

# Research on Extended Education in Germany – A General Model with All-Day Schooling and Private Tutoring as Two Examples

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**Abstract:** Although research on extended education is similar to school-focused research in some respects, in other respects it involves new research perspectives and questions. Our article presents an analytical model on extended education that is based on school-effectiveness research and the work of Fischer and Klieme (2013). We summarise selected research findings in two areas of extended education: all-day schooling and private tutoring. While much research has been done in the first area, there is a considerable lack in the second. Our model and the findings that we are reporting can be used to guide further research in the field of extended education.

**Keywords:** research on extended education, all-day schools, private tutoring, educational effectiveness

## 1 Introduction

From early childhood to late adolescence, young people in Germany are enrolled in various institutional and non-institutional, public or private forms of educational arrangements. Some of them, particularly pre-school-aged children, attend kindergarten or participate in early learning courses. School-aged children often participate in school- or community-based programmes, forms of private tutoring or after-school activities such as art courses or academic clubs, or they attend extracurricular activities at all-day schools. While these activities and programmes are usually summarised as *non-formal learning environments* in German-speaking countries, Anglo-American countries use terms like after-school programmes, organised activities, designed activities or “structured informal contexts” (Vadeboncoeur 2006, p. 240). In as far as these activities and programmes focus on the *social, emotional* and *academic development* of children and young people and are *pedagogically structured* to make it easier for the participants to learn specific contents (whatever they may be), we use the term *extended education* to encompass all forms of educational contexts that are focused and designed in this way.

There are certain indicators to prove that there has been overall growth in the field of extended education in Germany within the last decades. For example, the number of German all-day schools – in a sense a prototype of extended education programmes and activities (see section 3) – nearly tripled from 4,951 in 2002 to 15,349 in 2011 (KMK 2013) and the number of child daycare facilities (kindergarten) increased from 45,252 (2006) to 47,929 in 2011. This increase is largely due to an increase in child day care facilities for children under the age of 3 (see Autorengruppe Bildungsberichterstattung 2012, p. 239, Table C2-1A).<sup>1</sup> In addition, we have observed a rise in community- and state-run programmes such as holiday camps that foster children outside of the school hours (cf. Hessisches Kultusministerium 2013).

This development in the field of extended education holds true not only for Germany but for nearly all modern countries (see Stecher & Maschke 2013; Ecarius, Klieme, Stecher, & Woods, 2013). Furthermore, a private market for extended education has been established in most countries in addition to the state-run and official educational programmes and initiatives. An extensive market in the area of private tutoring (i.e. Schülerhilfe and Studienkreis<sup>2</sup>) has evolved in the last two decades in Germany. Dohmen, Erbes, Fuchs & Günzel assume that more than 25 per cent of German students have participated at least once in private tutoring before leaving school (2007, p. 24). According to preliminary data from the National Panel Educational Study (NEPS), more than one out of three 5<sup>th</sup> graders attends courses outside of school – in most cases these are music classes (Stecher & Preis, 2013). Furthermore, new commercial programmes for fostering children have arisen within the past decade such as FasTracKids, which is a programme to foster academic learning for 3- to 8-year olds.<sup>3</sup>

In summary, it is striking that the field of extended education has increased – particularly since the beginning of this century.<sup>4</sup> In accordance with this development the demand for research on the effectiveness of programmes and activities is also on the rise. Our paper will cover some of the research that has been carried out in this field. Although research on extended education in general has a lifelong perspective, we will focus only on childhood and adolescence with an emphasis on all-day schooling and private tutoring. We selected these two topics because they are largely interlinked with schooling and topics related to schools; consequently, they can be viewed as two central pillars in the extended education system in Germany.

We start with a *general model of educational effectiveness in the research field of extended education*. This model guides our report in the two fields of extended education that we will examine in this paper and is applicable to all other forms of extended education. It can therefore serve as a general framework to guide further research in this field.

1 Parallel to this development the discussion has shifted from questions of care and upbringing to questions of academic education in general and school-related development in particular (such as stimulating early numeracy or literacy; see Drieschner 2010 for this discussion).

2 Schülerhilfe and Studienkreis are two of the largest commercial suppliers in the field of private tutoring in Germany.

3 See <http://www.fastrackkids.com/prekafterschool>.

4 For the details of this development and its background, see Stecher and Maschke (2013).

## 2 Extended Education and a Model of Educational Effectiveness

As Ecarius et al. summarise in their work (2013, p. 8), extended education arrangements are different from formal contexts such as the curriculum-mandated lessons at school in certain ways:

- “In some countries they are not taught by teachers (in the stricter sense),
- there is generally no performance assessment with grades,
- they are often organised in mixed-aged groups,
- they are usually only subject to a low level of curricular requirements, and
- they often offer children and youths more freedom of choice than school.”

At the same time these extended education activities and programmes have much in common with school or classroom teaching.

They are offered by an organisation in some cases – but not all (for example, see section 5). In the field of (extended) education, this means that the activities and programmes must be oriented towards educational outcomes and simultaneously must be client-oriented (oriented towards the client’s success and satisfaction). This holds true not only to private organisations but to some extent also to public organisations in every case where participation is voluntary for children and adolescents.

In as far as educational outcomes and client-oriented outcomes are measurable and based on successful, pedagogical intentional behaviour of the caregiver/instructor, they are open to questions of educational effectiveness.

