Research Cluster

Language Education and Multilingualism

2013–2020

Project descriptions and findings
1st and 2nd funding phases

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Forschungsschwerpunkt
sprachliche Bildung und Mehrsprachigkeit

Imprint

Foreword

Dear Readers,

The research cluster *Language Education and Multilingualism* was funded by the German Federal Ministry of Education and Research from 2013 to 2020. The cluster comprised a total of 21 research projects based at different German universities and was supported by the *Coordination Office for Multilingualism and Language Education* (aka KoMBi) throughout this period. The purpose of this brochure is to inform you of the research design and findings of all 21 projects.

The overall aim of the cluster was to increase our understanding of language development and education in the context of multilingualism. In some German cities, the proportion of children and adolescents with a migration background reaches 50 %. While official census data on this question are lacking, we can assume that a good many of these young people speak a language — or languages — besides German in their families. For many learners, growing up with more than one language is therefore the norm. Pupils who are raised monolingually also come into contact with other languages — for example, those spoken by their multilingual peers in the school yard or in their neighbourhoods; and all experience foreign-language learning at school.

Multilingualism presents both opportunities for and challenges to the individual as well as the education system. Via empirically sound findings, our projects sought to expose the processes and mechanisms of language development and learning that facilitate or hinder educational achievement. A core part of the research was therefore concerned with clarifying such questions. Another core aspect addressed educational practice, exploring how disadvantages associated with multilingualism may be counteracted and, conversely, potentialities harnessed for learning and teaching. Topics covered include the relationship between multilingualism and language awareness, interdependencies between writing skills in German and relevant heritage languages, and the effects of using multilingualism in foreign-language, mathematics, and German lessons.

The projects were funded in two phases. The first funding phase (2013 – 2017) focused on fundamental questions on the role of multilingualism in the education system; the second phase (2017 – 2020) on more in-depth analyses and the testing of pedagogical approaches.

We hope you enjoy reading about our projects and that you find the findings presented here to be of relevance.

Best wishes,
Ingrid Gogolin — Antje Hansen — Sarah McMonagle
(KoMBi)

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Research Cluster *Language Education and Multilingualism*: Overview and Findings

Previous research connecting migration, multilingualism and education appears to reach contradictory results. On the one hand, large-scale, comparative school performance studies suggest that speaking a language other than the majority language (in our context, German) poses risks to academic achievement — particularly when children come from families of low socioeconomic status. This is more often the case for families with a migrant background than for those who have lived in the respective country for several generations. On the other hand, internationally, there are studies that show no negative impact on learning when children or adolescents from immigrant families speak a language other than the language of schooling at home. Furthermore, some research concludes that growing up multilingually has benefits for learning, such as the ability to master abstract linguistic tasks (e.g. being able to distinguish between the form of an utterance and its content). Even when influencing factors are controlled for, the apparent benefits of bi- and multilingualism remain. The assumption that monolingual family practices *per se* have advantages and multilingual practices disadvantages, has been further contradicted by in-depth analyses of data from large-scale, comparative studies, which uncover poor reading skills among learners with a migration background but in whose families German is predominantly spoken.

State-of-the-art research on the consequences of multilingualism for education thus points to both obstacles and opportunities. The projects in our research cluster drew on this patchwork of research findings as they aimed to reach more precise inferences on the consequences of multilingualism for (language) education and how education, in turn, influences multilingual development. In order to close existing research gaps, the projects were tasked with empirically testing different hypotheses of the advantages and disadvantages of multilingualism for education. The research cluster was funded in two distinct phases, 2013 – 2017 and 2017 – 2020. The second phase was essentially focused on the transfer of findings to educational practice.

A perspective shared by all the projects is that multilingualism is a basic condition in education.

In other words, it is not only something for those pupils who grow up bi- or multilingually. With very few exceptions, all pupils in German schools learn at least one foreign language, with a considerable number learning a second. Exceptions to this standard occur where, say, disability prevents language learning. So-called 'monolinguals' therefore also live with different languages, a variant referred to as 'foreign-language' multilingualism. The variant experienced by their bi- and multilingual peers is referred to as 'everyday multilingualism', in which they draw on one or more languages not formally acquired in education in their daily lives. To date, research on the consequences of these different constellations for language and subject learning has been found wanting. While early childhood and schooling are comparatively well researched, much less is known about the language development of learners in the later stages of education.

In the context of our research cluster of 21 projects, multilingualism is understood to include the following:

- German as a general language of communication, through which knowledge is acquired in virtually all areas of education;
- Linguistic knowledge and skills in foreign languages that are learned in school and other educational institutions (i.e. foreign-language multilingualism);
- Linguistic knowledge and skills in heritage languages that are spoken other than, or alongside, German in families with a migration background (i.e. everyday multilingualism). In the research cluster, particular attention was paid to those heritage languages brought to Germany by migration.

Although the projects had different research emphases, a shared and normative goal was the reduction of educational disadvantage via empirically informed educational practice. The projects thus sought to establish outcomes in which the potentials associated with multilingualism can be better harnessed for learning, and the risks reduced. This contributes to the theoretical, empirical and practical development of, what we term, 'successful' language education. Here, 'success' is measured either by gains in language proficiency (whether in German or other languages) or in terms of subject and skills acquisition.

The following topics were addressed by the projects:

- Language development in two or more languages in different stages of education and educational institutions: from elementary level to secondary school and the transition to vocational training.
- Literacy development in the context of multilingualism. Previous research has largely focused on reading skills, which are undoubtedly a crucial foundation for successful learning. Our projects complement and extend this line of research by examining the development of writing skills — that is to say, literacy in a broader sense. Special attention was paid to possible interlingual effects in multilingual writing, i.e. does the ability to read and write in one language have supportive effects on the other language(s)?

- How can heritage languages be included in subject learning and what are the effects? The relevant projects examined the explicit inclusion of family languages in teaching and learning processes, and whether this has a positive effect on language and/or subject learning.
- The potentials of multilingualism for learning. Here, research findings were taken up and examined in educational contexts for their practical benefits — for example with regard to the systematic use of metalinguistic skills to support learning processes.
- Educational institution design. The initial aim was to identify the characteristics of educational institutions that may have a beneficial effect on language and educational development in multilingual contexts. The focus then shifted to institutional development with the aim of improving the quality of (multilingual) education in daycare centres and schools.

In the remainder of this chapter, we provide an overview of the findings to emerge from the research cluster over both funding phases. More detailed descriptions of research questions, study designs and results can be found in the individual project descriptions, which make up the bulk of this brochure. Information can also be found at our website, *www.mehrsprachigkeit.uni-hamburg.de*.

Overview of outputs

Significant outputs of the research cluster include not only contributions to knowledge in the field of multilingual learning, but also specially devised and adapted methods and instruments to conduct research in this developing field. This overview begins with a summary of the latter.

Research methods and instruments

Several projects developed approaches to adequately capture and record influencing factors on learning in contexts of migration and multilingualism. For instance, language practices as they occur in migrant families cannot be accurately portrayed via commonly applied dichotomies such as 'mostly German/mostly heritage language'. Some studies have meanwhile begun to include a third category ('both - and'), acknowledging that bi- and multilingual practices also occur. For studies tasked with clarifying the influence of background and education (be it family, formal or informal types of learning) on language skills development, the more accurate the information must be about what kind of language practice is cultivated here or there. Furthermore, it is not only the quantity of linguistic input that is relevant (as covered by the terms 'predominantly' and 'both'), but also the quality of language encounters experienced. Against this background, methodological approaches were developed that aimed to gather data on types of language practice from which reliable information on educationally relevant language actions could be drawn.

Pioneering work has also gone into the development of a set of instruments for measuring linguistic skills in different languages, some of which can be used for long-term assessments. While the availability of such instruments is a prerequisite for measuring multilingual development in general, the methods must also allow for cross-linguistic comparisons — i.e. that they measure similarities and differences in the skills achieved by learners in all their languages. As languages themselves are constructed differently, sound comparisons cannot be made by, say, merely translating tests. Rather, functional equivalents must be established for each language so that any comparison between skills is valid and meaningful. Tried and tested prototypes, which can also be used in studies with substantial participant samples, are now available for the first time in German, relevant heritage and foreign languages.

At the outset of this research cluster, there were also questions as to how 'language awareness' could be adequately measured as a construct. Any available instruments came primarily from developmental psychology and were focused on strictly controllable aspects of cognition, such as being able to distinguish between the form and content of individual words. Hence there was a need to develop instruments that would allow us to evaluate latent abilities, even when learners perform complex tasks at school. Another need was to be able to assess further metalinguistic skills associated with multilingualism, such as the capacity to transfer and mediate between languages. Any such available instruments are usually employed for the purposes of professional examinations, for example in translation and interpreting. Instruments better suited to the school environment therefore had to be developed, particularly for contexts in which these skills had not received targeted training.

Research findings

The following summary is presented according to intersecting themes examined across projects in the research cluster. The more detailed descriptions contained in this brochure show each project's contribution to the respective findings.

Individual language development in the context of multilingualism

One of the key questions in the cluster was to what extent so-called 'everyday multilingualism' is a reality for pupils in German schools. Migration is currently the main reason for language diversity in the country. Whereas, for a stable period following the Second World War, migrants (usually 'guest workers') came from a relatively small number of countries, this number has multiplied since the 1990s with migrants from virtually every country on earth residing in Germany. And, since most countries are themselves multilingual, we can therefore reckon with a high degree of language diversity brought about by migration.

Based on historical experience, it is widely believed that the heritage languages of migrants play a role in their communication for about two generations. Today, the vast majority of children and young people whose families have a history of migration

represent the second and third generations. It could therefore be believed that migrant languages no longer play a role in their lives, not least because such languages are largely excluded from formal education. Just a small number of young people in Germany have access to publicly funded instruction in their heritage language, with a much smaller number of languages on offer than those actually spoken.

With this in mind, research in this area is confronted with the question of whether and to what extent pupils can speak their family heritage language. Various answers are offered in response to this fundamental question, overall indicating that such languages can be used as a resource for learning — even among later migrant generations. Most of our projects had to consider this basic question in interpreting their results. In those studies with an interest in the effects of supporting heritage languages on linguistic development and/or subject-related skills, certain thresholds were uncovered which led to the general conclusion: the higher the level of development in the heritage language, the more learners benefit from it as a resource for learning.

There is also evidence that the use of heritage languages has motivational effects that are conducive to learning. In many of the projects, young participants reacted positively and with improved performance to the explicit inclusion of heritage languages in class, despite being previously discouraged to use these languages at school. Such findings tell us that questions around the inclusion of multilingualism for learning cannot be answered solely in terms of

linguistic ability and knowledge, but in a larger sense in which pupils' motivations and identities are also considered.

Our projects further made clear that the inclusion of multilingualism 'by any old means' is unlikely to yield positive effects. The mere provision of materials in heritage languages, such as vocabulary cards, does not necessarily enhance learning. This is because heritage language skills are usually developed in the oral domain of the family, and not in relation to school-specific media or means of communication. Children in migrant families therefore primarily develop oral and aural skills in the heritage language. However, young participants in one study did display written capabilities, despite having no formal instruction in the respective heritage language. They came from families who had — at least — introduced their children to the basics of writing in the heritage language. In these cases, however, written language does not always meet educational standards as traces of the transfer of oral language to writing were often found. Yet, oral skills also face the scrutiny of norms, particularly in the area of prosody and pronunciation. This is unsurprising as 'speaking' is usually linked with the standard, education-oriented variety of a given language. Oral skills, such as 'accent-free' pronunciation, were also therefore only found among learners who regularly attended lessons in their heritage language.

Further significant findings were obtained on the multilingual development of learners beyond lower secondary education. One study examined development in German (the language of schooling), Turkish

and Russian (as heritage languages), English (the first foreign language of participants), as well as French and Russian (as second foreign languages). The first of its kind, this study simultaneously and systematically tested the receptive (reading comprehension) and productive language skills (written text production) in all of these languages among a large cohort of participants. In addition, factors influencing language development — such as individual characteristics, family background, migration and language acquisition history, school context, social integration, educational and career aspirations — were comprehensively examined.

At the time of writing, analyses of this complex dataset are ongoing. Some general tendencies have, however, come to light. For instance, German is the best developed language for all pupils tested. This was expected as the Russian and Turkish heritage-language speakers had received their entire schooling in German only. Tests in the respective heritage languages revealed a wide range of proficiencies — from written texts based on oral language to more elaborate compositions in academic language. Especially noteworthy is the finding that those who have advanced writing skills in their heritage language also wrote to a high standard in German as well as in the foreign languages tested. In any case, these findings refute the frequently voiced fear that investment in the heritage language necessarily comes at the expense of majority-language skills development. In this study, pupils who write well, do so in all their languages.

Researching multilingualism as a resource

In the following we summarise the findings from studies that addressed multilingualism as a resource in various areas of teaching and learning.

Multilingualism in subject teaching

When heritage languages are included in subject lessons, how might this affect content learning and subject-specific skills in German? Are there effects on the heritage language? Our projects examined different ways of including heritage languages in subject lessons, with many showing that such language support leads not only to linguistic but also to subject-specific improvements.

Learners with good mastery of their heritage language profited more from the inclusion of the heritage language than from monolingual German instruction. This was also the case for learners whose heritage languages were included as a resource for learning at relatively late stages in their educational biographies.

A special form of support for heritage languages is their inclusion in the regular school curriculum. Studies that investigated the potentials of cooperation between heritage-language instruction and teaching in different school subjects showed differentiated results regarding the transfer from one to the other — such as the transfer from the heritage language to German and *vice versa*. The main heritage language examined here was Turkish (the most frequently spoken migrant language in Germany).

Supporting heritage languages

Because heritage languages are generally marginalised in the German school system, research examining their role and function in teaching and learning is rare. Even precise information on the types of heritage-language classes and participation is lacking. Research in this area must therefore focus on very specific questions in order to reach credible findings.

Especially interesting is the situation of Polish and Russian in Germany. In some federal states, both of these languages are taught as foreign languages at school. At the same time, both are spoken everyday by relatively large groups of heritage speakers (depending on the region). In addition, a number of independent institutions offer lessons in these languages. In this respect they are similar to several heritage-language situations of students with a migration background, in Germany and elsewhere. Within our research cluster, studies examined the specifics of language support and development in the cases of Russian and Polish in Germany. Among other things, they compared the linguistic skills of these language learners both with and without prior knowledge of the respective languages.

It emerged that those learners who use the respective heritage language extensively in their families, and have attended heritage-language lessons, benefited most from teaching experiments in which these languages play a role. Gains were especially pronounced in the areas of literary skills and standard pronunciation. However, the same research also revealed that 'everyday' heritage-language skills are not always perceived as a resource for learning and, according to the learners surveyed, generally go untapped (even in language learning). The researchers responded to this considerable need for teacher upskilling by developing and testing a didactical approach for language learning that differentiates between learners. The participants in this intervention study showed continuous increases in the desired language skills. The development of teaching approaches in which learners both with (i.e. heritage speakers) and without (i.e. foreign-language learners) everyday experience of the language are taught together is a promising means of adapting language instruction to the linguistic and cultural heterogeneity of the student body.

Learners as teachers

A question often raised in light of the diversity of pupils' languages is how teachers can possibly accommodate these languages when they themselves are not multilingual. One possibility is the use of cooperative forms of learning between pupils who speak the same languages. Yet the success of such measures depends, among other things, on the experience that the pupils have had with their heritage languages in education. In any case, our studies showed that encouraging use of the heritage language in, for example, peer learning between children in primary school, did not lead to any disadvantages for content learning. Positive effects were even discernible when it came to basic mathematical skills. However, not all pupils drew on their heritage-language skills for peer learning. An explanation for

this is that such interventions usually took place outside of the regular school curriculum; a closer alignment with everyday school experiences may have led to different outcomes. Results from both primary and secondary school instruction point in this direction. When heritage languages are encouraged in cooperative forms of learning, advantages are not only apparent in terms of learning, but also in terms of classroom climate. Monolingual classmates thereby also benefit from multilingualism.

Multilingualism as a dimension of regular lessons

An open research question in this field is that of interlingual transferability. Can learners' linguistic development benefit from transfer strategies, especially their development in languages that are less well supported (if at all). One study investigating this question revealed positive effects when mono- and bilingual pupils received training in different writing arrangements for text production in German. The bilingual pupils who appeared to benefit most from the measures also produced better texts in their heritage language (in this case, Turkish). However, positive effects could not be observed in arrangements that merely provided linguistic resources. Rather, clear aids to understand the function of language were required. Didactical approaches that impart the function of particular language actions can have beneficial effects across languages, including the adaptation of strategic skills in languages which are not themselves officially taught or supported.

The current state of research leads us to assume that multilingualism *per se* is advantageous for sub-

ject-independent, generally beneficial (metalinguistic) skills. Studies show that children who grow up with more than one language develop forms of language awareness — i.e. knowledge about language — at an early age, which can benefit further learning. Yet it is unclear how such knowledge, usually intuitively practiced, can be cultivated into a resource for learning at school. One of our studies investigated a comparative approach to language learning in which heritage languages were included in German lessons — again, a strategy that is explicitly geared towards knowledge of how languages function. The participating pupils benefited from the intervention, particularly with regard to their language-analytical skills. Similar to other studies in our research cluster, the procedure was also advantageous for monolingual learners.

However, other projects examining this topic also made apparent that the 'initial advantage' that multilingualism supposedly lends to learning does not necessarily outlast the school career. For example, in a study on the effects of integrating multilingualism into English lessons in primary school, the initial advantage associated with heritage languages appeared to have dissipated by the time pupils were transitioning from 3rd to 4th grade. In a follow-up study, both multi- and monolingual pupils profited from a multilingual-sensitive intervention in English classes. It is as yet unclear whether multilingual pupils with a strong mastery of their heritage language benefit especially from this intervention (as was the case for pupils in non-language subjects). The researchers involved in the study themselves are

also critical of the fact that their intervention may not have been sufficiently transparent for the learners to produce the intended results. In addition, the affective outcomes must also be considered. That is to say, how such interventions affect student attitudes towards multilingualism or the identities of multilingual learners and thereby influence learning success.

