew partially on self-reporting techniques, including questionnaires, logs and interviews with teachers, parents and students. Additionally, interview data were collected retrospectively. It is well known that self-reporting techniques and retrospective statements have disadvantages in the form of bias and subjectivity, and that there seems to be a tendency to judge past events in the light of present knowledge (Myrberg & Rosén, 2009).

Furthermore, the current findings are based on literacy logbooks, in which frequency and duration of activities were recorded, and interview questions which attempted to probe into the nature of literacy activities. Future research should incorporate other methodologies, such as frequent, naturalistic observations of literacy practices in the home and classroom to gain more precise information about the nature and effects of these practices. Thus, an avenue for future research is to corroborate the findings on literacy practices and their relationship on summer learning in similar studies.

In conclusion, future summer learning research should further explicate the inter-relationship of the sociocultural and socio-cognitive aspects of literacy development in regard to summer and school learning. Summer effect research has the potential to expand our knowledge and understanding of the various factors that help children of diverse backgrounds become lifelong readers and writers.

Appendix A: Questionnaire – Parents

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FACULTY OF EDUCATION
Te Kura Akoranga o Tamaki Makaurau
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Questionnaire (Parents)

Title of Project: The summer learning effect in Germany

Researcher: Frauke Meyer (PhD Candidate)

My name: _____

Name of my child: _____   School: _____

I am the …   ☐   mother of the child   ☐   father of the child

☐   a caregiver for the child   ☐   other: _____

Family status: ☐   I am a single parent

☐   father and mother living together with the child

How many children are living with you: _____

Is German your first Language   ☐   Yes   ☐   No

If no, what is your first language: _____

I am a _____ (occupation)

I am at the moment:

☐   full-time employed   ☐   part-time employed   ☐   unemployed

☐   other: _____

I have: ☐ no school qualification ☐ Hauptschule ☐ Realschule

☐ Abitur ☐ Fachhochschulreife ☐ Berufsschulabschlus

☐ Studium ☐ Other: _____

The father/ mother of my child is a: _____ (occupation)

He or she is at the moment:

☐ full-time employed ☐ part-time employed ☐ unemployed

☐ other:_____

He or she has: ☐ no school qualification ☐ Hauptschule ☐ Realschule

☐ Fachhochschulreife ☐ Abitur ☐ Berufsschulabschluss

☐ Studium ☐ Other: _____

How many books do you have at home?

☐ 0-10 ☐ 11-25 ☐ 26- 50 ☐ 50 - 100 ☐ 101-200 ☐ over 200 books

How many children's books do you have at home?

☐ 0-5 ☐ 6- 10 ☐ 11- 26 ☐ 27 - 50 ☐ 50-100 ☐ over 100 books

Thank you for your support for this project!

Appendix B: Literacy Logbook: Example Page

Reading

1. **Did you read something today?** ☐ Yes ☐ No

2. **What did you read?**

   ☐ book ☐ comic ☐ magazine ☐ newspaper ☐ recipe

   ☐ internet ☐ game ☐ song or poem ☐ _____

3. **How long did you read today?**

   ☐ 5 minutes ☐ 10 minutes ☐ 15 minutes ☐ 30 minutes

   ☐ 1 hour ☐ 2 hours ☐ more than 2 hours

4. **With whom did you read today?**

   ☐ alone ☐ friend ☐ my mother ☐ my father

   ☐ brother or sister ☐ grandfather, grandmother, uncle or aunt

Writing

1. **Did you write something today?** ☐ Yes ☐ No

2. **What did you write?**

   ☐ letter ☐ postcard ☐ diary ☐ on the internet

   ☐ story ☐ message ☐ song or poem ☐ _____

3. **How long did you write today?**

   ☐ 5 minutes ☐ 10 minutes ☐ 15 minutes ☐ 30 minutes

   ☐ 1 hour ☐ 2 hours ☐ more than 2 hours

4. **With whom did you write today?**

   ☐ alone ☐ friend ☐ my mother ☐ my father

   ☐ brother or sister ☐ grandfather, grandmother, uncle or aunt

Appendix C: Interview Guide - Students

Student's Name: _____   School: _____ Classroom: _____

In this interview I like to hear about your reading and writing practices over the past summer break and what influenced your reading and writing over the past summer break.