Based on American research, Miller (2003) designed a model of effectiveness for after-school activities. This model was interlinked with research conducted by Klieme and his colleagues on educational quality (Klieme & Rakoczy, 2008). Radisch, Stecher, Klieme & Kühnbach (2008), Stecher, Radisch, Fischer & Klieme (2007) and Fischer & Klieme (2013) adapted the model to extracurricular activities in German all-day schools. As Stecher (2007) argue, this model is applicable to most of the activities and programmes in the field of extended education.

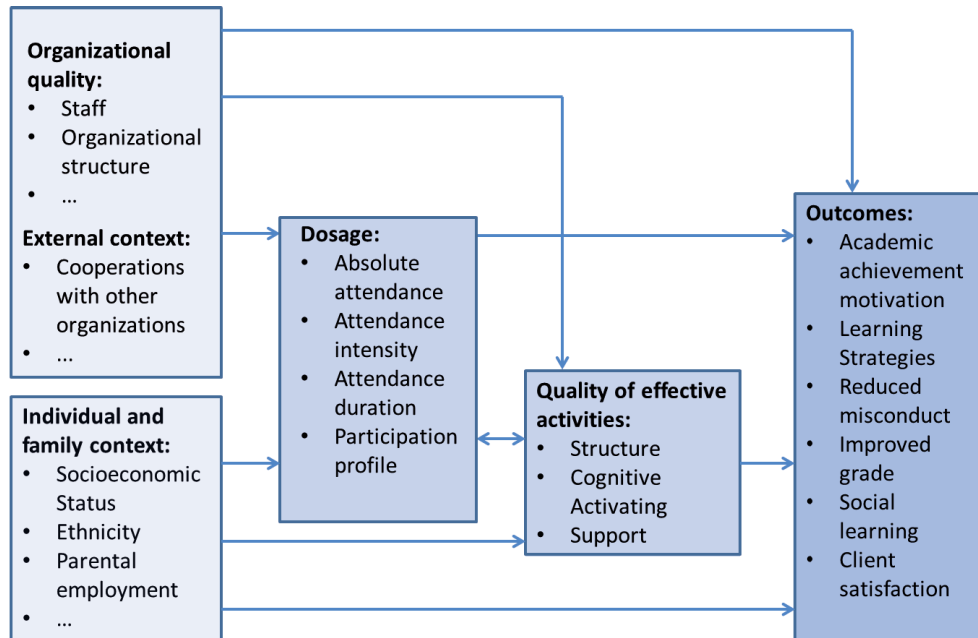


Figure 1: A general model of educational effectiveness in the field of extended education (based on Fischer & Klieme 2013, p. 33)

The model is divided into three sections that are familiar from school effectiveness research models: the input level, the process level (or throughput) and the output level (or outcome).

Very similar to school effectiveness research, the field of extended education at the input level encompasses research questions about the structure of the organisation providing the activities and programmes, the aims of the organisation and the educational/pedagogical proficiencies of the staff. But research on extended education must deal with some questions that are different in some way when compared to school effectiveness research. For example, a focus on research regarding teachers/instructors in extended education usually requires dealing with a considerably *greater heterogeneity of the personnel's qualification level* than is the case for school effectiveness research. Höhmann, Bergmann & Gebauer (2008, p. 84) point out that for example nearly 56 per cent of the staff engaged in extracurricular activities at all-day schools have no university degree (which is usually required for teachers).

In additional, the input perspective focuses on the socio-economic, ethnic and family background of the students enrolled in the extracurricular and out-of-school activities. These aspects take into account the variety of initial or starting conditions that an organisation's work is based on, which is a perspective very similar to school effectiveness research.

What makes research on extended education quite different from school effectiveness research is that students usually participate voluntarily in the activities and programmes, whereas schools require that all students attend the formal curriculum. That means that research in the field of extended education must take into account that the dosage of instructional time varies among students. Some of them do not

participate at all, some participate (only) in leisure-time activities like sports and some participate in academic remedial programmes on one or more days a week. According to Fiester, Simpkins & Bouffard (2005), research must differentiate between *absolute attendance* (participation vs. no participation), *attendance intensity* (days per week/per month), *attendance duration* (short term vs. long term participation) and the *participation profile* (what kind of activities the children are enrolled in – for example, leisure time vs. learning activities). As Fischer, Kuhn & Klieme (2009, pp. 162) summarise in their analysis of representative longitudinal data (see section 4), positive effects of extracurricular activities at all-day schools are due not only to the students' absolute attendance but also to the attendance duration; the higher the long-term dosage of extended education activities, the better the educational outcomes.

An essential aspect of school effectiveness models is the focus on the educational quality of pedagogical interaction, that is to say the quality of classroom teaching. This aspect also plays an important role in the extended educational effectiveness model. Based on the work by Klieme and his colleagues related to classroom teaching, this model adapts Klieme's three-dimensional model of effective classroom teaching (see Klieme, Lipowsky & Rakoczy, 2006; Klieme, Pauli & Reusser, 2009) to extracurricular and out-of-school activities. It is based on the conviction that the following factors enhance learning processes regardless of the learning environment's nature – formal, non-formal or informal:

- a highly structured learning environment – no matter if this involves school lessons or out-of-school pedagogically designed leisure-time activities – “providing, for example, safeness, stability, or clarity of rules to the learner” [*Structure Dimension*];
- a learning environment that enables “positive emotional relations to peers and adults [...], understanding, feedback, support for autonomy and competence and social embedding” [*Support Dimension*];
- a learning environment that provides “tasks that are not too demanding but also not too simple to be solved by the learner, thus leading her or him to a ‘zone of proximal development’” [*Cognitive Activation Dimension*] (Bäumer et al. 2011, p. 93).