A common conclusion drawn from across this topic area is that both multilinguals and monolinguals profited from the study interventions. This result can be interpreted positively or negatively. A negative reading sees that multilingual learners did not outperform their monolingual peers; in this respect, measures intended to compensate for disadvantages associated with multilingualism were not as successful as expected. A positive reading, however, highlights the fact that the studies' didactical and methodological approaches to the inclusion of multilingualism were profitable for all learners.

Educational institution design

The results presented thus far relate to individual learning areas or subjects. Yet research on school and teaching quality upholds that reform measures are more likely to be successful when embedded in overall strategies for the improvement of education on an institutional level. Some of our projects thus focused on the design of entire educational institutions, from daycare centres to schools. A major focus of these studies was on the qualifications required by educational staff to create an environment that is responsive to language diversity.

Initial surveys revealed clear gaps in skills and knowledge among kindergarten personnel and schoolteachers. Even where staff themselves had a history of migration and/or grew up with languages other than German, this, in and of itself, is not a sufficient resource for the improvement of education in multilingual contexts. Rather, the deciding factor proved to be individual attitudes towards one's own tasks as well as willingness to participate in measures to enhance knowledge of and reflection on multilingualism as a sphere of action. Only in connection with such qualification measures were educational personnel able to use their own multilingualism as a resource in their work.

In the context of school development, professional development for personnel was successful when proposals for action could be tried out in their own contexts of practice and these experiences subsequently reflected on with expert guidance. This confirms findings from earlier research that qualification measures are successful when part of an overall school development concept and when implemented in everyday practice at one's own institution and in cooperation with colleagues.

Summary

The projects within the German research cluster, *Language Education and Multilingualism*, have contributed both in-depth and differentiated findings to the field. They have shown that widespread assumptions about the rapid loss of heritage-language skills in later migrant generations require more nuanced and discerning approaches. These languages had a

significant presence among the samples of learners investigated across the projects — which is of course also an effect of the design of the studies.

Notably, heritage-language skills were found in areas not always expected, such as writing competences. These findings point to the potential that exists among heritage-language learners, despite the lack of official support for their languages. We may assume that many families are dedicated to and invest in language maintenance, and that such efforts are not in competition with German.

Observations of multilingual development among secondary-level pupils showed that German is their dominant language. At any rate, this holds for those pupils with a migrant background who completed their education in Germany, confirming the assertion that multilingualism and the dominance of German in Germany are not contradictory.

The next logical question is whether the linguistic experiences learners bring from their everyday lives may be converted into resources for educational gains. This largely depends on the support measures put in place by educational institutions. The advantages often associated with bi- and multilingualism become overridden by learning and educational experiences that do not contribute to their development. Our studies show that bi- and multilingualism can serve as a resource for language and subject learning as long as they are perceived as resources and developed as such.

Our projects also showed that measures bearing this intent have better chances of success. Furthermore, they benefit all those involved in the learning process. None of the studies conducted as part of the research cluster led to disadvantages for subject or language learning as a result of including multilingualism. The inclusion of heritage languages in mainstream education, which is delivered in German, did not come at the expense of the targeted content learning in German. Considerations of multilingualism led to a general increase in language awareness, which appears to be beneficial for the development of educationally relevant language skills. An important prerequisite, so that the desired effects materialise, is that learners are made explicitly familiar with the functional side of the language that is being supported.

Our projects have certainly not been able to answer all open questions regarding language education in the context of multilingualism. But a sure outcome from this research cluster is increased clarity surrounding broader questions to be pursued in future research, and the availability of improved tools and tried-and-tested research design approaches when tackling such questions. By taking multilingualism into account, combined with appropriate support for linguistic and cross-linguistic abilities, the studies outlined here pave the path for the development of sound concepts for learning in multilingual contexts.

Research map

BiPeer — Facilitating German reading skills among bilingual primary school children through peer learning
▶ **meRLe** — Promoting reading skills in German via multilingual-sensitive reciprocal teaching in primary education

IMe — Performed multilingualism in drama and theatre-pedagogical settings in project work and subject lessons

IMKi — Effects of active integration of multilingualism in preschools

MEG-SKoRe + ▶ **MEG-SKoRe II** — Multilingualism as a linguistic and cognitive resource in English language acquisition in primary school

Multiliteracy — The interrelation between language abilities in the first and second languages and extra-linguistic factors

MEZ — Multilingual development: A longitudinal perspective
▶ **MEZ-2** — Multilingualism in the transition from school to work

MIKS — Multilingualism as a field of action in inter-cultural school development: An intervention study in primary schools
▶ **MIKS II** — Dissemination of a professionalisation and school development concept in an age of new migration

MuM-Multi + ▶ **MuM-Multi II** — Fostering Language in multilingual mathematics classrooms

Russian and Polish heritage languages as a resource in the classroom — Investigating the role of school and family contexts for the use of heritage languages by students with a migration background
▶ **Language awareness and multilingualism** — Developing a resource-oriented didactics for heritage and foreign language education with the example of Russian and Polish heritage speakers

SchriFT — Writing skills in lower secondary school and the involvement of Turkish
▶ **SchriFT II** — Writing skills in subject-specific lower secondary education, with the inclusion of Turkish

SimO — Writing skills support in multilingual secondary schools
▶ **TimO** — Text revision in multilingual secondary schools

Language skills and metalinguistic awareness — Metalinguistic interactions in multilingual learning settings as a predictor of metalinguistic awareness and its relevance to the learning of German, foreign and heritage languages
▶ **MehrSprachen (ManyLanguages)** — An intervention study to enhance metalinguistic awareness and language skills among primary school children

MEZ + **MEZ-2** + **MIKS II** +
MuM-Multi + **MuM-Multi II**
Uni. Hamburg

SimO
Uni. Bremen

MIKS
Uni. Münster

MuM-Multi + **MuM-Multi II**
TU Dortmund

SchriFT + **SchriFT II**
Uni. Duisburg-Essen
Ruhr-Uni. Bochum

TimO
Uni. Cologne

SimO + **TimO**
Uni. Siegen

**Language skills and
metalinguistic awareness**
+ **MehrSprachen**
Uni. Koblenz-Landau

BiPeer + **meRLe**
DIPF

MEG-SKoRe + **MEG-SKoRe II**
Uni. Mannheim

IMKi PH Heidelberg

**Russian and Polish
heritage languages** +
**Language awareness
and multilingualism**
Uni. Greifswald

MEG-SKoRe +
MEG-SKoRe II
TU Braunschweig

BiPeer + **meRLe**
Uni. Wuppertal

**Russian and Polish
heritage languages** +
**Language awareness
and multilingualism**
Uni. Leipzig

IMKi
Catholic Uni. Eichstätt-
Ingolstadt

IMe Uni. Augsburg

Mehrschriftlichkeit
LMU Munich

Schleswig-
Holstein

Mecklenburg-Vor-
pommern

Hamburg

Bremen

Lower Saxony

Berlin

Brandenburg

Saxony-Anhalt

North
Rhine-Westphalia

Saxony

Hesse

Thuringia

Rhineland-
Palatinate

Saarland

Bavaria

Baden-Württemberg

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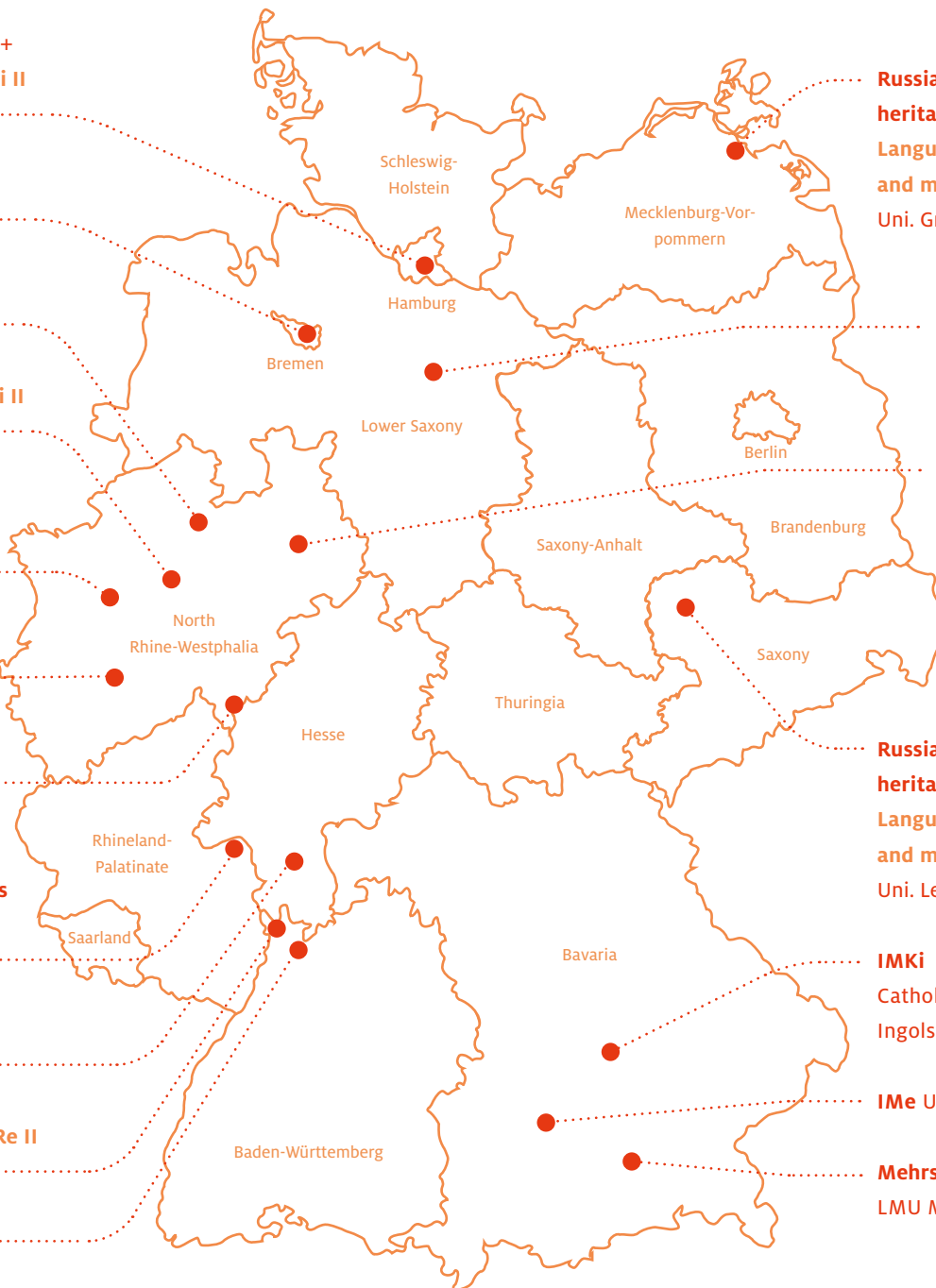
Project descriptions

BiPeer

Facilitating German reading skills among bilingual primary school children through peer learning: On the importance of linguistic background and the language of peer communication

Institution
Leibniz Institute for
Research and Information
in Education (DIPF)

Project duration
July 2014 – July 2017

Team
Prof. Dominique Rauch,
Prof. Jasmin Decristan,
Dr. Martin Schastak,
Valentina Reitenbach

Introduction

Already in primary school, immigrant children of Turkish origin show lower reading competence in German than their classmates. The BiPeer project explored ways of supporting German reading skills among Turkish-German bilingual primary school children using peer-learning methods. In such programmes, two children (i.e. peers) work together according to structured procedures. Intervention studies have shown that peer learning supports school competences such as reading, in particular among children with a low socio-economic or migration background. Research on group composition in peer learning has thus far focused mainly on gender, age and proficiency levels. Although communication skills are essential for successful peer learning, the linguistic background and language usage of bilingual peers have been seldom investigated as group composition variables. When paired together, a bilingual child can benefit from the extensive vocabulary of a monolingual child in the language of schooling. If two bilingual children use both their languages while learning together, this could ease communication during the peer-learning process and potentially lead to improved reading comprehension. This study therefore examined the extent to which the reading skills of Turkish-German bilingual 3rd and 4th graders could be improved via a peer-learning programme (research question 1). Furthermore, we investigated whether the language background (research question 2) and the language spoken during the peer interaction (research question 3) assist learning during the course of the intervention.

What was investigated and how?

BiPeer examined these questions as part of a peer-learning intervention study with 164 monolingual German and bilingual Turkish-German 3rd and 4th graders. A particular feature of this study was that the three reading intervention groups were compared with three control groups. In the control groups the children also worked in tandems, but practiced arithmetic rather than reading. The research questions of this study can thus also be examined with regard to arithmetic.

Intervention design	RG1	RG2	RG3	AG1	AG2	AG3
Content	Reading	Reading	Reading	Arithmetic	Arithmetic	Arithmetic
Language background (Peer 1 + Peer 2)	M + B	B + B	B + B	M + B	B + B	B + B
Training language	German	German	Turkish/ German	German	German	Turkish/ German

Table 1: Intervention design | Note M: monolingual German, B: bilingual Turkish/German, RG: Reading Group, AG: Arithmetic Group.

Intervention

The students participated in 12 peer-learning training sessions, which took place twice a week in the afternoon for 45 minutes per session. With regard to reading, the training included reading in pairs with three reading strategies: clarification of word meanings, summary, and prediction. The arithmetic training comprised mental arithmetic and three strategies: compensation strategy, simplifying strategy, and indirect addition. The contents of the twelve sessions were pre-structured in order that the procedures would be similar for all participants. During the sessions, the children took on alternate roles as tutor or tutee.

Each tandem was accompanied by a trained instructor. The instructors in RG3 and AG3 were also Turkish-German bilinguals. In order to encourage the participating students to communicate in Turkish, selected aspects of instructions, conversations and games were introduced in Turkish by the relevant instructors.

Test and questionnaires

The testing of reading and arithmetic skills took place before, during and immediately after the intervention, and then again about six weeks later. Besides questionnaires and self-developed strategy tests which check how well the practiced strategies can be applied, diagnostic tools such as standardised tests for reading and arithmetic, Turkish vocabulary, and intelligence were used (e.g. ELFE 1–6; HRT 1–4; WWT 6–10; CFT 20–R). Some intervention sessions were also recorded using voice recorders, allowing for detailed analyses of the languages used during peer interactions. Furthermore, the students' parents were interviewed by telephone regarding background data such as language acquisition and language use within the family.

Results

Despite the relatively short duration and extra-curricular setting, the reading and arithmetic strategy interventions can be said to be successful. Children who participated in the reading intervention improved their reading comprehension over the course of the training and significantly more than those who took part in the arithmetic intervention. Likewise, children who took part in the arithmetic intervention improved their use of calculation strategies and, again, more so than those children who participated in the reading intervention (research question 1).

The language background does not appear to be relevant to learning achievement: bilingual children learn equally well with monolingual as with bilingual peers (research question 2).

Yet, based on analyses thus far, a beneficial effect of bilingual communication could be discerned in the arithmetic intervention: tandems that were permitted to make use of German and Turkish showed significantly higher improvement in calculation strategies than tandems that did not have this multilingual option (research question 3).

What does this mean for educational practice?

Peer learning constitutes a promising approach in improving reading and arithmetic skills among bilingual primary school children. For contexts in which German, the majority language, is used exclusively for communication, it does not seem to matter whether bilinguals work with monolingual or bilingual peers. Other factors should therefore be brought into focus when it comes to group composition. Peer learning presents a way of integrating heritage languages into regular classrooms without requiring any additional language skills from teachers. Bilingual communication (Turkish/German) during the learning process has no disadvantages for bilingual children and even seems to have benefits with regard to calculation strategies. Explicit encouragement (e.g. through games in Turkish) appears to lead to acceptance of Turkish in the learning process. Furthermore, explicit opportunities for integrating multilingualism in peer-learning settings should be developed together with the participating children.

Hast du während des Trainings Türkisch gesprochen?

☒ Ja,   warum: Ja Weil ich nicht alles auf Deutsch sagen kann.

☒ Ja,   warum: weil es spaß macht und ich Türke. ♡

☒ Ja,   warum: weil das manchmal - Name des Trainingspartners - gehelfen hat geholfen

☒ Nein,   warum: Weil ich gerne Deusch spreche.

☒ Nein,   warum: Weil ich nich so gut Türkisch reden kann.

Sample answers from participating pupils
on the use/non-use of Turkish

Project publications

M. Schastak, V. Reitenbach, D. Rauch & J. Decristan
(2017). "Türkisch-Deutsch bilinguale Interaktion beim Peer-Learning
in der Grundschule: Selbstberichtete Gründe für die Annahme oder
Ablehnung bilingualer Interaktionsangebote." In: *Zeitschrift für
Erziehungswissenschaft*, 20(2), 213–235.

M. Schastak (2020). "Bilinguale Interaktion beim Peer-Learning
in der Grundschule. Eine Mixed-Methods Studie mit bilingual
türkisch-deutschsprachig aufwachsenden Schüler*innen." Opladen,
Berlin, Toronto: Verlag Barbara Budrich. Dissertation.

meRLe

Promoting reading skills in German via multi-lingual-sensitive reciprocal teaching in primary education

Institutions
University of Wuppertal, Leibniz Institute for Research and Information in Education (DIPF)

Project duration
October 2017 – December 2021

Team
Prof. Jasmin Decristan, Prof. Dominique Rauch, Valentina Reitenbach, Victoria Kramer

Introduction

The aim of this intervention study was to foster primary students' reading skills in German by using reciprocal teaching that takes students' multilingualism into account. In reciprocal teaching, the students acquire reading and learning strategies in small groups. First, the teacher explains the strategies and supports the students in using them. Students then implement the learned strategies in small groups. In this project they were permitted to use all their languages that may help them with the strategy use. We thus intended to provide a co-operative learning environment in which not only German but also other languages were welcome. The project thereby aimed at providing new insights into multilingual-sensitive classroom instruction by investigating the effects of reciprocal teaching on students' reading skills as well as their language attitudes. We also examined classroom climate and classroom management to meet teachers' apprehensions regarding multilingual interaction in the classroom. Although empirical research on this approach is scarce, the BiPeer project has shown that Turkish-German bilingual children can benefit from reciprocal teaching while also using their heritage language.