This interview is voluntary, you can end this interview at any time and you don't have to answer questions if you prefer not to. Do you have any questions regarding the interview?

Let's start by talking about reading in general:

1. Do you like reading?

2. What do you like to read?

   (Probe: books, comics, magazines, internet, games, recipes, lyrics, etc.)

3. Where do you get books (comics etc.) from?

4. Do you use the public library? Do you have a library card?

   If yes, how often do you use it?

   With whom do you go and visit the library?

Now I would like to ask you some questions about the past summer break:

5. What have you done in the summer break?

6. Where there any special activities or trips you did in the summer?

   (Probe: holiday camp, school programme, holiday trip, church programme)

   (Probe for reading content and writing; prompt with examples if not sure)

7. Did you read in the summer holidays?

8. What did you read?

   (Probe: books, comics, magazines, internet, games, recipes, lyrics, etc.)

9. Where did you have them from?

   (Probe: parents, library, classroom library, friends, etc.)

10. How often did you read over the summer?

    (Probe amount and/or frequency)

11. Did you read with anyone?

(Probe: alone, friends, parents, siblings)

If yes, who did you read with?

If yes, how often did you read with them?

12. Did anyone read to you in the summer?

(Probe: parents, siblings, grandparents)

If yes, how often?

13. Did you read to anyone?

If yes, to whom did you read?

If yes, how often did you read to others?

14. Did anyone at home help you to read?

If yes, who?

If yes, how often did they help you?

If yes, what did they do to help?

15. Did anyone at home help you choose what to read?

If yes, who helped you?

If yes, what did they do to help?

16. Did your teacher last year, Mr/Ms _____, or someone at the school say something about reading over the summer break?

If yes, who said something?

If yes, what did they say?

If yes, did they give any specific guidance?

If yes, did they give out any materials?

Now I would like to ask you some questions about writing and the past summer break:

17. Do you like writing?

18. What things do you like to write?

(Probe: letters, postcards, own diary, shopping lists, internet, etc.)

19. Over the past summer break, did you write anything? What did you write?

(Prompt: with examples)

20. How often did you write?

21. Who did you write with?

    (Prompt: alone, friends, parents, siblings, wider family)

22. Did they help you write? Or did anyone at home help you write sometimes?

    What did they do to help?

23. Did your teacher last year, Mr/Ms _____, or someone at the school say something about writing over the summer break?

    If yes, who said something?

    If yes, what did they say?

    If yes, did they give any specific guidance?

    If yes, did they give out any materials?

Is there anything else you want to tell me about your reading and writing, or reading and writing over the summer?

Thank you so much for your help.

Appendix D: Interview Guide - Parents

Name: _____Your child's name: _____

School: _____ Classroom this year: _____

In this interview I would like to learn about your child's and your reading and writing practices at home over the past summer break and the factors that influenced your child's reading and writing over the past summer break.

This interview is voluntary, you can end this interview at any time and you don't have to answer questions if you prefer not to. Do you have any questions regarding the interview?

Firstly I would like to ask some questions about your child's reading in general:

1. Do you think your child likes reading?

2. What does your child like to read?

    (Probe: books, comics, magazines, internet, games, recipes, lyrics, etc.)

3. How does your child access these reading materials?

4. Does your child use the public library?

    (Probe if he/she has a library card)

    If yes, how often does he/she normally visit the library?

    If yes, does your child visit the library alone or does he/she visits the library with someone?

5. Does someone help your child choosing what to read?

    If yes, how do you/the person help the child choose what to read?