Radisch et al. (2008) even went so far as to say that these three dimensions are also applicable to learning processes within the family (for example, parental support for homework). For a detailed description on the perspective of process quality applied to different learning environments, see the fourth issue of the *Journal for Sociology of Education and Socialization* 2007 (Stecher 2007). A research team in the German National Educational Panel Study (NEPS) is currently applying the model to the occupational training of adolescents and adults, school-related internships (Preis & Stecher 2009), and academic courses in which children and adolescents are enrolled outside of school (Stecher & Preis 2013).

On the outcome level – the third section in the model – school effectiveness research usually focuses on academic achievement, learning strategies or features of the personality that are connected with learning success. While research on the effectiveness of extended education also concentrates on these variables, the focus is enlarged to other aspects of student development including social learning, intercultural learning or a positive academic self-concept. Out-of-school educational research deals with various areas of competencies and proficiencies at different levels

that usually cannot be deduced from a generally valid and approved curriculum such as is the case in school effectiveness research. Consequently, competency models must be designed differently. Standardised testing tools currently are not available for some of these aspects.

### 3 Research on Extended Education

As we mentioned above, extended education encompasses a wide array of research fields. If we focus on childhood and adolescence, this area includes kindergarten, academic or sports clubs, programmes of music or cultural education or all-day schools. This paper focuses on the research about all-day schooling – in more precise terms, it examines the research on extracurricular activities at all-day schools – and private tutoring. One of the pro arguments put forward as part of the educational discussions in favour of extracurricular activities at all-day schools is that they have the potential to support students with needs in a new and effective way of learning (cf. Holtappels 2005, pp. 8). According to this argument, all-day schools should be able to *reduce* the gap in academic achievement that is caused by differences in the children's socio-economic background. Supporting students is also an essential argument for why families provide their children with private tutoring lessons. However, in contrast to all-day schools, families must pay for private tutoring lessons and – as Klemm & Klemm argue (2010) – this may *enlarge* the social gap between students from different socio-economic backgrounds and partly counteract the compensating potential of all-day schools. Based on these findings and this hypothesis, research on all-day schooling and private tutoring does not only concern research on education but simultaneously research on social inequality and the role that extended education programmes and activities play within this context.

A second point in favour of focussing on and starting with all-day school research is that most research in the field of extended education during the past decade in Germany was definitely conducted on all-day schooling. That at least holds true with regard to the general effectiveness model shown in Figure 1.

From our point of view – as we mentioned briefly in the introduction – all-day schooling can be seen as a prototype of extended education programmes and activities. This perspective is based on the fact that on the one hand extracurricular activities at all-day schools do encompass a wide array of activities – from leisure-time oriented to curriculum-mandated learning activities – and on the other hand in all-day schools formal and non-formal educational processes, curricular and extracurricular learning are interlinked. While according to the former aspect the heterogeneity of extended education activities is almost completely covered, according to the latter the combined effects of curricular and extracurricular learning can be researched as well as the different effects of both learning fields.

Taking all aspects mentioned in this section together, from our point of view all-day school research can currently be seen as the basic pillar of research on extended education.

## 4 Research on All-Day Schooling

Although there has been some research in Germany since the beginning of the 1960s that deals with all-day schooling and related topics (for an overview, see Holtappels, Klieme, Radisch, Rauschenbach & Stecher, 2008a), systematic and representative research was not initiated until 2005. This is when the “Study on the Development of All-Day Schools” (StEG) was launched. StEG is funded by the German Ministry of Education and Research (BMBF) as part of the “A Future for Education and Care” (Investitionsprogramm Zukunft Bildung und Betreuung, IZBB) investment programme. Within this programme, the German federal government provided a total of 4 billion euros to the federal states from 2003 to 2010 for the development and expansion of all-day schools. StEG is part of the accompanying research strategy of this investment programme. A research consortium consisting of four well-known research institutes is in charge of the study (see Holtappels, Klieme, Radisch, Rauschenbach & Stecher, 2008b; Fischer et al. 2011).

StEG is the first representative, multi-perspective and longitudinal study on the development of all-day schools in Germany. Due to these features, it is currently one of the most important studies in the field of extended education. StEG focuses on a wide array of topics such as the processes of school development, staff collaboration and professionalism, parental satisfaction and students’ outcomes. More than 300 principals, 600 external cooperation partners of schools, more than 6,000 teachers, 1,500 caregivers (additional staff at all-day schools), 14,000 parents, and nearly 27,000 students were questioned at three points in time – 2005, 2007 and 2009 (see Furthmüller, Neumann, Quellenberg, Steiner & Züchner, 2011).<sup>5</sup>

Partly based on the model of educational effectiveness described in the above section, StEG conducts research related to all-day schooling on all three levels: the input level, the process level and the outcome level. In the following we will focus on participation rates (dosage), educational quality at the process level and students’ outcomes as part of this process.