What is investigated and how?

The study took place in primary schools in the federal states of North Rhine-Westphalia (NRW) and Hesse (HE). Teachers in NRW initially participated in the project (treatment group), during which time the teachers in HE continued with their regular classroom instruction. Once the teachers in NRW had completed the project, the teachers in HE began with the teaching unit (waiting control group).

During the project, all teachers participated in professional development on reciprocal teaching and multilingual-sensitive instruction. The two methods were embedded in a teaching unit (12 lessons of 45 minutes each) with self-developed texts at different levels of difficulty in German. The character Merle (Figure 1) travels around the world on adventures that are described in the teaching unit. Following professional development, the teachers implemented the unit in their 4th-grade German lessons.

To stimulate multilingual interaction, the students were assigned to learning groups according to language. Instructional cards for the reading strategies were available in 34 languages (for example see Figure 2). The students could also make use of a language learning pen, which enabled the students to have the exercises read aloud in the different languages (Figure 3).

Before and after the intervention, the students completed accompanying questionnaires with questions on reading motivation, self-efficacy and instructional quality, as well as tests on reading skills. During the intervention, one lesson in each class was videotaped or observed.

Results

Overall the teachers evaluated the teaching unit positively and easy to implement in class.

Despite various stimuli to activate multilingualism in class, the teaching unit was perceived to be more useful for promoting social learning and reading skills. However, teachers' perceptions regarding the potential of the teaching unit to stimulate the usage
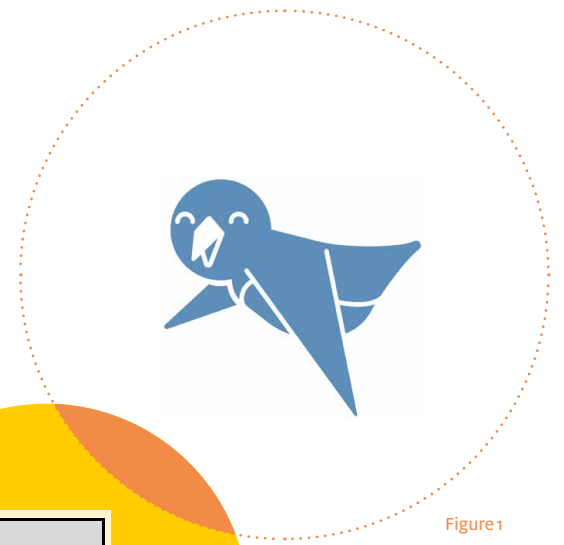
Zusammenfassen / Summarizing	
! Nenne das WICHTIGSTE WER (Hauptperson) oder WAS (Hauptsache)!	**1.** **!** Name the most IMPORTANT WHO (main character) or WHAT (main thing)!
Nenne das WICHTIGSTE ÜBER das WER (Hauptperson) oder WAS (Hauptsache)!	**2.** Name the most IMPORTANT thing ABOUT the WHO (main character) or WHAT (main thing)!
Verwende EIGENE WORTE!	**3.** Use your OWN WORDS.
Fasse dich KURZ! Schreibe deine Zusammenfassung in ein bis zwei Sätzen auf!	**4.** Keep it SHORT! Write your summary in 1-2 sentences.

Figure 2
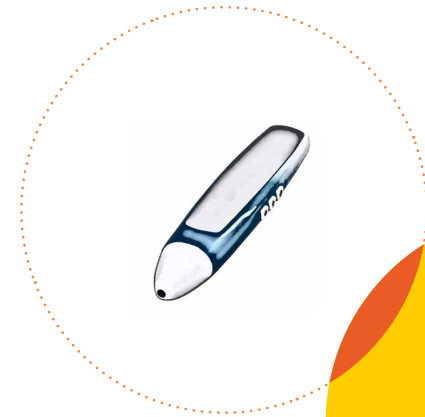
Figure 3

of heritage languages differed in considerable ways. Video data and classroom observations support this. Currently, at the time of writing, we are continuing to examine the effects of the intervention on students' reading skills, as well as on classroom and individual learning conditions that may enhance these effects. The results of the student questionnaires tell us already, however, that there was little apprehension around multilingual interaction in the classroom. On the contrary, the teaching unit was associated with a positive classroom climate and good classroom management. This perception applied to both students who spoke only German and those who also used other languages during the lessons.

What does this mean for educational practice?
As this brochure goes to print, the teaching materials are being revised on the basis of teachers' feedback and will be published for distribution in teaching practice.

The overall unit, 'Merle's Journey around the World', represents a methodological-didactic concept developed in accordance with evidence-based methods. It contains a fully elaborated series of lessons with comprehensive material to encourage multilingualism, and can be easily implemented in primary school instruction.

This (thus far) unique combination of reading and learning strategies — which are significant for academic success — with multilingual-sensitive elements is a viable means of fostering all students' learning in the diverse primary school classroom.

IMe

Performed multilingualism in drama and theatre-pedagogical settings in project work and subject lessons

Institution
University of Augsburg

Project duration
October 2013 – March 2016

Team
Prof. Martina Rost-Roth,
Dr. Gunther Dietz,
Dr. Andreas Bülow,
Isabella Wlossek,
Miriam Riegger

Introduction

This project investigated multilingualism and the inclusion of heritage languages in drama and theatre-pedagogical scenarios in both project and subject lessons (class context) in lower secondary school. This responds to current discussions around multilingualism in education, which see opportunities to cultivate language awareness, promote learning, intercultural skills and integration.

In particular, this project examined:

a. how multilingual scenarios are realised, including language use and interactions regarding task distribution, mutual understanding, performative aspects of self-presentation, and feedback.

b. the participants' perspectives: individual perception and others' perception of language and culture; learning processes as well as developing perceptions and relationships in multilingual and intercultural constellations.

Opportunities for and constraints on the inclusion of multilingualism (especially heritage languages) in playful scenarios and theatre-pedagogical approaches were thereby explored.

What was investigated and how?

A fundamental concept in this study was that of 'performative competence', which refers to multiple, connected individual competences such as the ability to initiate and stage social interactions, to help shape these independently and to critically reflect on one's own role within them. Interactions between participants were observed, and the ways in which they introduced different linguistic and cultural resources to various scenes examined. Research emphases lay on the experiences and learning processes of the participants, how they present their own and perceive others' languages.

Interactions could be compared via the implementation of an identical catalogue of multilingual scenarios in various project and subject lessons, which integrated performance scenes with an emphasis on language use. These activities also aimed towards holistic language learning and the development of language awareness as pupils were confronted with the linguistic diversity of their peers. Performance-based scenarios were video recorded and analysed using multilingual didactic methods. These analyses were

supported by oral interviews with students and teachers who shared their perceptions and perspectives. Participants could also comment on individual scenarios via 'stimulated recall'. The investigation was complemented by language tests (C-test, profile analysis) and a quantitative survey on social background, language biography and self-assessed oral competences.

Results

Special attention was paid to the students' own assessments of their oral language skills (meaning how they experience and evaluate their use of German). When compared with the test data at the beginning of the project, significant differences were identified among the students. Statements from the interviews conducted at the end of the project indicate an increase in linguistic competence. Moreover, it could also be revealed that intensive communication between project participants strengthened trust in one's own linguistic abilities over the course of the project. At the same time, analyses of the videotaped interactions during subject lessons reveal a correlation between increasing performative competences and linguistic growth.

During interviews, teachers generally viewed pupils' lifeworld multilingualism to positively influencing cognitive abilities, language and cultural awareness. Yet they were unsure what significance heritage language should be granted. Many teachers were critical of heritage languages as the primary means of communication in pupils' families as this is perceived to hinder skills in German.

Variations regarding language portrait and scenic play

Participating pupils viewed the learning of their peers' heritage languages positively, while, at the same time, expressed ambivalence towards their own heritage languages. This ambivalence can be attributed to negative attitudes and difficult situations that pupils experience regarding their language background. On the other hand, many described a process of discovery that came about through contact with the languages of their peers. The respondents' statements suggested an increase in knowledge of vocabulary, learning strategies and the recognition of structural similarities and differences between languages (i.e. language awareness).

The analyses showed that 'freer' settings, such as project-based teaching, can offer more opportunities for interactive exchange. Project teaching opens space for languages and identities, as well as more possibilities for shaping emotional and social aspects. Such settings, due to their inherent openness, also place higher demands (impulses, reactions) on teachers or other persons involved in project teaching.

What does this mean for educational practice?

Firstly, teachers should be encouraged and empowered to include heritage languages productively in their lessons, and should be permitted to choose themselves from the existing range of multilingual-didactic approaches and methods. Playful scenarios based on the principles of theatre-pedagogy can be especially valuable as they foster pupils' performative competences via unrestricted artistic composition and expressions, meaning they develop courage to use their languages (German as well as the respective heritage language). Language biographical elements can also be incorporated in creative spaces.

The results also clearly show that teachers require more training and support in dealing with heritage languages and multilingual-didactic approaches. Moreover, teachers should be encouraged to pay more attention to the language biographies of their students, without ascribing outside perspectives to them, in order to become aware of the (often hidden) languages that are present in classrooms.

Project publications

M. Rost-Roth, A. Bülow, H. Mengele & I. Wlossek (2015). Inszenierte Mehrsprachigkeit in drama- und theaterpädagogischen Settings im Regel- und Projektunterricht. Empirische Analysen zu sprachlich und kulturell heterogenen Kontexten unter Berücksichtigung von Herkunftssprachen und Deutsch als Zweitsprache. Das Forschungsdesign. In: H. Rösch & J. Webersik (Eds.) *Deutsch als Zweitsprache — Erwerb und Didaktik. Beiträge aus dem 10. Workshop "Kinder mit Migrationshintergrund".* Stuttgart: Klett, pp. 249–263.

H. Mengele, I. Wlossek & A. Bülow (2016). "Sprachenvielfalt dramapädagogisch inszenieren — Umsetzungsmöglichkeiten in heterogenen Schülergruppen der Sekundarstufe." In: A. Betz, C. Schuttkowski, L. Stark & A. Wilms (Eds.) *Sprache durch Dramapädagogik handelnd erfahren. Ansätze für den Sprachunterricht.* Baltmannsweiler: Schneider Verlag, pp. 99–118.

I. Wlossek & M. Rost-Roth (2016). "Sprache/n als Ressource im Klassenzimmer? Erfahrungen und Einschätzungen von Lehrkräften in Regel- und Übergangsklassen." In: V. Schurt, W. Waburg, V. Mehringer & J. Strasser (Eds.) *Heterogenität in Bildung und Sozialisation.* Opladen: Verlag Barbara Budrich, pp. 105–124.

IMKi

*Effects of active integration of
multilingualism in preschools*

Institutions
Catholic University of
Eichstätt-Ingolstadt,
PH Heidelberg (University
of Education)

Project duration
October 2014 –
April 2021

Team
Prof. Jens Kratzmann,
Prof. Steffi Sachse,
Kristė Baužytė,
Dr. Beyhan Ertanir,
Maren Frank,
Dr. Samuel Jahreiß,
Tamara Lautenschläger,
Dr. Alla Sawatzky,
Katja Schneller,
Alexandra Witaschek

Introduction

Preschools today are host to children with different language backgrounds. Teachers therefore have to deal with the question of how to handle increasing linguistic diversity. The advice is to actively integrate the children's heritage languages into the daily life of the preschool, with the intention of supporting their bilingual and social-emotional development. Yet, to date, there has been little to no research concerning the effects of this kind of integration of linguistic diversity in preschools. Existing studies either examine the effects of specific, targeted measures or they investigate progress in L2 proficiency (usually without considering heritage languages). The objective of the IMKi study is to identify the conditions for successful multilingual development in preschool contexts. The project focusses on children aged 3 – 6 who have a migration background and are therefore growing up multilingually in Germany. In addition, we also examine the heritage language development of Turkish-German and Russian-German children.

Research questions

- What changes occur in the children's heritage language and L2 development when multilingualism is explicitly integrated in the preschool?
- How does the integration of multilingualism effect the socio-emotional development of children?
- What changes at the institutional level can be traced back to the intervention relating to multilingualism?
- Which factors can be attributed to cooperation between parents of multilingual children and the preschools themselves? How can cooperation with parents be improved?

What was investigated and how?

At the time of writing, the IMKi study is ongoing. The intervention was planned with six measurement points, beginning in 2014 and in collaboration with 19 preschools located in southern Germany. The participating preschools were randomly divided into two groups to receive special training on linguistic diversity over a period of four years. The two inter-

Randomized intervention study with six measurement points

Recruiting sample

IG 1 Intervention 4 + 4 days → IG 1 Intervention 2 + 2 days → Feedback → IG 1 Intervention 30 hours → 2 intervention preschools selected as models of best practice →

IG 2 Intervention 4 + 4 days → IG 2 Intervention 2 + 2 days → IG 2 Intervention 30 hours →

| 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |

Measurements: 1 2 3 4 5 6

1st funding phase
Multilingual children

2nd funding phase
+ Comparison Group monolingual children

Levels: Institutional Level Child Level Parent Level

Figure 1: Study design

vention groups differ with respect to the type of training they receive. Changes that result from the intervention are then assessed at the level of the child, institution, and parent. For this, the six measurement points (2015 – 2020) were scheduled at one-year intervals: once prior to the intervention, four during the intervention, and once at the conclusion of the intervention. The findings will then be disseminated to other preschool establishments using the examples of two of the intervention preschools which will be selected as models of best practice. Via an online platform and relevant regional networks, findings, recommendations and examples will be systematically circulated.

Child level

We examined language competences in German, Turkish and Russian. Using standardised tests, the children's expressive and receptive vocabulary semantic and narrative skills, grammar abilities, and linguistic memory (phonological memory skills) were assessed. Table 1 provides an overview of the procedures and language data collected for all three languages.

Two measures were used to capture social-emotional factors (e.g. pro-social behaviour, problematic behaviour, self-regulatory behaviour, social skills, etc). First, parents and preschool teachers complete the Strengths and Difficulties Question-

Standardised procedures	German	Turkish	Russian
Expressive vocabulary	AWST-R (Test for Expressive Vocabulary in German; Kiese-Himmel, 2005)	TIFALDI (Turkish Expressive and Receptive Language Test; Berument & Güven, 2010)	SP:L (Russian language proficiency test for multilingual children; Gagarina et al., 2010)
Receptive vocabulary	PPVT-4 (Peabody Picture Vocabulary Test-4; Dunn & Dunn, 2007)	TIFALDI (Turkish Expressive and Receptive Language Test; Berument & Güven, 2010)	SV:L (Russian language proficiency test for multilingual children; Gagarina et al., 2010)
Narrative skills	MAIN-DEU (Multilingual Assessment Instrument for Narratives; Gagarina et al., 2012)	MAIN-TR (Multilingual Assessment Instrument for Narratives; Gagarina et al., 2012)	MAIN-RU (Multilingual Assessment Instrument for Narratives; Gagarina et al., 2012)
Grammar abilities	HASE (Auditive Screening for auditive abilities in preschool children; Schöler & Brunner, 2008)	TODIL (SR) (the Turkish adaption of Test of Language Development Primary: Fourth Edition-TOLD-P: 4; Topbaş & Güven, 2017)	SR-RU (Sentence-Repetition Test Russian; Meir & Armon-Lotem, 2015)
Linguistic memory	SETK 3–5 (PGN) (German test battery for the assessment of language development in preschool childrenl; Grimm et al., 2010) LITMUS-NWR-German* (German Nonword-Repetition Task, Grimm, unpublished) * since 2019 K-ABC II** (Subtest Number recall of the German version of the Kaufman Assessment Battery; Kaufmann & Kaufmann, 2004) ** since 2018	NWR-TR (Turkish nonword task; Topbaş et al., 2013)	NWR-RU (Nonword-Repetition Test Russian; Drusli-Projekt, ZAS)

Table 1: Overview of test procedures used to assess language competences in German, Turkish, Russian

naire (SDQ; Goodman, 1997; Woerner et al., 2002). Second, teachers also rated the socio-emotional skills of the children using the KIPPS scales from BIKO 3–6 (BIKO- Screening for development of basic competences for 3 to 6 year-olds, Seeger et al., 2014).

To capture the children's self-concept, we use the German translation of the preschool version of the Self-Description Questionnaire by Marsh et al.

(SEFKI; Marsh, Ellis & Craven, 2002). Here, children reported on their performance-oriented and non-performance-oriented self-concept. In keeping with the items contained in the questionnaire, we generated and included additional questions to measure children's attitudes toward their own multilingualism.

Institutional level

We were interested in assessing the quality of educational institutions, including teachers' professionalism in the areas of language and multilingualism (such as the availability of bi- and multilingual learning materials) as well as institutional processes (such as interactions to foster language use) were rated by observational techniques. We assessed the structural conditions in the preschool using a rating procedure to capture linguistic diversity in preschools (Ratingverfahren zur Erfassung der Sprachenvielfalt in Kindertageseinrichtungen, REVK, Jahreiß et al., 2017), developed specially for this study, as well as extant observation approaches (SELA, Smith et al., 2001).

Using a rating scale to capture interactions relevant to promoting language (Dortmunder Ratingskala zur Erfassung sprachförderrelevanter Interaktionen, Do-RESI, Fried & Briedigkeit, 2008) and the "Language Interaction Snapshot" (LISn, Atkins-Burnett et al., 2011), the interactions and communication styles of the teachers and children were assessed. In addition, we collected data on teachers' educational backgrounds and personality characteristics (Big Five Inventory-10, Rammstedt et al., 2012), their attitudes toward multilingualism (Reich, 2007) and knowledge of multilingualism.