6. Does someone read to your child?

    If yes, how often do you/the person read to your child?

7. Do you or someone else sometimes read with your child?

    If yes, how often do you/the person read with your child?

    (Also probe: How? Who reads? What kind of books?)

I would now like to ask you questions about child's reading over the past summer break.

8. Where there any special activities or trips your child participated in during the summer break?

    (Probe: holiday camp, school programme, holiday trip, church programme)

    (Probe for reading content and writing; prompt with examples if not sure)

9. Did your child read during the summer break?

10. How often did your child read over the summer break?

    (Probe amount and/or frequency)

11. What did your child read over the summer break?

    (Probe: books, comics, magazines, internet, games, recipes, lyrics, etc.)

    (Probe for book titles and specifics of reading material)

12. Did someone help your child choose what to read?

    If yes, who helped your child choose what to read?

    If yes, how did you/the person help your child choose what to read?

13. Where did your child have these reading materials from?

    (Probe: parents, library, classroom library, friends, etc.)

14. Did your child use the public library during the summer break?

    If yes, how often did your child visit the public library in the summer break?

    If yes, with whom did your child visit the public library?

15. Did someone read to your child in the summer break?

    If yes, who read to your child?

    If yes, how often did you/ they read to your child?

16. Did someone read with your child in the summer break?

    If yes, who read with your child?

    If yes, how often did you/ they read with your child?

17. Did you or someone else help your child with his/her reading in the summer break?

    If yes, who helped your child with reading?

    If yes, what did you/he/she do to help your child with reading?

18. Did you or someone else encourage your child to read in the summer break?
    If yes, who encouraged your child to read?

    If yes, how did you/he/she encourage your child to read?

I would now like to ask some questions about your child's writing in general.

19. Do you think your child likes writing?

20. What does your child like to write?

    (Probe: letters, a diary, shopping lists, messages, etc.)

21. Does someone help your child with their writing?

    If yes, how do you/the person help your child to write?

22. Do you or someone else sometimes write with your child?

    If yes, how often do you/the person write with your child?

    If yes, what do you/they write?

I would now like to ask you questions about child's writing over the past summer break.

23. Did your child write during the summer break?

24. How often did your write over the summer break?

    (Probe amount and/or frequency)

25. What did your child write over the summer break?

    (Probe: stories, letters, postcards, emails, messages, shopping lists)

26. Did you or someone else help your child with their writing in the summer break?

    If yes, who helped your child write?

    If yes, how did you/the person help your child write?

27. Did someone write with your child in the summer break?

    If yes, who wrote with your child?

    If yes, how often did you/ they write with your child?

28. Did you or someone else encourage your child to write in the summer break?
    If yes, who encouraged your child to write?

    If yes, how did you/he/she encourage your child to write?

I would now like to ask you some questions about school summer programs, other summer programs, or any guidance you received regarding reading and/or writing over summer.

29. Have you or your child received any guidance about reading and/ or writing over the summer holidays?

    If yes, from whom?

    If yes, what did they say or do?

    If yes, did your child receive any materials?

30. Do you know if someone at your child's school gave your child reading or writing homework or ideas about reading or writing over the summer holidays?

    If yes, who?

If yes, what did they say or do?

If yes, did your child receive any materials?

31. Did you receive any guidance about summer reading or writing from the school, verbally or in writing?

32. Were there any programmes available that you know of that encourage children to read and/or write over summer?

If yes, what are these programmes?

Did your child participate in any of these programmes?

I also would like to ask you some questions about your personal reading and writing practices?

33. Do you like reading?

34. What do you like to read?

35. Where do you get books or other reading materials from?

36. Do you use the public library?

If yes, how often do you visit the public library?