### *Participation Rates (Dosage)*

Assuming that developing all-day schooling in Germany will foster academic achievement in particular for students who are in need, it is plausible that all-day schools will help to close the gap in academic success of pupils from different socio-economic backgrounds. As PISA data has shown, this gap is high in Germany from an international perspective. A necessary prerequisite for tapping unused learning potential is that all students – regardless of their family background – participate to the same degree in the extracurricular activities of all-day schools. Consequently, StEG is working on basic research questions such as who participates in the ex-

<sup>5</sup> StEG has been prolonged until the end of 2015. Based on the findings of the first research phase from 2005 to 2010, StEG is conducting focus studies such as those dealing with specific in-depth research questions in its second phase (for more details, see <http://www.projekt-steg.de/>).

Some other research projects were also funded by the IZBB investment programme. Furthermore, a network on all-day school research was launched in 2005. More than 150 researchers (mostly) from German-speaking countries are working together within this network. A huge body of research literature is available due to these initiatives.

tracurricular activities offered at all-day schools and to what extent these students participate.

Initial StEG data show that about two out of three students participate in extracurricular activities at the primary (3<sup>rd</sup> grade) level (2005: 65%; 2007: 74%; 2009: 67%); the participating rates at the secondary (5<sup>th</sup> grade) level are slightly higher (2005: 66%; 2007: 74%; 2009: 71%). The majority of students at primary and secondary level therefore participate in extracurricular activities at least once a week (see Steiner 2011b, p. 66). Since the StEG data is based on all-day schools, this finding applies only to students attending an all-day school. Taking into account the total number of students in Germany (half-day and all-day schools taken together), nearly one out of three German students is currently enrolled in extracurricular activities (KMK 2013, Table 3.1.1).

Further analysis of the StEG data shows that leisure-time activities – sports in particular – are the most appealing to students and that curriculum-mandated learning and remedial academic activities are considerably less appealing. This especially applies to students at the secondary level (see StEG-Konsortium 2010, pp. 9).

Aside from these findings, the StEG data reveals that there is a selection bias in participation according to children's educational and socio-economic background at primary level. While only 52 per cent of the students in the lowest parental educational status group were enrolled in extracurricular activities (in 2009), the rate of students in the highest status group was 72 per cent. According to the categories of socio-economic status, the participating rate for students with low socio-economic status was 62 per cent (in 2009), whereas the participating rate for students of high socio-economic status was 75 per cent (Steiner 2011b, p. 67).

We can assume with due reason that the earlier children are enrolled in extracurricular activities, the better their chances will be later on in their school career. Offering activities and programmes free of charge would especially help children from lower social classes.

### *Educational Process Quality*

As indicated in the general effectiveness model (see Figure 1), input and outcome levels are interlinked by the respective quality of pedagogic interaction between students and teachers or instructors. Research literature in school effectiveness research about this aspect, usually is referred to as *educational process quality*. It shows that when the educational process quality is higher – with respect to the three dimensions of *structure*, *support*, and *challenge* mentioned in section 2 – the students develop better academically. In as far as the extracurricular activities designed to enhance learning and development are structured in a way that is comparable to as classroom teaching, questions of educational process quality also arise (see section 2).

Radisch et al. (2008) use two tools to assess the educational process quality of extracurricular activities. They call the first “student orientation.” It assesses to what extent learning situations in the extracurricular activities are oriented towards active participation by the students, have a clear structure, and are cognitive challenging for the students.<sup>6</sup> The second tool is called the “student-instructor relationship.” It

<sup>6</sup> Confirmatory factor analysis shows that the 15-item tool used by Radisch and his colleagues (2008, pp. 236) is one-dimensional, which supports the finding from school effectiveness research that students' perceptions of

assesses the degree to which the students perceive the instructors as being supportive and interested in the individual's development, as well as how comfortable students feel in the activities.<sup>7</sup> While the instrument of "student orientation" covers the process quality dimensions of structure and challenge, the instrument of "student-instructor relationship" is related to the dimension of support.

An initial striking finding reported by Radisch et al. (2008, p. 244) is that the quality of the relationship with instructors in extracurricular activities is perceived more positively on the average by the students than the relationship to teachers in the curricular lessons. This finding and the following findings underline the educational potential that extracurricular activities can have in comparison to the regular lessons.

As mentioned above, school effectiveness research proves that the probability of positive developmental and academic outcomes increases with a higher level of process quality perceived by the students. This basic finding also holds true for extracurricular activities. Radisch et al. (2008, pp. 257) show that the better the students perceive the quality of the relationship with their instructors and the more the extracurricular activities are oriented towards the students' needs for structure and challenge, the more the students report that participation in these extracurricular activities is fun, helps them build new social networks and supports them in learning issues and getting better grades. Indeed, Kuhn and Fischer (2011, pp. 222) show – at least with respect to 9<sup>th</sup> graders – that students participating in extracurricular activities achieve a better grade average than students who do not participate. This achievement is more pronounced the more the activities are oriented towards the students' needs and the better the relationship with the instructors is perceived to be by the students.