Parent level

Background characteristics such as socioeconomic status (ISEI, Ganzeboom, 2010) and migration background were captured via parental questionnaires. Parents also provided information about language

Figure 2: Overview of ways to include language diversity in preschools

- Room decoration and information materials
- Different games and media
- Multilingual peer interactions
- Inclusion of parents in the daily life
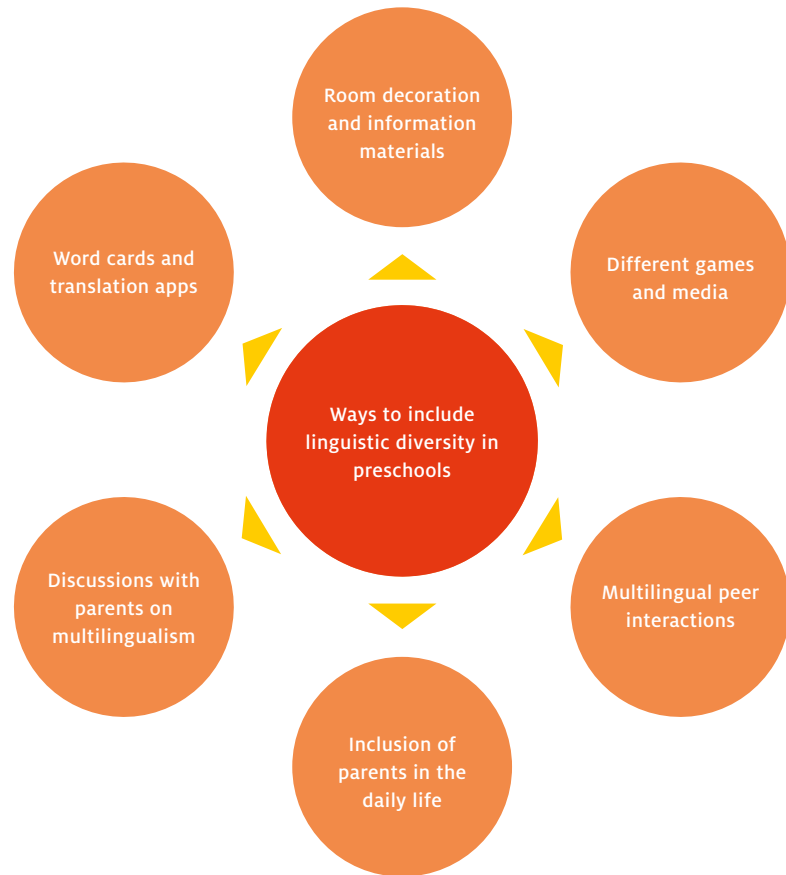- Discussions with parents on multilingualism
- Word cards and translation apps
- Ways to include linguistic diversity in preschools

use within the family, daily multilingual practices and their acculturation attitudes (FRAKK Bongard et al., 2002). Regarding cooperation with their children's preschool, we asked parents about their satisfaction with the preschool in general and language support in particular, as well as whether they take advantage of cooperation measures and opportunities to participate in the life of the preschool.

Results

At the time of writing, we can present just interim findings from the first three measurement points. These findings are therefore partial. The effectiveness of the intervention will be better assessed once it has concluded and a post-survey has been conducted.

At the child level, we could establish that children who grow up with Turkish and German arrive at preschool with age-appropriate knowledge of their family language (Turkish), especially regarding active and passive vocabulary and, as would be expected, they increase their knowledge of German at preschool. As the children grow older, however, a relative decrease in active Turkish vocabulary can be seen when compared with slowly increasing German proficiency. Accordingly, there is a negative correlation between the active vocabulary in the children's heritage and second languages while other linguistic measures, such as passive vocabulary or general grammar skills, do not correlate across languages. Overall, a clear influence of one language processing measure — phonological memory — can be seen; there are significant correlations between this and performance in the other language. When attempting

to predict competences in both languages as well as an overall measurement of linguistic competence, phonological memory also plays a decisive role, appearing to be just as important to successful multilingualism as environmental factors in the family (e.g. linguistic stimulus content or an equal use of both languages by mothers and siblings) and early education (such as early entry into a childcare setting).

In relation to social-emotional competences, the multilingual children as a whole were not perceived to be problematic or to display conspicuous behaviour. However, there is a clear link between proficiency in the L2 (German) and in part also in the heritage language (Turkish) and children's social-emotional competences. Higher linguistic competences appear to accompany higher competences in social and emotional areas. This correlation can also be seen over the course of the children's development. To what extent social-emotional competences can predict linguistic performance (or vice versa) is to be clarified as a result.

Within the participating institutions, we observed a great diversity of heritage languages. Besides German, there were at least nine other languages. The teachers tended to display open attitudes to multilingualism. However, multilingualism was only rarely included in the daily life of the preschools. Analyses from the first measurement point show that the teachers' attitudes toward and knowledge of multilingualism were linked to this. Teachers who know a lot about multilingualism, and view it as enrichment, do more to integrate multilingualism into the

preschool. Whether teachers are themselves multilingual does not appear to be relevant here.

On the contrary, multilingual teachers tended to be in favour of the multilingual children adapting linguistically to German. Changes were achieved in the teachers' knowledge of multilingualism, but the attitudes have thus far proven to be very stable. In daily preschool life, following one year of intervention, the first signs of change could be seen in regard to valuing the children's languages. Peer interactions in heritage languages were increasingly permitted, and in the intervention group there was an increasing amount of multilingual material for parents.

What does this mean for educational practice?

Children's linguistic starting points should be used to support them in all their languages at preschool (See Figure 2). So that this can successfully occur, teachers must reflect on their own attitudes toward multilingualism. However, just reflecting on these attitudes is not sufficient. They also need to expand their knowledge of the linguistic development of multilingual children as well as their professional knowledge relating to multilingual learning. In order to transfer this knowledge to practice, clear opportunities for the inclusion of multilingualism need to be made more explicit. Simply employing multilingual teachers alone will not lead to improvements in this area on account of the degree of linguistic diversity in today's preschools. Teachers must also go through a reflection process and expand their knowledge so that they can use their own multilingualism in positive ways in practice.

Project publications

B. Ertanir, J. Kratzmann & S. Sachse (under review). "Long-term Interrelations between Socio-emotional and Language Competencies among Preschool Dual Language Learners in Germany". In: *British Journal of Educational Psychology*.

B. Ertanir, J. Kratzmann, S. Jahreiss, M. Frank & S. Sachse (2019). "Sozio-emotionale Kompetenzen mehrsprachiger Kindergartenkinder und deren Wechselwirkungen mit deutschen Sprachleistungen". In: *Zeitschrift für Entwicklungspsychologie und Pädagogische Psychologie,* 51 (1), 31–44.

B. Ertanir, J. Kratzmann, S. Jahreiss, M. Frank & S. Sachse (2018). "Dual Language Competencies of Turkish-German Children Growing Up in Germany: Factors Supportive of Functioning Dual Language Development". In: *Frontiers in Psychology*, 1–11.

M. Frank, S. Jahreiss, B. Ertanir, J. Kratzmann & S. Sachse (2016). "Die IMKi-Studie. Bericht zur Stichprobe und Methodik". (Available at: http://edoc.ku-eichstaett.de/18789)

S. Jahreiss, B. Ertanir, S. Sachse, J. Kratzmann (2018). "Sprachliche Interaktionen in Kindertageseinrichtungen mit hohem Anteil an mehrsprachigen Kindern". In: *Forschung Sprache*, 6 (2), 32–41.

S. Jahreiss, B. Ertanir, M. Frank, S. Sachse & K. Kratzmann (2017) ."Sprachenvielfalt und Mehrsprachigkeit in sprachlich heterogenen Kindertageseinrichtungen". In: *Diskurs Kindheits- und Jugendforschung*, 12 (4), 439–453.

J. Kratzmann & S. Sachse (2018). "Entwicklung von Dispositionen pädagogischer Fachkräfte in Kindertageseinrichtungen durch eine In-House Weiterbildung". In: *Diskurs Kindheits- und Jugendforschung*, 13 (4), 403–416.

J. Kratzmann, S. Jahreiss, M. Frank, B. Ertanir & S. Sachse (2017). "Einstellungen pädagogischer Fachkräfte in Kindertageseinrichtungen zur Mehrsprachigkeit". In: *Zeitschrift für Erziehungswissenschaft*, 237–258.

J. Kratzmann, A. Sawatzky & S. Sachse (2020). "Professionalisierung pädagogischer Fachkräfte in Kindertageseinrichtungen — Über das Zusammenspiel von Wissen, Einstellungen und Handeln". In: *Zeitschrift für Erziehungswissenschaft*, 539–564.

References

S. Atkins-Burnett, S. Sprachman, M. Lopez, M. Caspe & K. Fallin (2011). "The Language Interaction Snapshot (LISn). A New Observational Measure for Assessing Language Interactions in Linguistically Diverse Early Childhood Programs". In: C. Howes, J. T. Downer & R. C. Pianta (Eds.) *Dual language learners in the early childhood classroom (National Center for Research on Early Childhood Education series)*. Baltimore, Md.: Paul H. Brookes Pub. Co., pp. 117–146.

S. K. Berument & A. G. Güven (2010). "TİFALDİ Türkçe İfade Edici ve Alıcı Dil Testi". Ankara: Kültür ve Turizm Bakanlığı.

S. Bongard, S. F. Pogge, H. Arslaner, S. Rohrmann & V. Hodapp (2002). "Acculturation and cardiovascular reactivity of second-generation Turkish migrants in Germany". In: *Journal of Psychosomatic Research*, 53, 795–803.

L. M. Dunn & D. M. Dunn (2007). Deutsche Fassung "Peabody Picture Vocabulary Test (4th ed.) (A. Lenhard, W. Lenhard, R. Segerer & S. Suggate, 2015)". Frankfurt am Main: Pearson.

L. Fried & E. Briedigkeit (2008). "Sprachförderkompetenz. Selbst- und Teamqualifizierung für Erzieherinnen, Fachberatungen und Ausbilder". Berlin: Cornelsen.

N. V. Gagarina, A. Klassert & N. Topaj (2010). "Sprachstandstest Russisch für mehrsprachige Kinder = Russian language proficiency test for multilingual children". Berlin: ZAS.

N. V. Gagarina, D. Klop, S. Kunnari, K. Tantele, T. Valimaa, I. Balciuniene & J. Walters (2012). "MAIN – Multilingual Assessment Instrument for Narratives." In: *ZAS Papers in Linguistics*, 56, 1–155.

H. B. G. Ganzeboom (2010). "A new international socio-economic index (ISEI) of occupational status for the international standard classification of occupation 2008 (ISCO-08) constructed with data fromthe ISSP 2002–2007". In: Paper presented at the Annual Conference of International Social Survey Programme, Lisbon.

R. Goodman (1997). "The Strengths and Difficulties Questionnaire: A Research Note". In: *Journal of Child Psychology and Psychiatry,* 38 (5), 581–586.

A. Grimm (unpublished). "LITMUS-NWR-German".

H. Grimm, M. Aktas & S. Frevert (2010). "SETK 3–5: Sprachentwicklungstest für drei- bis fünfjährige Kinder (2nd ed.)". Göttingen: Hogrefe.

S. Jahreiss, B. Ertanir, M. Frank, S. Sachse & J. Kratzmann (2017). "Sprachenvielfalt und Mehrsprachigkeit in sprachlich heterogenen Kindertageseinrichtungen". In: *Diskurs Kindheits- und Jugendforschung,* 12 (4), 439–453.

A. S. Kaufman & N. L. Kaufman (2004). "Kaufman Assessment Battery for Children". Second Edition. Circle Pines, MN: American Guidance Service.

C. Kiese-Himmel (2005). "Aktiver Wortschatztest für 3- bis 5-jährige Kinder: AWST-R: Revision". Göttingen: Beltz Test.

H. W. Marsh, L. A. Ellis & R. G. Craven (2002). "How do preschool children feel about themselves? Unraveling measurement and multidimensional self-concept structure". In: *Developmental Psychology,* 38 (3), 376.

N. Meir & S. Armon-Lotem (2015). "Disentangling bilingualism from SLI in Heritage Russian: The impact of L2 properties and length of exposure to the L2". In: *Proceeding to Generative Approaches to Language Acquisition* (GALA) 2013.

B. Rammstedt, C. J. Kemper, M. C. Klein, C. Beierlein & A. Kovaleva (2012). "Eine kurze Skala zur Messung der fünf Dimensionen der Persönlichkeit: Big-Five-Inventory-10 (BFI-10)". Köln: GESIS.

H. H. Reich (2007). "Abschlussbericht der wissenschaftlichen Begleitung des Projekts 'Sprachentwicklung zweisprachiger Kinder im Elementarbereich' (unpublished)" Landau: University of Koblenz-Landau.

H. Schöler & M. Brunner (2008). "Heidelberger Auditives Screening in der Einschulungsuntersuchung (2. Überarbeitete und erweiterte Auflage)". Binswagen: WESTRA.

D. Seeger, M. Holodynski & E. Souvignier (Eds.) (2014). "BIKO-Screening zur Entwicklung von Basiskompetenzen für 3-bis 6-Jährige". Göttingen: Hogrefe.

A. Skerra, K. Reichenbach, V. Reichardt & N. Gagarina (2012). "Multilingual Assessment Instrument for Narratives". In: *ZAS Papers in Linguistics*, 56.

S. Smith, S. Davidson & G. Weisenfeld (2001). "Supports for Early Literacy Assessment for Early Childhood Programs Serving Pre-school-age Children (SELA)". New York: New York University.

S. Topbaş & O. Güven (2013). TODİL: Türkçe Okulçağı Dil Gelişim Testi (TOLD-P: 4-Turkish Version) TODİL Projesi: Anadili Türkçe Olan Tek-Dilli ve İki Dilli Okul Öncesi ve İlköğretim Çağı Çocuklarında (2:0-9:0) Özgül Dil Bozukluklarını Ölçme ve Değerlendirme Çalışması, pp. 71 – 90.

S. Topbaş, D. Kaçar-Kütükçü & Kopkalli-Yavuz (2013). Türkçe Anlamsız sözcük tekrarı Testi (NWR-TR: revised).

W. Woerner, A. Becker, C. Friedrich & A. Rothenberger (2002). "Normierung und Evaluation der deutschen Elternversion des Strength and difficulties questionare (SDQ): Ergebnisse einer repräsentativen Felderhebung". In: *Zeitschrift für Kinder- und Jungendpsychiatrie und Psychotherapie*.

MEG-SKoRe

*Multilingualism as a linguistic and cognitive resource in
English language acquisition in primary school*

Institution
University of Mannheim

Project duration
November 2014 –
October 2017

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Introduction

In educational contexts, multilingualism is frequently seen as an obstacle to, rather than a resource, for successful learning. Against this backdrop, the research project *MEG-SKoRe* investigates how multilingualism can constitute a resource for the early acquisition of English in primary school. In the first project cycle (2014–2017), we conducted a longitudinal study in which we identified critical success factors of multilingualism in the context of English language acquisition. In the second cycle, (2017–2020) we apply those factors to classroom settings. The project focuses on two central research questions:

- Can multilingualism become a resource in early academic foreign language learning?
- How can teachers make use of this resource didactically in order to support foreign language learning?

Previous research shows mixed results concerning the role of multilingualism in early foreign language learning. Studies that compare the English skills of monolingual Germans with those of multilingual primary school students have either found no group differences in those skills or weaker skills for multilingual students in reading and listening comprehension (see Keßler & Paulick, 2010, for overview). Possible reasons for these heterogeneous findings may be individual differences in the social backgrounds of students as well as varying skills in the languages previously acquired by multilingual students. Indeed, differences in linguistic (e.g. language combinations, language awareness), cognitive (e.g. working memory) and social (e.g. socioeconomic or familial) factors can impact the acquisition of English (e.g. Maluch et al., 2015; Wilden & Porsch, 2015). MEG-SKoRe considers these factors systematically in order to identify critical success factors in early foreign language learning.

What was investigated and how?

In MEG-SKoRe I, we examined whether primary school students with German as a second language (L2) had different learning outcomes in the early acquisition of English compared to their monolingual peers. To this end, we investigated (a) which

individual linguistic, cognitive and social factors influence the acquisition of English, and (b) in which respect multilingualism acts as a resource in early foreign language learning. The project consisted of two parts. Part 1 focused on linguistic transfer and to which extent the L1 and/or L2 affect the acquisition of English. Part 2 explored whether metalinguistic awareness has a positive impact on English language skills.

Part 1: Vocabulary and Grammar

For the first part, we assessed general vocabulary and grammar skills as well as specific grammatical phenomena, i.e. article realisation, subject realisation and word order. For general skills, we collected data in German, English and the respective non-German L1 of the multilingual students. To measure receptive vocabulary size, we used the British Picture Vocabulary Scale (BPVS3; Dunn et al., 2009), in which students heard an English word which they then had to match to one of four pictures. Furthermore, we determined productive vocabulary size with a category fluency task (following Delis, Kaplan & Kramer, 2001). Students had to name, within one minute, as many items as possible relating to a single semantic category, such as 'food' or 'clothes'. To assess receptive grammatical knowledge, we administered the Test for Reception of Grammar (TROG-2; Bishop, 2003). The set-up was parallel to the BPVS except, in this case, students had to match an English sentence to one of four picture choices.

Besides these general language skills, we analysed the production of specific grammatical structures,

i.e. article realisation, subject realisation, and word order, as part of a computer-based sentence repetition task. Here, students listened to grammatically correct and incorrect sentences in English (Figure 1). They then had to repeat the sentences exactly as they heard them. Depending on whether students corrected the grammatically incorrect sentences, we could assess acquisition of the respective structure. This way, we could determine, for instance, whether the use of articles in English is different for those learners whose L1 uses articles (e.g. Italian) or does not use them (e.g. Turkish, Russian).