37. Why do you read?

38. What do you think, how important is reading for children in today's world?

39. Do you like to write?

40. What do you like to write?

41. How often do you write?

42. Why do you usually write?

43. What do you think, how important is writing for children in today's world?

Is there anything else you want to tell me about your child's reading and writing, or reading and writing over the summer?

Thank you so much for your help.

Appendix E: Classroom Environment Observation Framework

School: _____ Classroom: _____ Teacher: _____ Date: _____

1. **Classroom Climate**

   a. Is the classroom separated in different activity areas? What kind of areas?

   b. Is there a space for silent reading or shared reading?

   c. Is there a space for writing and shared writing?

   d. Are there items in the classroom that demonstrate that reading and writing are pleasurable experiences (e.g. children's book reviews posted, posters to encourage reading)?

   e. What physical evidence in the classroom connects literacy with daily life both in and outside of the classroom (e.g. fliers of events occurring at public library, attendance and lunch count board)?

   f. List items in the classroom physical environment that support children's experiences with oral or written language (e.g. posted written directions for science experiments, check out system for library books, vocabulary posters, mailbox for classroom post, written labeling system, tape recorder)?

   g. Are there students' products from interactions with literacy tools displayed in the classroom (e.g. posters, stories, story books, portfolios...)?

   h. Describe if the display of posters and especially products is current or not (e.g. related to current topic…).

   i. List reference materials found in the classroom (e.g. dictionaries, thesaurus, word lists…).

   j. List forms of written communication authored by students or teachers (e.g. posters, bulletin, announcements…)

   k. Is there a computer in the classroom?

   l. What kinds of programs are installed on the computer? How is it accessed?

   m. List displayed items that show that students use writing for own or authentic purposes and interests (e.g. letters, notes on message boards, friendship books, book reviews, book journals, records of books read…)

2. **Classroom Library and Literacy Materials**

    a. List items and formats of texts found in the classrooms that contain print (e.g. books, magazines, newspapers…).

    b. Estimate their quantity.

    c. List and describe items that can be used to produce print (e.g. pencils, colored paper, stamps, postcards…).

    d. Describe how literacy tools can be accessed by students (e.g. independently, given out by teacher, sign-out sheet…).

    e. Is there a classroom library? Describe (e.g. seating area, lighting, space…).

    f. How are items displayed and how are they accessed? Describe.

    g. Are there obvious criteria that library items were selected by (e.g. theme, appropriate to age group, certain interests of students, current events, genre…)?

    h. List genres of materials? (fiction, non-fiction, poetry, trade books, informational/themed books)

    i. Assess the variation of age level/grade level of the books.

    j. List/ describe the variety of content found in text material. (Stories, plays, jokes, books about movies, cultural and ethnical diversity displayed, picture books…)

    k. List any items that support a comfortable and authentic setting (e.g. calendar, comfortable seating, couch/bean bags, plants, aquarium…)?

Appendix F: Teaching Log – Example Page

Number of lessons you taught in your class today: _____

Subjects you taught today: _____

READING

1. Average reading time per student today (estimate): _____ minutes

2. Task form used today (tick as many as apply):

   ☐ whole class teaching   ☐ ability group task   ☐ other group task

   ☐ partner task   ☐ individual task   ☐ teacher-led activity

   ☐ other: _____

3. Materials and resources used today:

   ☐ book   ☐ text book   ☐ work sheet ☐ work card index

   ☐ reading games ☐ computer

   ☐ other: _____

Comments: _____

WRITING

1. Average reading time per student today (estimate): _____ minutes

2. Task form used today (tick as many as apply):

   ☐ whole class teaching   ☐ ability group task   ☐ other group task

   ☐ partner task   ☐ individual task   ☐ teacher-led activity

   ☐ other: _____

3. Materials and resources used today:

   ☐ theme related writing task   ☐ text book ☐ work sheet ☐ work card index

   ☐ writing games   ☐ computer ☐ independent writing

   ☐ other: _____

Comments:_____

Appendix G: Interview guide - Teachers

Through the interview I would like to learn more about your literacy teaching and also about any preparation or guidance you have given your students for reading and writing in the summer break.