In the pedagogical discussion about possible positive effects of extracurricular activities, there is often an assumption that attending new forms of educational contexts will affect not only students' outcomes relating directly to the activities but also students' schooling and learning engagement in general. This "radiation hypothesis" is supported by the StEG data. As the StEG (2010, p. 16.) shows, students who are enrolled in activities characterised by high process quality are more motivated to learn and like school more than students also participating in extracurricular activities but reporting less process quality for these activities. This finding was not only confirmed by Fischer, Brümmer & Kuhn (2011, pp. 242) by using StEG panel data from grades 5 to 9, but also expanded to motivational learning orientations. Students perceiving high quality in the activities that they are enrolled in show more intrinsic motivation to learn how to improve their knowledge, their cognitive abilities and skills than students reporting lower levels of process quality. High intrinsic motivation correlates positively with academic achievement (cf. *ibid.*, p. 228).

From the findings reported in this section, we can conclude that participation alone is not the key to positive student outcomes in most cases. In particular, the process quality of the activities must be taken into account: The higher the process quality of extended education activities, the higher the probability of positive outcomes. Because this finding is very similar to the findings in school effectiveness research, it underlines the basic principle of the StEG consortium's work: In other words, that

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classroom teaching have a low level of refinement.

7 This tool encompasses 5 items; as confirmatory factor analysis has shown, this tool is one-dimensional (Radisch et al., 2008, pp. 242).

tools and concepts developed in school effectiveness research are adaptable to most of the effectiveness questions studied in the research on extended education.

### *Educational Effectiveness (Outcome Perspective)*

The StEG assesses a wide array of outcomes that cover not only aspects of academic achievement such as grades in core subjects and retention rates, but also forms of social learning such as learning from other students or supporting others (prosocial behaviour).

As a summary of research conducted since the 1980s by Holtappels et al. (2008, p. 43) demonstrates, the idea that participating in extracurricular activities at all-day schools fosters the social development of children and adolescents appears to be well-established. This finding is confirmed by the StEG consortium (2011, pp. 13). As they grow older, children and adolescents participating on a regular basis in extracurricular activities develop better socially in terms of showing less aggressive and less class-disturbing behaviour than students who do not participate in such activities at all or just do so sporadically. This holds true in particular if the students report a high educational quality of the activities with regard to the general model's three dimensions outlined in Figure 1. The better the activities are structured, the more the students feel comfortable and supported emotionally, and the more the activities are perceived as challenging and cognitively activating, the more beneficial the participation in these activities is for students' social development.

Kuhn and Fischer (2011, p. 156) show that students' social development and academic achievement are interlinked. Students with more appropriate social behaviour – less aggressive and disturbing behaviour and more pro-social behaviour – perform academically better; this better social behaviour develops over the years together with the better academic achievement (grades). In fostering the students' social development, all-day schools indirectly support their academic development. But do all-day schools also affect academic achievement directly?

When the StEG consortium published its first findings in 2007 (Holtappels et al. 2008b), data became available to provide a reliable answer to this question. Most of the research conducted before the StEG shows a very minor positive effect on academic achievement when students attend an all-day school, no matter how academic achievement is measured (cf. Holtappels et al. 2008a, p. 42). But most of the studies conducted in this research area had serious shortcomings. For instance, the dosage of students' participation in extracurricular activities – which we outlined as one of the major distinctions between school effectiveness research and research in the field of extended education – is not taken into account nor is the educational quality of the extracurricular activities (a matter of course in school effectiveness research; cf. Klieme et al. 2005) considered in most studies. In addition, most studies are cross-sectional and this usually makes it impossible to distinguish between sample selection effects (which group of students participates and which group does not) and socialisation effects (effects that are due to participation). Consequently, most of these studies cannot be consulted for answers to questions of effectiveness.

Aside from the fact that the StEG does not assess students' academic performance by means of standardised testing tools (like those used in PISA or comparable studies), StEG data prove for the first time that participating in all-day school activi-

ties is beneficial for academic performance. Based on longitudinal data provided by StEG, Fischer et al. (2009) demonstrate that students who participate in extracurricular activities at the first measuring time perform better in the subjects of mathematics and German (measured by grades) two years later (measuring time 2). This holds true even if the performance level in mathematics and German at measuring time 1 and several other relevant variables affecting academic achievement such as socio-economic family status, migration background or basic cognitive ability are controlled for. From the perspective of dosage that was discussed in chapter 2, the data show that while absolute attendance (participation vs. non-participation) and attendance duration (sporadic vs. long-term participation) affect academic performance in mathematics and German significantly, this is not the case with respect to attendance intensity. However, an additional analysis by Kuhn and Fischer (2011) revealed that attendance intensity has an influence on the development of the grade average, but that effect becomes evident only in higher grades: the more days per week 9<sup>th</sup> graders are enrolled in extracurricular activities, the better their grade average develops. This finding does not apply to 5<sup>th</sup> and 7<sup>th</sup> graders. Whether these differential findings are due to different participation profiles (see Figure 1) of 5<sup>th</sup>/7<sup>th</sup> and 9<sup>th</sup> graders has to be shown in further research.

Steiner (2011a, p. 203) shows that participating in extracurricular activities regularly (for at least two of the three measuring times in the StEG study = attendance duration) decreases the risk of not being promoted to the next class. Taking into account other relevant variables such as average grades (in mathematics and German) or family background does not affect the finding. To demonstrate this result, Steiner proved that this effect is not due to the structural effects of all-day schools on the basis of their retention practice.