Part 2: Language Awareness

In the second part of the project, we examined different aspects of language awareness. First, we assessed students' levels of phonological awareness by asking them to segment English words into phonemes and manipulate them (e.g. "What remains when you delete the last sound in 'green'?"). Second, students explicitly reflected on and talked about language(s) in a structured metalinguistic interview. Students answered questions about their language learning experiences and discussed linguistic contrasts between English, German and their respective heritage languages (see Text Box 1).
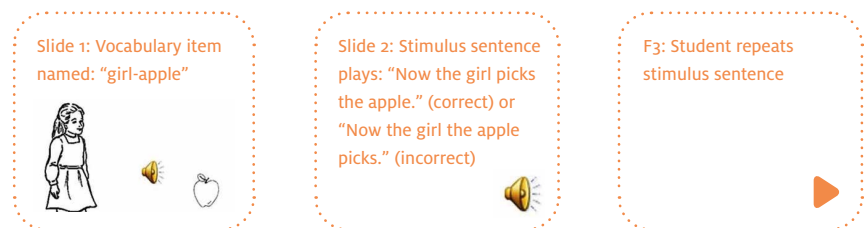
Figure 1: Procedure of sentence repetition task.

Slide 1: Vocabulary item named: "girl-apple"

Slide 2: Stimulus sentence plays: "Now the girl picks the apple." (correct) or "Now the girl the apple picks." (incorrect)

F3: Student repeats stimulus sentence

Text box 1: Selected student answers (4th grade) in an interview on language awareness (translated from German).

Participants

Overall, 200 students (88 monolingual; 112 multilingual) from six public primary schools in south-west Germany took part in the study. They were assessed at two intervals: initially at the end of 3rd grade and then at the end of 4th grade, at which point 184 students remained in the sample (81 monolingual; 103 multilingual). The following heritage languages of multilingual students were represented in the sample: Afghan languages, Albanian, Arabic, Bosnian, Bulgarian, Chinese, French, Greek, Italian, Croatian, Kurdish, Persian, Polish, Romani, Romanian, Russian, Serbian, Spanish, Tamil, Turkish, Hungarian and Vietnamese. The largest subgroups were speakers of Turkish (40), Kurdish (11), Albanian (10) und Italian (8).

Results

Group comparisons

The results from 3rd grade show that, compared with their monolingual peers, multilingual students had statistically significantly lower skills in English vocabulary, phonological awareness and working memory. In sentence repetition, multilingual students also showed lower performance than the monolingual German students. At first glance, these results seem to confirm findings from previous studies that did not find a multilingual advantage in foreign language learning.

Individual factors

In further analyses, we factored in cognitive, social and educational variables. Figure 2 illustrates which of these factors significantly affect English vocabulary size. A multilevel regression analysis shows that both social variation at the school level, as well as individual differences between students, impact English skills. Importantly, multilingualism also has a positive impact on English vocabulary knowledge (Hopp et al., 2019).

Similarly, multilingualism contributes positively to English grammar skills in 4th grade for a subgroup of multilingual students, although many other factors show larger contributions (Hopp et al., 2019).
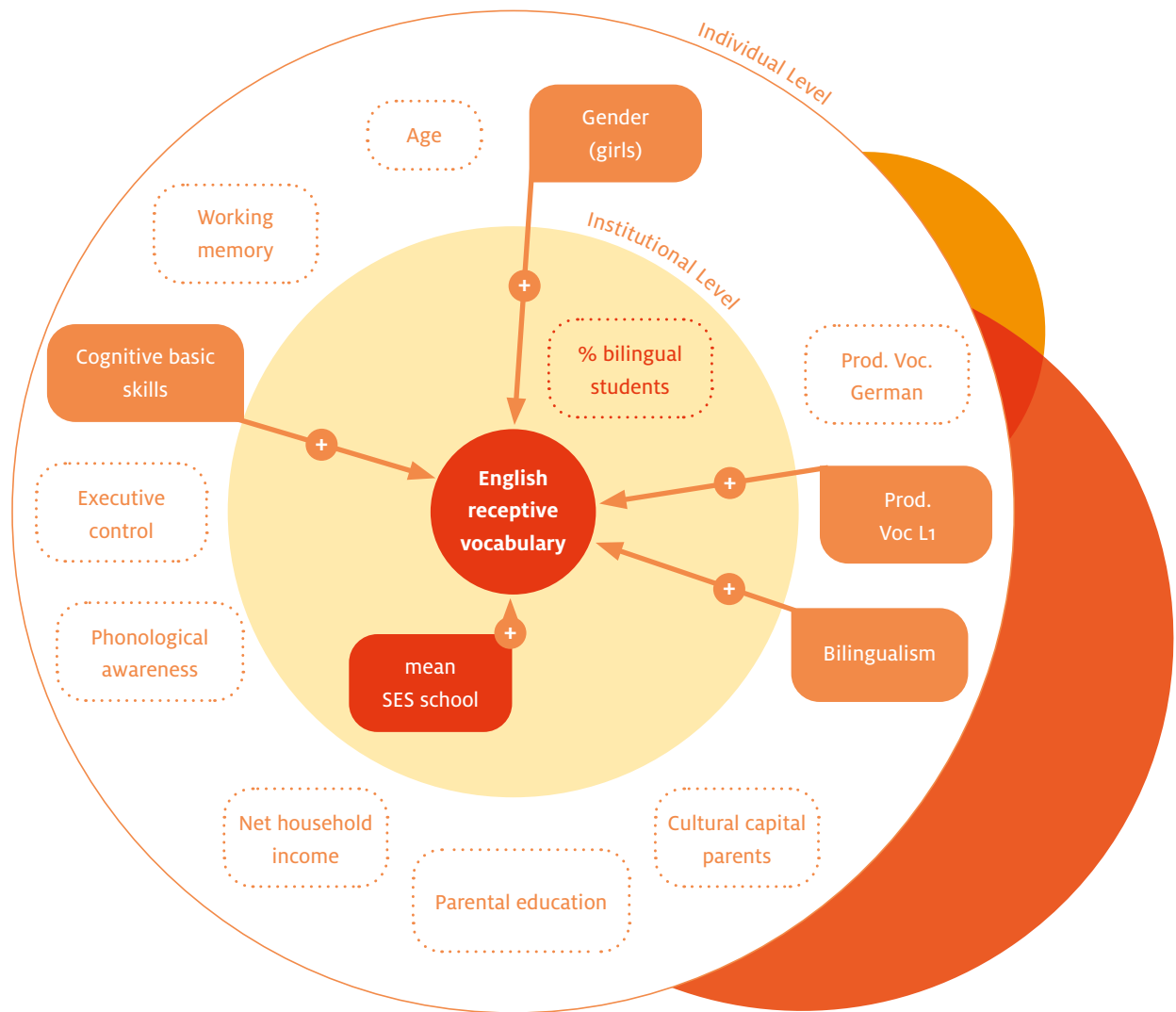
Figure 2: Contributing factors for English receptive vocabulary (BPVS) at institutional and individual level (mixed linear regression). Non-significant factors in faint font.

Development from 3rd to 4th grade

When looking at the development of English vocabulary skills from 3rd grade to 4th grade, multilingualism loses its positive impact; in fact, its impact becomes negative as skills in German become increasingly important. These results suggest that multilingual resources do not remain stable over time, possibly due to the lack of support in the foreign language classroom.

The role of language awareness

The data show that, (phonological) awareness positively affects English grammar. Moreover, a higher degree of phonological awareness implicates higher English vocabulary skills for both monolingual and multilingual students (Hopp et al., 2017). Finally, the degree to which students can reflect on language(s), as measured in their responses to questions in the metalinguistic interview, also positively affects their English skills.

Interim conclusion

MEG-SKoRe I shows that multilingualism as such constitutes neither a general resource nor a global disadvantage in the early foreign language classroom. Rather, multilingualism may become a resource in early foreign language learning when additional individual factors are considered – such as a high degree of language awareness, a large vocabulary in the L1 as well as superior cognitive skills. The follow-up project *MEG-SKoRe II* therefore focuses on how those resources may be addressed and promoted during English lessons in the multilingual classroom.

References

D. Bishop (2003). "Test for reception of grammar: TROG-2, Version 2". London: Harcourt Assessment.

D. C. Delis, E. Kaplan & J. H. Kramer (2001). "Delis-Kaplan Executive Function System, [Basic kit]". San Antonio, TX: Psychological Corp.

L. M. Dunn, D. M. Dunn & B. Styles (2009). "British Picture Vocabulary Scale: BPVS-III, 3rd edn.". London: GL Assessment.

J.-U. Kessler & C. Paulick (2010). "Mehrsprachigkeit und schulisches Englischlernen bei Lernern mit Migrationshintergrund". In: B. Ahrenholtz (Ed.) *Fachunterricht und Deutsch als Zweitsprache*. Tübingen: Narr, pp. 257–278.

J. T. Maluch, S. Kempert, M. Neumann & P. Stanat (2015). "The effect of speaking a minority language at home on foreign language learning". In: *Learning and Instruction*, 36, 76–85.

E. Wilden & R. Porsch (2016). "Learning EFL from year 1 or year 3? A comparative study on children's EFL listening and reading comprehension at the end of primary education". In: M. Nikolov (Ed.) *Assessing young learners of English: Global and local perspectives (Educational Linguistics)*. Cham: Springer International Publishing, pp. 191–212.

Project publications

H. Hopp (2018). "Cross-linguistic influence in the child L3 acquisition of grammar: Sentence comprehension and production among Turkish-German and German learners of English". In: *International Journal of Bilingualism*, 23(2), 567–583.

H. Hopp, T. Kieseier, M. Vogelbacher, S. Köser & D. Thoma (2017). "Mehrsprachigkeit und metalinguistische Bewusstheit im Englischerwerb in der Grundschule". In: I. Fuchs, S. Jeuk & W. Knapp (Eds.) *Mehrsprachigkeit: Spracherwerb, Unterrichtsprozesse, Schulentwicklung. Beiträge zum 11. Workshop Kinder und Jugendliche mit Migrationshintergrund,* Stuttgart: Fillibach bei Klett, pp. 55–74.

H. Hopp, T. Kieseier, M. Vogelbacher, & D. Thoma (2018). "Einflüsse und Potenziale der Mehrsprachigkeit im Englischerwerb in der Primarstufe". In: G. Mehlhorn & B. Brehmer (Eds.) *Potenziale von Herkunftssprachen: Sprachliche und außersprachliche Einflussfaktoren*. Tübingen: Stauffenburg, pp. 57–80.

H. Hopp, T. Kieseier, M. Vogelbacher & D. Thoma (2018). "L1 effects in the early L3 acquisition of vocabulary and grammar". In: A. Bonnet & P. Siemund (Eds.) *Foreign language education in multilingual classrooms*. Amsterdam: John Benjamins, pp. 305–330.

H. Hopp, T. Kieseier, M. Vogelbacher, & D. Thoma (2019). "Bilingual advantages in early foreign language learning: Effects of proficiency in the minority and the majority language". In: *Learning and Instruction*, 61, 99–110.

MEG-SKoRe II

*Multilingualism as a linguistic and cognitive resource
in English language acquisition in primary school*

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Project duration
November 2017 –
October 2020

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Introduction

The MEG-SKoRe I study found that individual factors such as L1 vocabulary size and a high degree of language awareness correlate positively with achievement in foreign language (FL) learning. Against the backdrop of these results, MEG-SKoRe II investigated (a) how teachers can use these positive factors of multilingualism in English language teaching (ELT) in primary school and (b) whether employing multilingual teaching materials and methods leads to gains in English skills among both multilingual and German monolingual students. Using a popular textbook, Playway (Gerngross et al., 2013), we developed learning materials and methods which targeted and promoted language (learning) awareness. For instance, we compared and contrasted the students' heritage languages (including German) with English and conducted activities to improve students' phonological awareness (see Hopp et al., 2019). The learning materials and methods were administered in an intervention study and the efficacy of multilingual ELT was assessed using the research tools employed in MEG-SKoRe I.

What was investigated and how?

During a 6-month teaching intervention, we taught 4th-grade students in intervention and comparison groups.

In the intervention groups, we systematically integrated students' heritage languages and phonological awareness tasks into the English lessons; in the comparison groups, we held regular English lessons without any such multilingual elements.

At three points we measured general English skills (passive and active vocabulary, passive grammar) and metalinguistic awareness. These measurements occurred before the intervention (pre-test), immediately following the intervention (post-test), and three months after the intervention (delayed post-test). Additionally, we collected data on L1 and L2 proficiency, as well as on cognitive abilities and social backgrounds. We used the measures described in MEG-SKoRe I.

Furthermore, we ran small interventions on specific grammatical phenomena (wh-questions, adverbs, negation, passive) over the course of two weeks in order to investigate direct effects of the

teaching intervention on the phenomena that were subject to instruction.

Participants

The intervention study took place in two consecutive school years. In cohort 1 (2018/2019), 128 students at four public primary schools in Lower Saxony participated in the project. In cohort 2 (2019/2020), the sample consisted of 141 students at four schools. Across both cohorts, 127 students were monolingual German speakers, while 142 multilingual students had acquired languages in addition to German in their home environments. The latter group was very heterogeneous with students speaking 16 different heritage languages, the most common being Turkish, Albanian, Arabic, Polish and Russian.

Integrating multilingualism in the EFL classroom: Methods

The first objective of the project was to explore how teachers can integrate multilingualism in ELT at primary level. We developed tasks and activities targeting lexis, grammar and phonological awareness. For instance, multilingual learning activities were included when new vocabulary was introduced in English by asking "*What's … in other languages?*" In addition, students matched vocabulary cards from different languages to the English terms (see Figure 3). Although the teaching of grammar is not typically part of ELT at primary level, we developed activities for language comparisons that were suitable for the age group. Among other things, we illustrated and discussed the sentence structure of

several languages by using coloured cards (see Figure 4). In order to foster phonological awareness, we implemented activities dealing specifically with rhymes and initial sounds. For example, students were shown picture cards (e.g., of a school) but the depicted word was presented with a different initial sound by the teacher ("*Is this the mool?*" — "*No, it's the school!*"). These activities were accompanied by routines such as singing a multilingual song at the beginning of each lesson or greeting each other in a different language every week. In the intervention group, approximately 20 % of the total lesson time was devoted to comparing English to other languages. Our experience from teaching English multilingually in four classrooms suggests that integrating multilingualism into ELT at primary level is both feasible and appealing to students.

Figure 3: Example of a multilingual exercise where new vocabulary is introduced in several languages with the help of a poster.

G. Gerngross, H. Puchta, C. Becker (2013). *Playway 4.* Rum / Innsbruck, Stuttgart: Helbling; Klett.

Sam	always	plays	football
Sam	spielt	immer	Fußball
Sam	hep	futbol	oynuyor
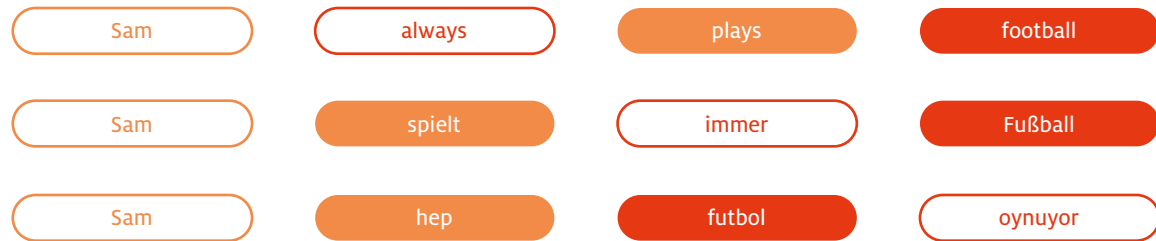
Figure 4: Example of a multilingual task where students receive Lego blocks in different colours and arrange them in sentences for different languages.

Results

Group comparisons

The second objective of the project was to measure possible effects of the teaching intervention on the development of EFL skills. Data from cohort 1 suggest that there were no differences in the development of English vocabulary and grammar skills between the intervention and the comparison group over time (Figure 5). In other words, multilingual elements and the focus on metalinguistic awareness did not seem to affect general skill development in English, despite 20 % of the lesson time being devoted to other languages. Hence, less time-on-task in English did not come at the expense of learning outcomes in that language.

For some specific grammatical phenomena, e.g., wh-questions, learning gains were greater for the intervention group than for the comparison group. This finding suggests that multilingual language comparisons can aid students in overcoming transfer effects where English differs from the participants' heritage languages.

Student perspectives

Following the teaching intervention, the students were asked about their impressions of the multilingual English lessons. They were interviewed about how they liked having different languages in English lessons and which activities they especially enjoyed. The results from interviews with 67 students show that the majority of learners appreciated multilingual elements in ELT. The learners specifically valued the opportunity to gain insights into different languages, especially those of their classmates (1).

1. "Ehm, actually, cool because others, for example [name] knows Arabic and then we can also learn a little bit from the other languages and that is cool… instead of only learning English." (minority-language student)

Furthermore, some students reasoned that opening ELT to other languages benefits FL learning (2a & b):

2a. "Ehm because if there is a word in other languages that sounds similar, then, if I don't know it in English and I know it in another language, then I can insert it maybe." (majority-language student)

b. "Mhm, there are these two [words] in other languages, but pronounced like English and then I could remember it better." (majority-language student)

At the same time, there were some critical voices. Some students did not think that other languages should be given space in ELT (**3a**) and said that contrasting languages confuses them. (**3b**):

3 a. "Ehm, not really good because I'd like to stick to one thing, to one language and only learn this language." (majority-language student)

b. "Because there were these other languages and then I got confused." (majority-language student)

Since not all students consider multilingual elements beneficial in EL classes, it is important to make clear the rationale of introducing multilingualism for foreign language learning, and to adapt the teaching to the needs of individual groups and students.