Firstly, I would like to ask you some general questions about reading instruction.

1. What part plays reading in your daily teaching?
2. What aspect of reading is the main focus of your teaching?
   (Probe: correct reading/spelling, engagement with language…)
3. Where do you see the main problems or barriers in teaching reading?
4. What kind of materials do you use in your teaching?
   (Probe: Textbook, children's books, individualized materials, games, worksheets, flash cards, computer…)
5. What kind of writing tasks do you usually use in your teaching?
6. Do you usually teach up front or do you use group teaching?
7. What kinds of resources for reading do your students have access to in your school?
   How do they access these resources?
   Can students borrow these resources and take them home?
   Does anyone help students to choose reading materials?
8. What kinds of resources for reading do your students have access to in your classroom?
   Can students borrow these resources and take them home?
   How do you choose materials for your classroom library?
   Does anyone help students to choose reading materials from the classroom library?
9. Do you think your students like reading?
10. Do you promote independent reading?
    If yes, how?
11. Do you have set reading times in your classroom?
12. What do you estimate how much time do your students spend reading in the classroom on an average day?
13. Are there any specific reading programmes at your school?
    Are any of your students taking part in these programmes?
14. Are there any specific reading programmes in the community of the school?

Are any of your students taking part in these programmes?

15. Do you have the feeling the parents of your students are supportive of your classroom teaching, in reading?

I would also like to ask you some general questions about your writing instruction.

16. What part plays writing in your daily teaching?

17. What aspect of writing is the main focus of your teaching?

   (Probe: correct spelling, engagement with language…)

18. Where do you see the main problems or barriers in teaching writing?

19. What kind of materials do you use in your teaching?

   (Probe: Textbook, individualized materials, games, worksheets, flash cards, computer…)

20. What kind of writing tasks do you usually use in your teaching?

21. Do you usually teach up front or do you use group teaching?

22. What kinds of resources for writing do your students have access to in the classroom?

   (Probe: classroom library, games…)

   How do they access these resources?

   Can students borrow these resources and take them home?

23. What kinds of resources for writing do your students have access to in the school?

   How do they access these resources?

   Can students borrow these resources and take them home?

24. What do you estimate how much time do your students spend writing in the classroom on an average day?

25. Do you think your students like writing?

26. Do you have set writing times in your classroom?

27. Do you promote independent writing?

   If yes, how?

28. Are there any specific writing programmes at your school?

   Are any of your students taking part in these programmes?

29. Are there any specific writing programmes in the community of the school?

   Are any of your students taking part in these programmes?

30. Do you have the feeling the parents of your students are supportive of your classroom teaching, in writing?

I would now like to ask you some questions about any possible preparation or guidance you have given your students before the summer for reading or writing over summer.

31. What kind of reading resources do your students have access to from your classroom over the summer holidays?
32. Did you give your students any homework in reading over summer?
33. Did you encourage or talk to your students about reading over summer?
    If yes, what did you say?
34. Did you prepare or provide guidance in reading for any single individual child?
    Why that child?
    What preparation did you provide?
35. Did you provide information, ideas or resources about reading over summer to any parents?
    If yes, what did you provide?
36. Do you know of any summer programmes with a focus on reading in the school's community or in the city?
    Did you provide any information about summer programmes to your students?
37. Did any parents approach you and ask for any guidance, materials, or information about writing over summer?
38. What kind of writing resources do your students have access to from your classroom over the summer holidays?
39. Did you give your students any homework in writing over summer?
40. Did you encourage or talk to your students about writing over summer?
    If yes, what did you say?
41. Did you prepare or provide guidance in writing for any single individual child?
    Why that child?
    What preparation did you provide?
42. Did you provide information, ideas or resources about writing over summer to any parents?

If yes, what did you provide?