Moreover, Fischer et al. (2009) and the StEG consortium (2011) report that the achievement goal orientation of students – a prerequisite for good academic performance – develops in quite the same way. Other prerequisites for performing well academically such as liking school and learning motivation develop positively for students who also attend extracurricular activities at all-day schools. This holds true particularly if the activities have a high educational quality (cf. StEG consortium 2010, p. 16).

Furthermore, Radisch et al. (2008, p. 254) discovered that the more days per week students are enrolled in extracurricular activities, the more they are convinced that participating in these activities is beneficial for their learning progress and their academic achievement at school. Academic gain reported by the students reflects the positive effects that were previously reported.

The basic findings of this section can be summarised in the words of Fischer and Klieme (2013, p. 46): “On the whole, StEG results indicate that all-day schools can contribute to improving academic and non-academic achievement, given that students regularly make use of the additional activities and dependent on activity and school quality.”

Yet, we must take the shortcomings of the StEG analysis into account for the complete perspective.

In most cases, the type of extracurricular activity in which the student is enrolled (attendance profile) has not been taken into account. Therefore, most findings published by the StEG team do not differentiate between the enrolment of the students who are being researched in curriculum-mandated activities and leisure-time activi-

ties. While there is a hypothesis that all forms of activities provided at all-day schools – directly or indirectly – affect the academic achievement of students (Stecher et al., 2009), we can assume that curriculum-mandated and remedial academic activities may especially foster academic achievement. Therefore the positive effects of participating in extracurricular activities at all-day schools reported by the StEG team would be more convincing if they took into account the different forms of activities in which the students are enrolled. More analysis in this direction is required.

A second shortcoming of the StEG data is that only grade point average, retention rates and self-reported data by the students – related to how strongly they believe participating in extracurricular activities supports them in terms of learning progress and passing exams – are available to measure academic achievement. No objective and standardised measuring tools were employed, so it is not possible to report findings based on test scores. As a consequence of this shortcoming, StEG is currently conducting research on the effects of extracurricular activities on academic achievement based on standardised testing tools and a quasi-experimental intervention design. Initial data will be available in 2014.

## 5 Private Tutoring

South Korea (cf. Koinzer 2011) can be used as an international example. Similar to the Japanese Juku schools (cf. Schubert 2002), South Korea has an extensive system of private learning and tutoring institutes that – among other things – prepare students for the central exam at the transition to university studies. However, such institutes are attended already during elementary school for learning support. The official figures for South Korea show that approximately 73 per cent of elementary school children are involved in such private educational activities (Ham 2007). According to these figures of prevalence, South Korean researchers refer to the private tutoring sector as a “shadow educational system” (cf. Bae & Jeon 2013). Germany’s situation is not yet comparable to South Korea, but an extensive market in the area of private tutoring has also been established here (Klemm & Klemm 2010; Dohmen et al. 2007). The current annual volume is estimated between 1.0 and 1.3 billion euros. About 1.1 million students from 1<sup>st</sup> to 12<sup>th</sup>/13<sup>th</sup> grade are enrolled in private tutoring (in 2007; cf. Klemm & Klemm 2010, p. 20). Parallel to the increasing significance of private tutoring in the field of extended education (cf. Rauschenbach et al. 2004, p. 335), research efforts have also increased. For the current research, also see Hollenbach & Meier (2004), Schneider (2005) Jürgens & Diekmann (2007), Klemm & Klemm (2010), Koinzer (2011), Streber (2011) and Guill (2012). Examples of overviews are Dohmen et al. (2007), Jürgens (2008) and Guill (2012). According to the model described in section 2, we will present a short overview of some selected findings on private tutoring such as participating rates, process quality and outcome effects.

### *Research on Private Tutoring*

The term “private tutoring” is not as easy to define as might be assumed. According to Koinzer (2011, p. 34) private tutoring is a “continuum” extending from informal parental support “at the kitchen table” to enrolment in private organisations of the non-formal sector such as the German Schülerhilfe or Studienkreis. According to this variance, the circle of persons acting as instructors is broad. It can extend from (retired) teachers to university students or laypeople such as the neighbour’s children or parents. The result is that the professional background of the instructors varies. That is one of the distinctions to school effectiveness research that must be taken into account for research in the field of extended education – as emphasised by our theoretical model in section 2.

In nearly every case, tutoring focuses on supporting pupils’ learning according to curriculum-mandated school topic areas and subjects. In order to define private tutoring in a broader sense, we must first look at the educational (intentional) goal that tutoring activities and programmes are focused on and the content with which they are associated.

A third aspect to define private tutoring is that the children/the families must pay for it (Klemm & Klemm 2010). Which however does not apply in every case (for example, see tutoring activities at community service centres).

Due to the focus of this paper on educational processes within the field of extended education and in accordance with the available research literature (Klemm & Klemm 2010; Dohmen et al. 2007), parental support at home will be excluded in the following. We will also exclude tutoring and remedial lessons at schools, as well as other forms of private learning support such as activities and programmes for pre-school children (like FasTracKids) or community after-school programmes (which sometimes include support for school-age children in doing their homework and preparing them for exams). Although these activities and programmes are all part of extended education and are important research fields that have been neglected up to now in most cases, we cannot cover all these topics because of the limited space for this article.

As Koinzer (2011, p. 37) states, commercial institutes have a share in the business volume of private tutoring that ranges from 20 to 30 per cent. In most cases, this means that private tutoring is offered outside of an organisational structure and outside of educational effectiveness control. Very little is currently known about private tutoring outside of commercial institutes as a research field (Streber 2011, p. 60). The findings we presenting in the following cover both fields of tutoring.