What does this mean for educational practice?

The project explores the potentials of multilingual ELT and offers hands-on guidance for its design and implementation. The results show that it is possible to integrate students' heritage languages via simple tasks and activities. The teacher does not need to be proficient in the respective heritage languages to design multilingual activities, since students often provide multilingual examples voluntarily, thereby also furthering their multilingual identities. Other
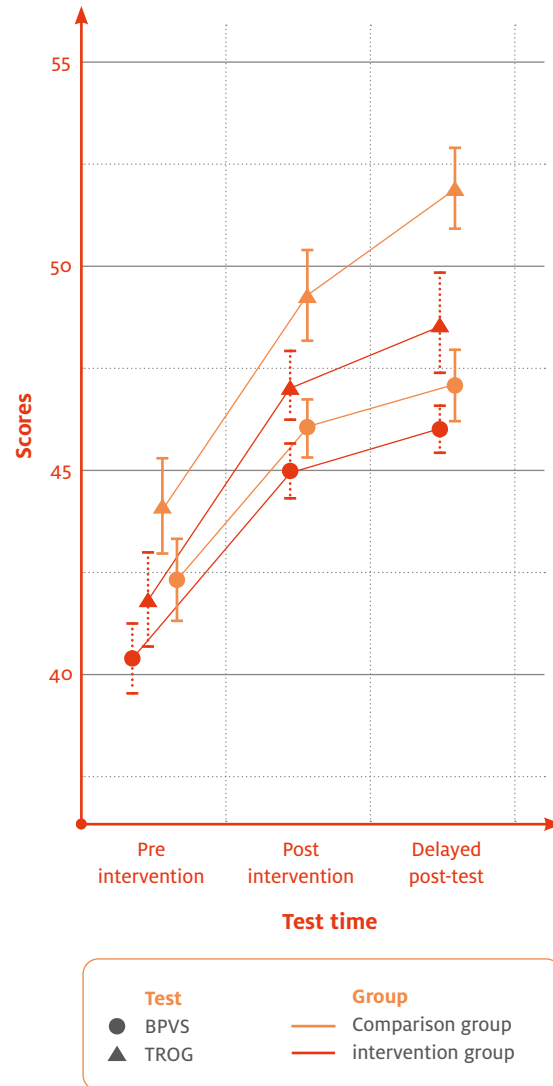
Figure 5: Development of English vocabulary (BPVS) and English grammar (TROG) in the intervention and the comparison group over the course of the three data collection points (raw test scores).

students learn about their peers' languages, and all learners experience the appreciation of language diversity. However, it is key not to designate multilingual students as 'experts' but to invite all learners to experiment with language. Throughout the project it became evident that most students liked to experiment with language and enjoyed the cross-linguistic comparisons. Since some learners found frequent references to other languages confusing, teachers need to prepare and introduce multilingual activities carefully. Like the students, teachers must also open up to multilingual teaching and display enthusiasm for language diversity themselves. To support teachers, the project is developing methods and materials for multilingual foreign language learning, which will be made freely available on the website *www.playway.de*.

References

G. Gerngross, H. Puchta & C. Becker (2013). *Playway 4*. Rum/Innsbruck, Stuttgart: Helbling; Klett.

Project publications

H. Hopp, J. Jakisch, S. Sturm, C. Becker, & D. Thoma (2019). "Integrating multilingualism into the early foreign language classroom: Empirical and teaching perspectives". In: *International Multilingual Research Journal*, 31(1), 1–17. https://doi.org/10.1080/19313152.2019.1669519

J. Jakisch & S. Sturm (2019). "Do you know this word in another language?: Mehrsprachigkeit im Englischunterricht der Grundschule nutzen". In: *Grundschule Englisch*, 69(4), 30–33.

H. Hopp & J. Jakisch (2020). "Mehrsprachigkeit im Fremdsprachenunterricht". In: I. Gogolin, A. Hansen, S. McMonagle & D. Rauch (Eds.) *Handbuch Mehrsprachigkeit und Bildung*. Wiesbaden: Springer VS, pp. 195–199.

J. Jakisch (in press). "Mehrsprachigkeit von Anfang an — Förderung plurilingualer Kompetenzen im Englischunterricht". In: J. Quetz & K. Vogt (Eds.) *Der neue Begleitband zum Gemeinsamen europäischen Referenzrahmen für Sprachen*. Frankfurt a. M.: Lang.

Multiliteracy

The interrelation between language abilities in the first and second language and extra-linguistic factors

Institution
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Project duration
October 2013 –
September 2016

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Introduction

This study investigated the interrelation of writing abilities in the first (L1) and second language (L2) of bilingual 9th and 10th graders with the heritage languages Turkish, Italian or Greek. The aim was to illustrate the impact of extra-linguistic factors (such as language attitude, literacy practices, language use) and metalinguistic awareness[1] on textual competences in both languages. In this context, the following hypotheses were tested:

- Writing abilities in L1 (heritage language) and L2 (German) mutually influence each other; a high level of textual competence in L1 corresponds to a high level in L2.
- Extra-linguistic factors and metalinguistic awareness have an impact on writing abilities in both L1 and L2.

[1]   With regard to metalinguistic awareness, we focus on linguistic aspects and include cognitive as well as performance levels (see James & Garrett, 1991). The cognitive aspects comprise knowledge of grammar, the rules and functions of language; the performance aspects include language use, communication strategies and the practice of speaking about language (see Fehling, 2006: 86).

What was investigated and how?

A set of instruments was developed in order to examine writing abilities, extra-linguistic factors and metalinguistic awareness. Using these instruments (detailed below), data was collected from a total of 206 participants (see Table 1).

Writing tasks

We developed different writing tasks to elicit narrative and argumentative texts. For the narrative texts, pictures were presented to the participants who were tasked with composing fictional stories based on them (Figures 2 and 4). For the argumentative texts, two different letters were addressed to the school principal — one on the subject of a ban on foreign languages in the schoolyard (in L1, see Figure 3), the other responding to a proposed ban on the use of mobile phones in the schoolgrounds (in L2, see Figure 1). There was a four-week interval between the tasks in L1 and L2.

Language Awareness Test (LAT)

Based on a test developed by Fehling (2005), a test for measuring metalinguistic awareness (LAT) was developed. The test consisted of a multiple choice questionnaire with questions on semantics (synonyms, passe-partout words), pragmatics (forms of address, language use in informal and formal contexts) and textual knowledge (coherence and cohesion). The test was administered in both the L1 and L2.

Language biographical interviews with students in L1 and L2

To explore the impact of extra-linguistic factors, interviews addressing the subjects' language attitudes and language use (both oral and written) were conducted. The aim of conducting interviews in both languages was to interpret students' competency levels in the respective languages, and to determine whether language attitudes are communicated differently, depending on the language used by the interviewer.

Figure 1: Argumentative text assignment (L2)

Figure 2: Narrative text assignment (L2)

Figure 3: Argumentative text assignment (L1)

Figure 4: Narrative text assignment (L1)

Parental interviews

Finally, additional sociolinguistic data (e.g. literacy practices at home, language use, language input) were collected through parental interviews.

Language group	Number of subjects	Argumentative texts L1/L2	Narrative texts L1/L2	Language Awareness Test	Interviews L1/L2	Parental interviews
Italian	68	136	136	68	136	17
Greek	60	120	120	60	120	15
Turkish	78	156	156	78	156	19
In total	206	412	412	206	412	51

Table 1: Overview of the data

Analysis

Developing an analytical framework

To assess writing abilities in the respective languages, a model was developed to capture overall writing skills. This model considered textual macro- and microstructures, discourse mode (oral conceptual vs. written structural), and discourse stance (involvement vs. detachment). Based on these criteria, a detailed analytical grid including five writing levels was developed for each writing genre. All texts were ranked according to these levels by three independent raters.

Analysis of the Language Awareness Tests

Responses to the language awareness test were ranked on a scale from 1 to 4 with regard to appropriateness. The semantic, pragmatic and textual levels were thereby evaluated in both L1 and L2, as well as at a general level.

Analysis of the language biographical data

Based on the speakers' statements, profiles were created to illustrate differences in language use between the student participants. From these profiles, categories for statistical analysis were deduced. A regression analysis was carried out using the free programming language for statistical computing and graphics, R, in accordance with the generalised linear mixed model.

Results

Participants from all three heritage language groups achieved higher levels in the argumentative texts in the L2 (German) than in their L1 (heritage language). The argumentative texts composed in the L1 differ in terms of textual structure (macrostructure), which can be explained by culture-specific patterns not acquired in the respective language. Compared with the argumentative texts, participants attained higher scores in writing abilities in the narrative texts in both languages. In general, subjects who achieved high scores in their L1 attained equally high (or even higher) scores in the L2. These results confirm that fostering writing in the heritage language is not detrimental to skills in the L2.

Our results also point to a significant correlation between metalinguistic awareness and writing abilities. However, students with low textual competences in their L1 were nevertheless aware of some of the essential components of a text in this language (e.g. cohesion and coherence) and were able to estimate register-specific norms correctly (such as how to address the recipient in an appropriate way). These

aspects ought to be considered in future didactical concepts.

The correlational analysis of the extra-linguistic data indicated that formal heritage language instruction has a positive impact on writing abilities in the L1 only when attended for six years or more. However, this may also relate to other factors, such as lesson design and quality of instruction (especially in afterschool programmes), as confirmed by teachers and students in their socio-biographical interviews. In general, our results demonstrate that instruction in the heritage language has no negative effect on the development of L2 writing abilities. Activities with the greatest impact on textual competences in both the L1 and L2 are the reading of books and writing complex texts, such as essays and stories.

What does this mean for educational practice?

- Linguistic support for bilingual children ought to be carried out in both languages.
- The L2 does not suffer when the L1 is supported; rather, it can be strengthened.
- The promotion of metalinguistic awareness, i.e. a differentiated knowledge of linguistic structures and rules of language usage, ought to be implemented more intensively in the language classroom.
- Literacy development should be an integral part of multilingual education. Here, concepts can be developed, for example in contrastive language didactics, where different genre patterns and rhetorical functions in the respective languages are contrasted.

Project publications

T. Woerfel, N. Koch, S. Yilmaz Woerfel & C. M. Riehl (2014). "Mehrschriftlichkeit bei mehrsprachig aufwachsenden Kindern: Wechselwirkungen und außersprachliche Einflussfaktoren". In: *LiLi — Zeitschrift für Referenceswissenschaft und Linguistik* 43 / 174, 44–65.

S. Yilmaz Woerfel & C. M. Riehl (2016). "Mehrschriftlichkeit: Wechselseitige Einflüsse von Textkompetenz, Sprachbewusstheit und außersprachlichen Faktoren". In: C. Schroeder & P. Rosenberg (Eds.) *Mehrsprachigkeit als Ressource in der Schriftlichkeit,* Berlin, de Gruyter, pp. 304–336.

C. M. Riehl, S. Yilmaz Woerfel, T. Barberio & E. Tasiopoulou (2018). "Mehrschriftlichkeit. Zur Wechselwirkungvon Sprach-kompetenzen in Erst- und Zweitsprache und außersprachlichen Faktoren". In: B. Brehmer & G. Mehlhorn (Eds.) *Potentiale von Herkunftssprachen: Sprachliche und außersprachliche Einflussfaktoren.* Narr: Stauffenburg, pp. 93–116.

T. Barberio (2019). "Schreiben in zwei Sprachen: Argumentative und narrative Texte bilingualer italienisch-deutscher Schülerinnen und Schüler". PhD Thesis: LMU Munich.

T. Barberio (2020). "Sprachkontaktphänomene bilingualer italienisch-deutscher Schüler am Beispiel argumentativer Texte". In: P. Noel, B. Sonnenhauser, C. Trautmann & D. Holl (Eds.) *Diskussionsforum Linguistik in Bayern: Mehrsprachigkeit und Variation*, 7, pp. 1–25.

C. M. Riehl (in press, 2020). "Multiliteracy. The interdependence of L1 and L2 and extra-linguistic factors". In: *The Heritage Language Journal*.

MEZ

Multilingual development:
A longitudinal perspective

Institution
University of Hamburg,
JGU Mainz,
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Project duration
October 2014 –
September 2019

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Introduction

Does multilingual development bolster or obstruct educational success? This was the starting question for the MEZ project, *Multilingual Development: A Longitudinal Perspective*. While multilingualism has been cited as a disadvantage, there are also indications that it supports successful (language) learning. It was therefore our goal to obtain primary information on the language development of multilingual secondary school pupils in order to begin to clarify this question. We collected data on receptive reading skills and productive writing skills. Much research in this area measures reading skills only; our approach thus allowed us to reach conclusions on language abilities beyond a single skill set.

MEZ focused on language skills in German (the majority language of schooling), Russian and Turkish as heritage (i.e. immigrant) languages, and English as a school-taught foreign language. Some pupils were also tested in a second foreign language, French or Russian. With this range, it was possible to examine the linguistic profiles of the participants as well as any reciprocal influences between languages. The

project thereby created a new basis for the design of language education in linguistically heterogeneous groups. We were especially interested in how multilingual pupils use their extant language skills for the learning of further languages.

The investigating team comprised researchers from intercultural educational research, pedagogical psychology, English, Romance and Slavic linguistics. Via interdisciplinarity we could tackle the complexity of the research question by employing complementary theoretical and methodological approaches.

What was investigated and how?

Between 2016 and 2019, MEZ followed two parallel cohorts over four waves of data collection. The student participants began in either Grade 7 or 9 and were followed through to the end of Grade 9 or 11, respectively. Of the ca. 2,000 participants, pupils in the multilingual group had either Russian or Turkish as a heritage language; a comparison group of monolinguals (i.e. only German) was also included. We sought to investigate development in German and the heritage languages, as well as in English as a

(Linguistic) Situation	Language attitude	Linguistic competences: Language of instruction German
Linguistic competences (German, heritage language, foreign language)	Linguistic self-concept	Foreign languages in school
Multilingual profiles		Career orientation
Transfer (mono-/interlingual)	Future aspirations and -expectations	Application
Differences in competences		Educational choice
		Transitions

Figure 1:
MEZ Research Design

foreign language (all participant pupils) and, where applicable, French or Russian as second foreign language. Educational development was also observed.

Over the four survey waves, the project employed language tests and student questionnaires. A test for nonverbal cognitive skills as well as parental and school principal questionnaires were also conducted in the first wave. At each wave pupil surveys were completed over two days in the participating schools. Students who left the school system as the project was still running took part in a one-off telephone survey.

The language tests included the elicitation of receptive language skills (reading and listening comprehension) as well as productive language skills (written and oral) in German, the heritage and foreign languages. The questionnaires provided information on the educational and career aspirations of the pupils. Moreover, information on contextual and personal factors was collected (e.g. migration history, language use, motivation, social background, school curriculum) as they influence both language and educational development. A further aspect concerned social and peer networks as a possible influencing factor on participants' development.

Subsamples of ca. 140 German-Russian-, 160 German-Turkish- and 120 monolingual German-speaking students took part in a linguistically in-depth investigation, the focus of which was to examine transfer between languages. Special attention was paid to spoken language, in particular the realisation of single sounds and intonation. These phenomena are responsible for the perception of different accents in a language. Participants were tested for phonological awareness, completed free written texts and a word order test (with focus on grammatical inferences), and took part in language-biographic interviews. The resulting corpus is especially valuable as comparative data were collected in

all pupils' languages. Furthermore, the controlled (experimental) as well as natural (spontaneous) data produced an extensive verbal data set, providing us with scarcely investigated aspects of multilingual development — for example the potential advantage that German-Turkish bilinguals have in the acquisition of French intonation. By linking linguistic, biographic and motivational data we may draw conclusions on the interaction between different languages during multilingual language acquisition.

MEZ produced an extensive data set that goes beyond those of comparable large-scale surveys in the field of multilingual research. It will be available to the research community for subsequent and secondary use.

Results

All four survey waves were conducted in cooperation with IEA (International Association for the Evaluation of Educational Achievement) Hamburg: Wave 1 took place in early 2016, with wave 2 occurring in autumn of that year; wave 3 was conducted in summer 2017 and wave 4 in summer 2018. With around 1,800 participants included in the first wave, the sample was then expanded to 2,060 pupils in a total of 75 schools. All were learning English as their first foreign language. Around 850 were learning French and 70 Russian as a second foreign language. A total of 943 participants were attending a Gymnasium (secondary education which prepares pupils for advanced academic study, usually at university). Approximately 55 % grew up monolingually with

German, 29 % had a Turkish- and 17 % Russian-language background. Detailed information on the study design, data collection, sample selectivity and invariance measurement can be found in the IEA reports. They are available at *https://www.mez.uni-hamburg.de/1uebermez/working-papers.html*.

Due to the large-scale nature of the MEZ study, findings could only be obtained following completion of all four waves of data collection. Therefore, at the time of writing, analyses are ongoing. Nonetheless, we can report the following indications to emerge thus far:

- German as language of instruction is the dominant language of all pupils, their language background notwithstanding. A large proportion of the multilingual pupils are also able to read and write in their heritage language. There is further indication that positive interrelations occur between the relevant languages.

- Analyses of pupils' self-assessment show that all regard German as their best language, followed by English. This holds true for students both with and without a migration background. Students with a migration background assess their heritage-language skills lower than their skills in German and English. They further assess their oral skills better than their written skills (Dünkel et al. 2018). The language data from the project confirm these self-assessments.

- Any apprehension that support for the heritage language hampers acquisition of the language of schooling (cf. Hopf, 2005; Esser, 2006) is not sup-

ported by the MEZ data. Participants who demonstrated good writing skills in their heritage language showed better writing skills in German and English than their peers with poor writing skills in the same heritage languages (Dünkel et al., 2018). As all participants attended 'regular' schools, this finding cannot be construed as an effect of bilingual teaching. Yet this tendency has also been shown in specific school models, such as the *Staatliche Europaschule Berlin* (Möller et al., 2017).