43. Do you know of any summer programmes with a focus on reading in the school's community or in the city?

     Did you provide any information about summer programmes to your students?

44. Did any parents approach you and ask for any guidance, materials, or information about writing over summer?

Is there anything you would like to add?

Thank you for your help!

Appendix H: Pairwise Comparison

Pairwise Comparisons

	Time	Reading				Writing			
		Mean Difference	*SE*	*p*	*n*	Mean Difference	*SE*	*p*	*n*
Whole sample	1-2	17.12	1.84	< .001	77	7.46	1.15	< .001	78
	2-3	.67	1.78	1.00	77	-2.60	1.35	.35	78
	3-4	17.19	1.45	< .001	77	11.11	1.15	< .001	78
	1-4	34.99	2.36	< .001	77	15.98	1.35	< .001	78
School A	1-2	15.76	2.72	< .001	42	6.23	1.65	.003	35
	2-3	3.20	2.59	1.00	42	-1.49	1.77	1.00	35
	3-4	11.05	1.42	< .001	42	11.07	1.64	< .001	35
	1-4	30.01	3.24	< .001	42	15.81	1.99	< .001	35
School B	1-2	18.49	2.39	< .001	43	8.97	1.55	< .001	35
	2-3	-1.84	2.35	1.00	43	-3.96	2.09	.399	35
	3-4	23.34	2.68	< .001	43	11.17	1.63	< .001	35
	1-4	39.98	3.40	< .001	43	16.18	1.80	< .001	35

Note: Based on estimated marginal means; with Bonferroni adjustment for multiple comparisons

Appendix I: Pearson Correlation

Linear stepwise Regression: Pearson Correlation and Descriptive Statistics

Variable	Reading Comprehension					Writing				
	Mean	*SD*	*R*	*p*	*n*	Mean	*SD*	*R*	*p*	*n*
Summer gain score (T3-T2 percentile ranks)	.91	15.63	1.00		77	-2.60	11.94	1.00		78
Score Time 1	32.31	29.93	.07	.27	77	40.70	27.45	-.04	.38	78
Score Time 2	49.21	31.54	-.16	.08	77	48.17	27.13	-.19	.05	78
Gender	1.55	.50	-.11	.18	77	1.55	.50	.10	.19	78
School	1.45	.501	-.16	.08	77	1.45	.50	-.10	.18	78
Language spoken at home (German or other)	1.27	.45	-.01	.46	77	1.28	.45	-.17	.07	78

Note: R = Pearson Correlation (summer gain score, T3-T2 in percentile ranks)

Appendix J: Frequencies of Students' Literacy Activities

Frequency of Students' Literacy Activities

Days	School A				School B			
	Reading		Writing		Reading		Writing	
	Frequency	%	Frequency	%	Frequency	%	Frequency	%
0	0	0.0	1	3.2	0	0.0	0	0.0
1	0	0.0	1	3.2	0	0.0	0	0.0
2	0	0.0	3	9.7	0	0.0	0	0.0
3	0	0.0	1	3.2	0	0.0	1	5.6
4	0	0.0	3	9.7	0	0.0	1	5.6
5	1	3.2	2	6.5	1	5.6	2	11.1
6	1	3.2	2	6.5	0	0.0	2	11.1
7	0	0.0	2	6.5	4	22.2	3	16.7
8	1	3.2	0	0.0	1	5.6	1	5.6
9	1	3.2	4	12.9	1	5.6	1	5.6
10	3	9.7	2	6.5	2	11.1	2	11.1
11	4	12.9	0	0.0	3	16.7	0	0.0
12	2	6.5	2	6.5	0	0.0	0	0.0
13	7	22.6	4	12.9	2	11.1	1	5.6
14	11	35.5	4	12.9	4	22.2	4	22.2
Total	31	100.0	31	100.0	18	100.0	18	100.0

Note: Any differences result from rounding errors

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