### *Participation Rates (Dosage)*

Based on the definition of private tutoring mentioned in the previous section and summarising a huge body of studies conducted in this field, Dohmen et al. assume that “approximately every eighth to tenth student (at the primary level) currently makes use of tutoring; for students at the secondary levels I and II, this is probably even almost every fourth. Furthermore, we can say that every third to fourth student has had tutoring over the entire course of his/her schooling” (2007, p. 24; own translation). Further research shows that most students enrolled in private tutoring

courses are participating not just sporadically but for at least several months during the school year (ibid., p. 25).

Based on a change in parental motives related to signing their children up for private tutoring lessons, we can forecast an increasing demand for private tutoring in the near future (Stecher & Maschke 2013; Stecher & Preis 2013). In former decades, parents only enrolled children in these activities if they were in danger of not being promoted to the next class; but now the average grade of children enrolled has decreased from 4.9 to 3.9<sup>8</sup>, as Dohmen et al. (2007, p. 27) report. Only one third of the parents who were asked why they registered their children for private tutoring lessons explicitly specify the danger of not being promoted, but more than 90 per cent mention the general aim of improving their children's grades (ibid., p. 31). This finding is in line with the fact that students attending *Realschule* and especially students attending *Gymnasium* (the highest tracks in the formal school system of Germany) are enrolled to a higher degree in activities of private tutoring than other students (ibid., p. 34).<sup>9</sup> From our perspective, this means that private tutoring is increasingly becoming not only a compensation strategy for students at risk but a general strategy for improving the competitiveness of (average) students (see also Klemm & Klemm 2010, p. 9). This hypothesis is supported by PISA 2000 data. On the one hand, as shown by Hollenbach and Meier (2004, pp. 180), there is very *little correlation* between grade average, PISA test scores (in mathematics and German language) and the probability of participating in private tutoring. On the other hand, participating rates increase with the increasing economic wealth of the family and – as Schneider (2005, p. 377) states, at least for West Germany – with a higher degree of parents' educational aspirations.

Despite the fact that the probability of participating in private tutoring increases with higher household income – which means that participation in private tutoring may widen the achievement gap between students of different socio-economic backgrounds – it seems that the parental educational level does not play an important role (Schneider, 2005, p. 377). According to the latter, we can assume that private tutoring may reduce the achievement gap, at least with regard to the degree that gap is due to differences in parents' education. But taking into account that Guill (2012) shows that with a higher parents' educational level and higher family income the probability of children's enrolment in private tutoring decreases – and that this holds true only for German language, but not for mathematics and English language – taking together both findings the role of private tutoring in prolonging educational inequality cannot be assessed conclusively (see also Stecher & Preis 2013).

### *Educational Process Quality*

As described in section 4, the perspective of process quality is emphasised in research on all-day schooling. But compared to all-day school research, very little research on the process quality of private tutoring is available. On the one hand, the relevant representative data describing the process of instruction during private

<sup>8</sup> In Germany school grades reach from 1=very good to 6 = insufficient.

<sup>9</sup> It has to be taken into account that students attending *Hauptschule* (the lowest educational track in the formal school system in Germany) on average do not have sufficient economic resources for enrolling their children in private tutoring.

tutoring lessons is missing. On the other hand, the data at hand is rarely based on educational effectiveness models like in all-day school research. So little is known about private tutoring lessons, their structure, and assistance that they provide and the extent to which they are cognitively challenging. This especially holds true for tutoring outside of commercial organisations.

There are some studies though that can serve as an initial reference point for the fact that the process quality of private tutoring lessons is assessed higher by students and parents in terms of the instructors' diagnostic (cf. teaching and didactical skills, classroom management) and psycho-social competences (cf. providing emotional support and taking students' needs seriously) than in the regular subject-mandated instruction during lessons at school conducted by teachers (Jürgens, 2008, p. 417; own translation). This finding is analogous to the findings mentioned in section 4 with regard to the quality of extracurricular activities. It indicates that these forms of extended education have a specific educational potential. For private tutoring lessons – and in some cases, also for extracurricular activities – we can attribute this finding partly to the better instructor-student ratio that allows a more individual-oriented interaction (for example, see Arbeitskreis Qualitätsmanagement Studienkreis, 2002, p. 11).

Since it is an essential condition for customer satisfaction, the high educational quality of the offers is an essential condition for the economic success of commercial institutes. Therefore some institutes set quality guidelines for tutoring lessons. For example, the Studienkreis released an internal paper containing the basic pedagogical framework and some didactical aspects intended to guide the instructors' work (Arbeitskreis Qualitätsmanagement Studienkreis, 2002). In these guidelines, private tutoring is primarily defined as providing services – services based on professional pedagogical knowledge and research on educational effectiveness (ibid., p. 4). According to this scientific foundation, some aspects related to process quality described in our model are also mentioned in these guidelines. For example, the guidelines emphasise that students should be encouraged to solve learning tasks by themselves in an active and creative way. Lessons should not be focused on teachers' instruction and lecturing alone; they should allow the students enough time to deal with the subject matter on their own (ibid., p. 11). These aspects are part of the quality dimension that we describe as cognitive activating (*challenge*). Another aspect very similar to the above-mentioned concept of process quality is that tutoring lessons should be based on mutual trust to foster self-confidence and academic self-efficacy of the student (ibid.). There are no representative studies available to assess whether these theoretical guidelines are actually put into practice.