- Influenced by readings skills, writing skills continue to develop in later learning phases (based on vocabulary and sentence linkage testing). This is the case for all language groups. This finding can be attributed to coordinated pedagogical support for reading and writing skills, even in higher school grades (Klinger et al., 2019).

- Concentration on reading skills as a general measure of language skills appears inappropriate as reading skills cannot account for the whole phenomenon of language development. The MEZ data show that the connection between reading and writing skills is only partly direct and that these skills are not influenced by social background and personal characteristics in the same way (Klinger et al., 2019).

- The linguistic potential that heritage-language pupils bring from their family environment can only be usefully transferred to capital when writing skills in the heritage language are developed (Bialystok, 2014). While oral skills in the heritage language are substantial, they are not enough. The German-Russian and German-Turkish participants had both lower abilities in reading and writing in their heritage language than in German. This could be an obstacle to the later exploitation of their multilingualism in professional careers or other areas, such as taking up public positions in the heritage language community (Dittmers et al., 2018).

- Whether multilingual learners have advantages in foreign-language pronunciation appears to depend on the heritage languages and e.g. phonetic similarities between the languages in question. Advantages were not readily apparent among the MEZ participants. In particular, those with a Russian-language background deviated significantly from expectations. Language support through teaching is therefore necessary for multilingual learners to expand their potential in further language acquisition.

- As expected, all pupils regarded English as having high potential on the labour market. Somewhat less expected, the multilingual pupils assessed this perceived potential higher than their monolingual peers (Lagemann et al., 2017).

- All pupils placed higher value on oral than on written skills in English. This indicates a gap in knowledge on the part of the participants as research on the language needs of employers shows higher regard for written English skills (Lagemann et al., 2017).

What does this mean for educational practice?

The practical benefit of MEZ is primarily to generate better information on the conditions that foster or hinder multilingual development and school-based learning. This information can provide a basis for shaping school activities, as well as advice for parents and learners themselves. In particular, information on the reciprocal influences between different languages can be used in the design of educational processes, with transfer between languages used systematically for teaching and learning. MEZ also provides information on the strategies used by students themselves when making connections between their languages. Such strategies can be a disadvantage (i.e. negative transfer) if they set students on the wrong track. However, they can also be supportive when they are systematically developed, which requires expert support in the classroom. Such findings can be integrated into teacher training as well as teaching design and materials. Furthermore, by identifying motivational factors in language learning, pupils can be better guided in their career choices — for example, by looking at the perceived benefit of multilingual skills in the transition to vocational training or the labour market.

References

E. Bialystok (2014). "The impact of multilingualism on language literacy development". In: T. K. Bhatia und W. C. Ritchie (Eds.) *The handbook of bilingualism and multilingualism. Second edition.* Chichester: Wiley-Blackwell (Blackwell handbooks in linguistics, 15), pp. 624–648.

T. Dittmers, C. Gabriel, M. Krause & S. Topal (2018). "The production of voiceless stops in multilingual learners of English, French, and Russian: Positive transfer from the heritage languages?" In: M. Belz, C. Mooshammer, S. Fuchs, S. Jannedy, O. Rasskazova & M. Zygis (Eds.) *Proceedings of the 13th Conference on Phonetics and Phonology in the German-Speaking Countries* (P&P 13), Berlin, pp. 28–29. Sep 2017. Berlin: ZAS. [https://edoc.hu-berlin.de/handle/18452/19531].

N. Dünkel, J. Heimler, H. Brandt & I. Gogolin (Eds.) (2018). "Mehrsprachigkeits-entwicklung im Zeitverlauf. Ausgewählte Daten und Ergebnisse". Contributors: R.J. Bonnie, H. Brandt, N. Dünkel, K. Feindt, C. Gabriel, I. Gogolin, T. Klinger, M. Krause, M. Lagemann, E. Lorenz, S. Rahbari, B. Schnoor, P. Siemund, I. Irina. Hg. v.: I. Gogolin, C. Gabriel, M. Knigge, M. Krause & P. Siemund. Universität Hamburg, Hamburg.

H. Esser (2006). "Sprache und Integration. Die sozialen Bedingungen und Folgen des Spracherwerbs von Migranten". Frankfurt am Main: Campus-Verlag.

D. Hopf (2005). "Zweisprachigkeit und Schulleistungen bei Migrantenkindern". In: *Zeitschrift für Pädagogik* 51, 236–251.

T. Klinger, I. Usanova, I. Gogolin (2019). "Entwicklung rezeptiver und produktiver schriftsprachlicher Fähigkeiten im Deutschen". In: *Zeitschrift für Erziehungswissenschaft* (ZfE). 22 (1), pp. 75–103.

M. Lagemann, H. Brandt, I. Gogolin (2017). "Renditen von Investitionen in fremd-sprachliche Fähigkeiten: Eine Untersuchung von Schülerwahrnehmungen und deren Zusammenhang mit ihren Englischkenntnissen". In: N. McElvany & A. Sander (Eds.) *Bildung und Integration — Sprachliche Kompetenzen, soziale Beziehungen und schulbezogene Zufriedenheit.* Landau in der Pfalz: Verlag Empirische Pädagogik (Empirische Pädagogik, 31. Jahrgang, Heft 4), pp. 460–494.

J. Möller, F. Hohenstein, J. Fleckenstein, O. Köller, J. Baumert (Eds.) (2017). "Erfolgreich integrieren — die Staatliche Europa-Schule Berlin". Münster, New York: Waxmann.

Project publications

https://www.mez.uni-hamburg.de/5publikationen.html

MEZ-2

Multilingualism in the transition from school to work

Institution
University of Hamburg

Project duration
October 2019 –
February 2022

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Introduction

The follow-up project to *MEZ* focusses specifically on the phase in adolescents' lives in which they prepare for their professional or vocational paths (i.e. by vocational orientation courses, by vocational training on the job, by following the academic track or by academic studies). The first study of its kind, *MEZ-2* will provide empirically substantiated findings on the relationship between language — especially multilingual — development and the initial steps toward professional integration taken by young people both with and without a migration background. The main research areas of the project are:

- Language development in the transition to career paths
- The development of language skills perceived to be relevant to professional training and the labour market
- Language development strategies and their influences during this transitional phase

The principle research interest is on findings regarding the development of professionally oriented and academic language skills, which can be used in career advice for young multilinguals. The findings will further draw attention to supportive conditions in making the transition from school to professional qualification. Particular attention is paid to examining and identifying (linguistic) measures and strategies that may mitigate the negative effects of growing up in educationally disadvantaged families. The study is supplemented by in-depth investigations on the (written) language practice of adolescents in digital media.

What is investigated and how?

MEZ2 allows us to further investigate the skills and characteristics of participants collected and documented in the *MEZ* project. Moreover, on the basis of this data and the changing biographies of the participants, new aspects concerning the relationship between language/multilingual skills and career orientation may be examined. As the *MEZ* project was still running, 1,127 students agreed to participate in this follow-up study. Since most were no longer in their former school, *MEZ-2* data collection is con-

ducted individually via a mixed-mode survey design comprising online and postal formats.

Data collection occurs at two measurements points with an intervening period of one year. The first measurement took place in March-April in cooperation with IEA Hamburg (International Association for the Evaluation of Educational Achievement), in which participants completed a questionnaire and receptive language tests online. Because productive language skills could not be entirely tested online, participants also completed written texts in hard copy at home.

Productive language skills are measured using the written tasks developed in the *MEZ* project. Receptive language skills are measured via a reading comprehension test, and general language skills in a C-test. The languages assessed are German (as majority and language of schooling), Russian and Turkish (as heritage languages), and English as a foreign language. Additional receptive and professionally relevant language skills were tested in German. Within the context of school-to-career transition, *MEZ-2* follows up on the educational and career

aspirations, expectations, language attitudes and identities of the participants. Taken together, their perceptions of labour-market demands for language skills are further examined. Psychological resources that function as resilience factors in transitional phases are also appraised. Finally, the role of digital media in acquiring and maintaining multilingual skills, as well as functioning as information channels for career options, are considered.

Expected findings

MEZ-2 makes it possible to investigate relations between educational success, career-related knowledge, professional orientation and language (especially multilingual) skills, with relevant background and individual factors being controlled for. These investigations are based on a substantial sample of participants in the transitional phase from school to professional orientation.

The large-scale study design permits complex analyses that not only show correlations but also provide explanations for observed phenomena. Special attention is paid to aspects that can be influ-

enced through pedagogical action and supporting measures. These are, on the one hand, skills and knowledge (e.g. language skills, career-related knowledge); on the other hand, cognitive and mental resources (e.g. language awareness, resilience). The follow-up study thus leads to new and reliable findings on the reasons for successful (or not) transition from school to vocation or profession, which can contribute to the practical design of this transition. In particular, we anticipate new insights into the problem of differentiating between migration-related and general reasons for (lack of) success. *MEZ-2's* special contribution will be to answer questions on the role and function of language and multilingual skills in the transitional process on the basis of substantial language testing and not only on self- or external assessments. Our measurements therefore go beyond (heretofore) usual practice as we account for not only receptive skills, but also productive written skills in their development. Furthermore, skills are not only assessed on the basis of a narrowly defined area of language competence (such as vocabulary), but on a complex system of indicators that included sentence and textual skills. We thereby measure language skills which are increasingly required in a broad spectrum of professional activities and when it comes to career advancement. Here, we also consider the role of digital media for the development of literacy skills in the transition to career.

MIKS

Multilingualism as a field of action in intercultural school development:
An intervention study in primary schools

Institution
University of Münster

Project duration
October 2013 –
September 2016

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Introduction

Multilingualism is a basic condition in all aspects of school life. The teaching of German as a second and academic language is an important task in this context. In addition, all other languages that children bring with them to school are a resource that can be used for learning. When children are encouraged to make use of their home languages during lessons, it can be beneficial for everyone involved. The school's job of teaching and providing support in German can be meaningfully complemented by including children's multilingual experiences.

In this regard, the *MIKS* project developed, tested and scientifically evaluated a concept for teacher professionalisation and school development. The leading research question was: *How can primary school staff be successfully supported to recognise the multilingualism in their own school as a resource and to use it productively for language teaching and formal learning?*

Previous research findings on teacher professionalism and school development guided the design of the MIKS concept. Carried out over a period of 1.5 school years in three primary schools, the measure included the transfer of knowledge (psycholinguistic and sociolinguistic foundations), trial phases during lessons (via the implementation of multilingual teaching approaches by staff), and guided reflection exercises on the experiences and beliefs of participating staff. Staff were thereby supported in integrating constructive approaches to multilingualism into their normal school routines.

What was investigated and how?

In the three primary schools, lessons were observed and interviews carried out with teachers and principals. Field notes were taken during internal training sessions and reflection days in the schools. In order to capture the effects of the measure, questionnaire surveys were conducted prior to and after the intervention. Staff from the three project schools, as well as from three comparison schools, were surveyed. The survey focused on knowledge, beliefs and strategies for action in the field of language education and multilingualism.

Communicating psycholinguistic and sociolinguistic findings	Making multilingualism visible and audible in school life	Combining linguistic and subject-specific concepts for teaching and learning	Developing an overall language concept for the school	Combining knowledge transfer, trial periods and reflection
Considering findings on school development	Using and building on existing channels of cooperation among the school staff	Integrating heritage language instruction	Linking professional development training to the school curricula	Developing implementable projects and lesson plans

Results

Innovation is most likely to take place when all those involved have new and positive experiences with multilingualism at school and in the classroom. Such experiences were had during practical projects that participating staff teams developed and tested themselves, such as multilingual signage around the school and in classrooms, multilingual word collections and language comparisons.

A number of quality criteria concerning the content and methods of a professionalisation and school development concept to incorporate migration-related multilingualism in schools and the classroom also emerged in this intervention study:

- Teaching and support staff can understand the effects of multilingual socialisation on the linguistic, cognitive and socio-emotional development of children and adolescents from a psycho- and neurolinguistic perspective.
- Working on an overall language concept for the school brings together different areas of language education: multilingual didactics, the teaching of German as a second and academic language,

literacy teaching, heritage language teaching and foreign languages.

- Strategies for school and lesson development facilitate the institutionalisation of long-term plans for the inclusion of multilingualism in school and in the classroom.

Figure 1: Teacher professionalisation and school development quality criteria for the inclusion of multilingualism

Bathroom door in a MIKS project school

What does this mean for educational practice?

Even small steps in school and lesson development led to new practical experiences in the participating primary schools. Together with pupils and parents, the staff teams made family languages visible and audible throughout their schools. The teachers also tested new practical approaches in their lessons, taking into consideration languages that they themselves do not understand. The teachers' sense of self-efficacy in the field of multilingualism rose considerably in the project schools, leading them to believe in their ability to include and deal with pupils' languages in a constructive way.

Project publications

J. Dlugaj & S. Fürstenau (2019). "Does the use of migrant languages in German primary schools transform language orders? Findings from ethnographic classroom investigations". In: *Ethnography and Education*, DOI 10.1080/17457823.2019.1582348

S. Fürstenau (2017). "Migrationsbedingte Mehrsprachigkeit als Gegenstand der Grundschulforschung". In: *Zeitschrift für Grundschulforschung*, 2/2017, 9–22.

S. Fürstenau (2016). "Multilingualism and school development in transnational educational spaces. Insights from an intervention study at German elementary schools". In: A. Küppers u. a. (Eds.) *Bildung in transnationalen Räumen*. Wiesbaden, pp. 71–89.

S. Fürstenau (2016). "'Da kann ein Kind so viele Sprachen, und ich kann aber nur Deutsch.' Lehrerinnen und Lehrer denken über die Sprachenportraits der Kinder nach". In: *Die Grundschulzeitschrift*, Nr. 294, 39–41.

S. Fürstenau & H. Niedrig (2018). "Unterricht mit neu zugewanderten Schülerinnen und Schülern. Wie Praktiken der Mehrsprachigkeit für das Lernen genutzt werden können". In: N. Dewitz, H. Terhart & M. Massumi (Eds.) *Neuzuwanderung und Bildung. Eine interdisziplinäre Perspektive auf Übergänge in das deutsche Bildungssystem*. Weinheim: Beltz Verlag, pp. 214–230.

K. Huxel (2019). "Der Einbezug von Mehrsprachigkeit als Teil einer diskriminierungskritischen, diversitätssensiblen Schulentwicklung". In: *Zeitschrift für Diversitätsforschung und -management. Themenschwerpunkt: Diversitäts- und Antidiskriminierungskonzepte im Feld von Schule und Migration — Erfordernisse, Spannungen und Widersprüche*, 1/2019, 68–80.

K. Huxel (2018). "Lehrersein in der Migrationsgesellschaft. Professionalisierung in einem widersprüchlichen Feld". In: *Zeitschrift für interpretative Schul- und Unterrichtsforschung 7*.

K. Huxel (2016). "Mit Kindern Sprache(n) reflektieren". In: *Die Grundschulzeitschrift*, Nr. 294, 48–50.

K. Huxel (2016). "'… die Sprachen, die tauchen jetzt einfach öfter auf im Unterricht.' Mehrsprachigkeit in der Grundschule — Erfahrungen aus einem Schulentwicklungsprojekt". In: *Die Deutsche Schule*, 13, 177–188.

MIKS II

Dissemination of a professionalisation and school development concept in an age of new migration

Institution
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Project duration
October 2016 –
September 2019

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Introduction

The objective of *MIKS II* was to adapt the professionalisation and school development concept developed in *MIKS* to the situation of primary schools with a high proportion of newly immigrated children, and to spread it by way of 'disseminator' trainings (aka 'training the trainers').

The team from the University of Hamburg imparted the *MIKS* concept via a training programme to 13 teacher trainers. These trainers then implemented the concept in 17 primary schools in the German federal state of North Rhine-Westphalia. They trained either the entire staff or a selected group within the respective schools. All trainings took place over a period of 18 months and included both content-based modules (with exchange-oriented input, impulse lectures and group work) as well as reflection days for the exchange of experiences.

The disseminator training was carried out in cooperation with the regional coordination unit for local integration centres (LaKI) in North Rhine-Westphalia.

What was investigated and how?

The *MIKS II* intervention comprised three different levels:
1. trainings of disseminators ('training the trainers'),
2. professionalisation in schools (i.e. the training of school staff by disseminators),
3. school and lesson development (developing, testing and institutionalising multilingual approaches by school staff).

The leading research question was: *In the current age of new migration, how can teacher trainers be successfully supported in implementing the MIKS professionalisation and school development concept?*

The impact of *MIKS II* was researched and evaluated by way of the following methods:
• Group interviews with the disseminators,
• Participant observation of trainer trainings,
• Questionnaires surveying school staff before and after the qualification sessions in the participating as well as comparison schools,
• Interviews with participating school principals before and after the qualification sessions.
In four focus schools we further conducted:

- Observation of the qualification sessions for school staff,
- Classroom observations.

Results

Disseminator training for trainers and school mentors

The MIKS concept allows for participative transfer, i.e. the disseminators support the school staff in developing their own projects themselves, which are adapted to the school's situation and in shaping school development. The disseminators need freedom and leeway to implement the MIKS concept. The main challenge is to design dynamic, co-constructive processes when working with the schools. One of the prerequisites for the training to be successful is therefore continuous discussion and reflection on both the complex aspects of multilingualism and one's own role as a teacher trainer and school mentor.

MIKS in an age of new immigration

MIKS schools with many newly arrived children in Germany (and who were therefore just beginning to learn German) often opened up to multilingualism in a pragmatic way. For example, children were grouped together according to language skills so they could translate for each other, information for parents was provided in Arabic, etc. Such endeavours were a starting point for the developments initiated by MIKS. Many schools worked on a collective change of perspective: family languages are not only a means of communication, but also a valuable part of language learning.