### *Educational Effectiveness of Private Tutoring*

Research literature puts forward a multitude of arguments as to why participating in private tutoring should improve academic achievement (see Dohmen et al., 2007, p. 71). For example, there are arguments – very similar to the discussion about the potential of extracurricular activities at all-day schools in Germany – that private lessons extend the instructional time available for students. When this is additionally based on an instructor-student ratio that is better than at school (in some cases, the ratio is 1:1) and the fact that the learning situation is usually more student-centred

than classroom teaching, it is easier to meet the talent-appropriate needs of the individual student. Furthermore, there is an assumption that participating in private tutoring can be beneficial for developing more appropriate learning motivation and learning strategies.

Aside from these theoretical assumptions about the educational potential, very little empirical research about the effectiveness of private tutoring is available. Although some studies summarised by Dohmen et al. (2007) show that an improvement in school grades and a declining risk in not being promoted for students who attend private tutoring courses, these studies are not based on representative and longitudinal data or on experimental design – prerequisites to differentiate between selection biases in the samples and socialisation effects (educational effectiveness). There is also a lack of studies focused on motivational aspects and learning strategies or studies that measure the gain in competencies based on objective testing instruments.

PISA is the only study that provides data on participation in private tutoring and standardised test scores (in mathematics and German language), which is based on a representative sample (of 15-year-olds). As mentioned above, Hollenbach and Meier (2004) used the PISA 2000 data to determine that there is very little correlation between test scores and the probability of participating in private tutoring. But since the PISA data provides only a cross-sectional perspective, it does not answer the question as to whether this finding is due to participation in selection processes or the effectiveness of attending private tutoring lessons. Longitudinal panel data is necessary in order to differentiate between selection and socialisation effects.

A limited amount of longitudinal data is available. Based on longitudinal research conducted by commercial institutes, Streber (2011) summarises that it is possible to demonstrate how attending commercial private tutoring lessons on a regular basis can also improve students' learning behaviour and school grades. However, as mentioned above, these findings have mostly been provided by the commercial institutes.

Based on the structural model (Figure 1), we can summarise that research on private tutoring only partly covers the relevant research questions in comparison to all-day school research. According to our model, many research questions are still open – that especially holds true for questions about process quality and outcomes.

## 6 Conclusion

The beginning of our article discussed a general model of educational effectiveness applicable to all forms of activities and programmes in the field of extended education. According to the school effectiveness research it is based on three levels of analysis: the input, the process and the output level. On the basis of this model, we provided a brief overview for two research areas of extended education in Germany – extracurricular activities at all-day schools and private tutoring – under three headings: participation rates (dosage), educational process quality and educational effectiveness (outcome).

We can demonstrate that the participating rates vary with regard to the family socio-economic status at the primary school level in all-day schools. At the secondary level, no such selection effects can be observed. Findings from the “Study on the Development of All-Day Schools” (StEG) additionally show that the higher the students perceive the educational quality of the extracurricular activities to be (in terms of structure, support and cognitive activating), the more positive outcomes are reported. That holds true with regard to academic achievement (grade average and retention rates) and social learning (prosocial behaviour and reduced misconduct).

On the one hand, research on private tutoring reveals that participation rates vary with the economic background of the families. The higher the parents’ income, the higher the probability of attending tutoring lessons will be. In addition, reports prove that private tutoring is used not only as a remedial strategy by families when students are in danger of not being promoted but increasingly as a general strategy for improving the competitiveness of their offspring. On the other hand, participation in private tutoring is not interlinked with their parents’ educational level. Due to these findings, the role of private tutoring in prolonging social inequality cannot be assessed conclusively. With regard to educational process quality and outcomes, we must state that there is a considerable lack of research studies and findings to provide conclusive answers. Much research must be done in this field of extended education.

With regard to the model of education effectiveness in the field of extended education, we find that this model is applicable to all forms of out-of-school time and extracurricular learning environments. Further research must be done to prove whether this assumption holds true in every case or if and how the model must be refined according to the various learning contexts.

From our perspective, research on extended education is a new chapter in educational research – a chapter that will become increasingly important within the near future. On the one hand, we can expect that increasingly more community and state-run activities and programmes will be offered to tap the educational potential of the younger generations, independent of the socio-economic background of the children and adolescents, as an approach to factors such as demographic changes. On the other hand, increasingly more families will use extended education offers to support their children’s academic achievement. Private institutes and organisations will satisfy this growing demand. The importance of out-of-school and extracurricular activities and programmes will increase on the whole. This will shift the balance between traditional schooling and extended education in the favour of extended education. Educational research will have to shift its focus to the area of extended education.

Research in this area must deal with research questions that are only partly – or in some cases, not at all – covered by the educational research focussed on the classical school. To summarise some of the aspects mentioned in the previous sections: This difference is based on elements such as the fact that research on extended education must take into account the various levels of instructor professionalism and proficiency, that participation is voluntary for the students in most cases, that the dosage of educational instruction time may therefore vary between the children and adolescents and that extended education activities broaden the research focus on educational outcomes apart from academic achievement such as social competences and social learning or value orientations.

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