Multilingual didactics for teaching

According to the participating teachers, the children had begun to use languages other than German in conversations with their peers to a more considerable extent after the MIKS intervention. They also stated that they now encourage children to discuss lesson content in their family languages. Quite often we observed translations and language comparisons in classroom lessons. Many teachers developed collaborations with multilingual parents who enrich lessons with linguistic contributions. Where parents provide words, sentences and texts in their different languages in written form, the class can develop a multilingual writing culture. All children, whether growing up monolingually or multilingually, are encouraged to reflect on languages together. In order for multilingualism to become part of the classroom, teachers have to trust the linguistic knowledge of children and parents. This can be challenging as the teachers must deal with a certain loss of control as they assume the role of the uninformed.

Professionalisation and school development in the field of multilingualism

Among school staff, the sense of self-efficacy in the field of multilingualism increased considerably. The teachers stated that, following the MIKS intervention, they feel confident including children's home languages (which they do not themselves understand) into the classroom. Because the inclusion of multilingualism had been a positive experience, the project schools could perceive other languages more often as a resource and less a problem.
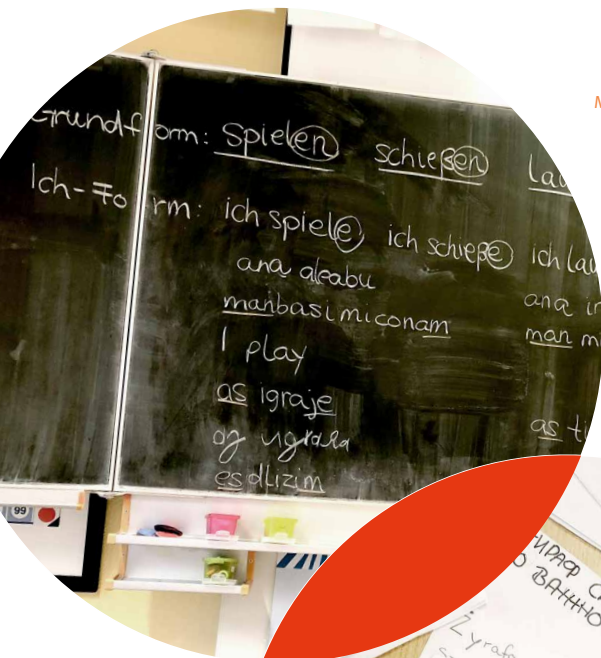
Multilingual verb conjugation
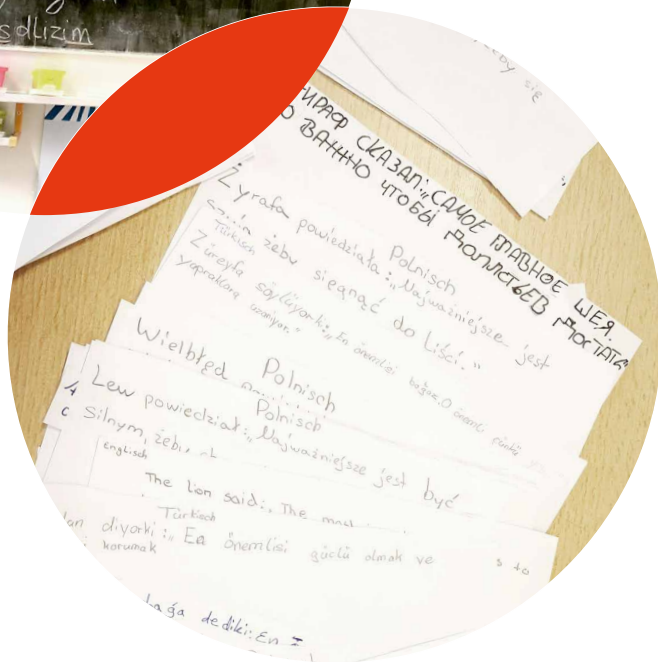
Translations for a multilingual
picture book

As part of the participative transfer process, teachers developed ideas and specific plans for organising their schools and lessons. Changing attitudes and perceptions led to the development of school cultures that are more open to multilingualism.

This development, however, is limited by structural conditions. The teachers remain aware of the fact that educational success for all pupils relies on mastery of the German language.

What does this mean for educational practice?
School and lesson development in the field of multilingualism require time and cooperation. Each school can increase awareness of multilingualism among its various actors — staff, parents and pupils — and establish its own priorities and strategies for the use of multilingualism in learning and teaching. The MIKS project was carried out in primary schools, but the concept can and will be transferred to secondary schools. The basis for new and positive teaching experiences in the project schools showed the following characteristics:

- Courage to engage in something new and to deal with uncertainty,
- Collaboration with parents,
- Interest in and openness to the children's linguistics experiences.

The teachers who participated in MIKS tested a total of 163 practical approaches to multilingualism at school. A number of practical approaches and experiences can be found at our website *www.ew.uni-hamburg.de/miks*.

Project publications

S. Fürstenau, Y. Çelik & S. Plöger (2020). "Language comparison as an inclusive translanguaging strategy. Analysis of a multilingual teaching situation in a German primary school classroom". In: J. A. Panagiotopoulou, L. Rosen & J. Strzykala (Eds.) *Inclusion, Education, and Translanguaging: How to Promote Social Justice in (Teacher) Education?* Wiesbaden: Springer, pp. 145–162.

S. Fürstenau (2019). "Mehrsprachige Schriftkultur. Wie Grundschulklassen aus ihrem Repertoire schöpfen können". In: *Die Grundschulzeitschrift*, Nr. 317, 2–7.

S. Fürstenau (2019). "Mit Sprachen hantieren. M. Dehn im Gespräch mit S. Fürstenau". In: *Die Grundschulzeitschrift*, Nr. 315, 50–53.

P. Gilham & S. Fürstenau (2019). "The relationship between teachers' language experience and their inclusion of pupils' home languages in school life". In: *Language and Education.* DOI 10.1080/09500782.2019.1668008.

I. Lange (2020). "Mehrsprachigkeit als Handlungsfeld Interkultureller Schulentwicklung (MIKS). Einblicke in Erfahrungen mit dem Einbezug von migrationsbedingter Mehrsprachigkeit in Grundschulen". In: *Diskurs Kindheits- und Jugendforschung,* Heft 1/2020, 103–108, https://doi.org/10.3224/diskurs.v15i1.08

I. Lange (2019). "MIKS — ein inklusives Professionalisierungs- und Schulentwicklungskonzept im Handlungsfeld Mehrsprachigkeit". In: *QfI — Qualifizierung für Inklusion,* 1 (1). DOI 10.21248/QfI.20

A. Ticheloven, T. Schwenke-Lam & S. Fürstenau (2020). "Multilingual Teaching Practices in German Primary Classrooms: Language Comparisons". In: C. Kirsch & J. Duarte (Eds.) *Multilingual approaches for teaching and learning. From acknowledging to capitalising on multilingualism in European mainstream education.* Abingdon: Routledge.

MuM-Multi

Fostering language in multilingual mathematics class-rooms — efficacy and effects of mono- and bilingual interventions

Institution
TU Dortmund,
University of Hamburg

Project duration
September 2014 –
September 2017

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Introduction

Tests often reveal disparities in mathematics achievement between monolingual and multilingual adolescents. The languages of multilingual pupils thus appear to matter to subject lessons such as mathematics. This project aims to investigate and understand the role of multilingual repertoires for subject-related learning. Demands to consistently utilise pupils' multilingual resources for learning are often repeated. But how can such demands be realised in the concrete practices of classroom interaction? And which conditions for successful multilingual learning/teaching ought to be considered?

Other studies reveal correlations between multi-lingual competences and subject achievement as well as transfer from one language to another. This research project goes beyond existing findings by focusing on actual multilingual teaching and learning processes. For this purpose, monolingual German and bilingual Turkish-German content-and-language-integrated interventions were conducted among 7th grade pupils. The interventions sought to investigate how conceptual understanding and language practices can be integrated and what impact multilingual resources might have on conceptual understanding. Two research questions guided the comparison between the monolingual and the bilingual interventions on their understanding of fractions in mathematics:

- Does learning (for the conceptual understanding of fractions) differ between the monolingual, bilingual and control group over the course of the intervention?
- In which situational circumstances are particular languages deployed for mathematical learning?

What was investigated and how?

Taking a mixed-methods approach, a randomised control trial was combined with qualitative video analysis of bilingual teaching and learning processes. The sample consisted of 128 Turkish-German 7th graders with relatively weak grades in mathematics.

Monolingual and bilingual interventions for the conceptual understanding of fractions were compared. The quantitative analysis, based on the

dependent variable of conceptual understanding of fractions, measured the effectiveness of the interventions. Control variables included language proficiency in German and Turkish, migration background, socioeconomic status, and general cognitive abilities.

The qualitative analysis investigated the situational effects of bilingual instruction, videotaped during the interventions. Cases were contrasted and compared by linguistic and mathematics-specific epistemic analytical procedures.

Results

The quantitative analysis showed the following:

1. Pupils' multilingual resources can be activated for learning (even as late as 7th grade);
2. On average, increases in mathematical learning in the bilingual intervention were comparable with those of the monolingual intervention. Bilingual teaching does not limit mathematical learning, even when initiated in 7th grade;
3. Students with high proficiency in Turkish profited significantly more from the bilingual intervention than those from the monolingual intervention. Effectiveness must thus be assessed differentially;
4. The more learners use and mix all of their languages, the more they profited from the bilingual intervention. That is to say, the amount of Turkish used (including in code-switching) is relative to increases in learning.

Figure 1: Can thinks about how he does fractions in his head in Turkish (in Turkish and German)

Figure 2: Fractions exercises in German and Turkish

The quantitative findings (Schüler-Meyer et al., 2019 a, b) are further supported by the qualitative analyses (Redder, 2018; Wagner et al., 2018; Kuzu & Prediger, 2017):

5. Different strategies could be identified for teachers and pupils concerning the activation of multilingual resources for subject-specific learning. Only some of these strategies were shown to support learning in mathematics. This suggests that the ways in which multilingual learning opportunities are realised are crucial to learning success;

6. Relating languages and registers appears to be most relevant for conceptual development. When the bilingual-connective mode is adopted, conceptual development seems to deepen. This happens especially in phases of consolidation.

This research thus contributes to theory development regarding multilingual action-competence in subject-specific learning processes.

What does this mean for educational practice?

While this project addresses fundamental research on multilingual resources for learning, important consequences for classroom practices can also be inferred:

- The activation of multilingual resources for subject-specific learning can begin at all ages, even as late as 7th grade;
- The better the home-language proficiency, the more the pupils can profit from multilingual learning opportunities. Home languages should therefore be developed to an academic degree.

- Pupils can use their home languages to build a deep and highly connected understanding of subject-specific concepts and to link them to everyday experiences. This may also occur when the teacher does not speak the home language as phases of consolidation are crucial. So, small group work should be encouraged to use mixed modes.
- Mixed language modes should not be considered improper, but as relevant learning opportunities as they seem to support knowledge connections.

A maxim for educational practice:
Do not worry about language-mixing and code-switching! Both have been shown to support mathematical learning!

References & project publications

A. Redder, M. Cellikol, J. Wagner & J. Rehbein (2018). "Mehrsprachiges Handeln im Mathematikunterricht". Münster: Waxmann.

A. Schüler-Meyer, S. Prediger, T. Kuzu, L. Wessel & A. Redder (2019). "Is Formal Language Proficiency in the Home Language Required to Profit from a Bilingual Teaching Intervention in Mathematics?" In: *International Journal of Science and Mathematics Education*. doi: 10.1007 / s 107 63-017-98 57-8

A. Schüler-Meyer, S. Prediger, J. Wagner & H. Weinert (2019). "Bedingungen für zweisprachige Lernangebote — Video-basierte Analysen zu Nutzung und Wirksamkeit einer Förderung zu Brüchen. In: *Psychologie in Erziehung und Unterricht* [S. l.], 161–175.

J. Wagner, T. Kuzu, A. Redder & S. Prediger (2018). "Vernetzung von Sprachen und Darstellungen in einer mehrsprachigen Matheförderung — linguistische und mathematik-didaktische Fallanalysen." In: *Fachsprache — International Journal of Specialized Communication*, 40 (1–2), 2–23. http://doi.org/10.24989/fs.v40i1-2.1600

MuM-Multi II

*Fostering language in multilingual mathematics classrooms —
multilingual strategies of residents and newly arrived
emergent bilinguals*

Institution
TU Dortmund,
University of Hamburg

Project duration
October 2017 –
September 2020

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Kuzu, Dr. Frank Sprütten,
Dr. Arne Krause, Dr. Henrike
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Introduction

Educational demands to build upon students' multilingual resources for (non-language) subject matter learning has gained in relevance due to the high number of newly arrived immigrants in Germany. Yet little is known on how such demands may be realised in linguistically diverse subject matter classrooms. In particular, few empirical studies have investigated how the integration of students' multilingual resources can support their conceptual understanding of a given topic.

To reduce this research gap, the project *MuM-Multi II* aimed to develop and investigate instructional approaches for the inclusion of multilingual resources in mathematics classrooms. It builds on the previous project *MuM-Multi I* by focusing on the importance of and conditions for successful multilingual discourses for mathematical-conceptual understanding processes in Grade 7. The target group was expanded in order to capture more typical patterns of language diversity – whereas *MuM-Multi I* concentrated on teaching experiments with German-Turkish speakers, *MuM-Multi II* further investigated bilingual

teaching experiments with newly arrived Arabic speakers from Syria in Germany and Spanish-German-speaking students from a German school in Colombia. These three target groups cover different multilingual constellations found in typical linguistically diverse classrooms.

This interdisciplinary project, a collaboration between mathematics education and linguistics researchers, investigated how students can make use of their multilingual repertoires and experimented with teaching approaches for the multilingual mathematics classroom.

What was investigated and how?

Mum-Multi II was structured in three working areas:

A. (Re-)analysis of performance and background data of newly arrived students

B. Initiation and investigation of bilingual teaching learning processes in small groups with shared bilingualism

C. Initiation and investigation of multilingual teaching/learning processes in regular classrooms with non-shared multilingualism

In *Working Area* **A**, written tests were administered.

In *Working Area* **B**, bilingual design experiments with homogenous small groups were conducted across three different bilingual constellations: (a) n = 7 bilingual Spanish-speaking learners of German as a foreign language (Colombian students in German school) and (b) n = 21 newly arrived Arabic-speaking beginner learners of German (Syrian refugees in school in Germany) were compared with (c) data from MuM-Multi I representing n = 41 native resident multilinguals (German students of Turkish heritage in school in Germany). All participants had German as their non-dominant language. The empirical findings from Working Areas **A** and **B** provided the explanatory framework for designing instructional approaches for linguistically diverse subject classrooms.

In *Working Area* **C**, instructional approaches for whole-class teaching were designed and investigated over four design experiment cycles, in four different classes and teaching units of 5–13 lessons. In this way, the design principles and elements could thereby be iteratively developed and refined.

Results

The major findings in Working Areas **A** and **B** concern the students' immense heterogeneity, not only between the three bilingual constellations ((a) — (c)), but also within the group of newly arrived students. Considerable heterogeneity was not only apparent with respect to German-language proficiency, but also regarding mathematical performance and processes.

The written tests completed by new immigrants in Working Area **A** showed massive differences in both, mathematical performance and familiarity with multimodal (i.e. symbolic, graphical, contextual and textual) representations, which cannot be explained by school attendance alone (Sprütten & Prediger, 2019).

The qualitative analysis of students' processes of meaning-making in Working Area **B** revealed enormous differences between the three multilingual constellations (Krause et al., submitted) and the students' multilingual resources within the respective constellations (Uribe & Prediger, submitted). These resources are conceptualised as the students' *multilingual repertoire-in-use*, characterised by (a) the linguistic and mental use of languages (in the sense of linguistic means, purpose and structures), of (functionally specific) *registers* and multimodal *representations*, where these are tools in meaning-making processes, and (b) the connection processes between these communicative means (Uribe & Prediger, submitted). How students connect language and representations not only depends on their individual abilities, but also on culturally established classroom practices. For example, because graphical representations do not play a major role in Syrian classrooms, those students rarely activated them in argumentation, whereas this is expected in German classroom culture.

Since bilingual connnection modes have proven to be highly relevant for subject-related comprehension processes (Redder et al., 2018; Prediger et al., 2019a), heterogeneous multilingual repertoires-in-use must

be taken into account in instructional design. Additionally, instructional approaches should explicitly scaffold students' connection processes between languages, while taking into account students' diverse familiarities with different representations.

Working Area **C** makes use of these explanatory findings, as well as those from MuM-Multi I, for the development of different bilingual teaching-learning formats (Krause et al., in prep.) and teaching strategies (Redder et al., 2018). The design principle of connecting multiple registers and representations can be enhanced by connecting different languages. In classrooms with non-shared multilingualism, teachers can ask the students to express their ideas in multiple languages and to translate key phrases for the meaning-making process. Comparing phrases in different languages proved to be a fruitful approach to activating mulitilingual resources for conceptual understanding (Redder, 2019; Prediger et al., 2019a). Multilingual action thus enriches professional knowledge and understanding, not only for receptive but also for productive use (Redder et al., in press, Uribe & Prediger, submitted).

Overall, in the course of testing multilingual instructional approaches, it could be shown that connections can be made from heterogeneous repertoires, and this is moreover possible in classrooms with non-shared multilingualism.

What does this mean for educational practice?
The ongoing analyses already reveal implications for educational practice (Prediger & Uribe, in press):

- For all three bilingual constellations investigated (German-Turkish speakers from Germany, Arabic-speaking immigrants newly arrived in Germany and Spanish-speaking students learning German as a foreign language at a German school in Colombia), multilingual teaching-learning formats are beneficial for the subject-related comprehension processes. This is especially the case for recently arrived immigrants with their newly acquired knowledge of German and strong role for the family language.
- In addition to team teaching and peer teaching, co-teaching with different languages has proven to be a fruitful format in fostering multilingual approaches.
- Aside from group work, multilingual repertories can best be used for learning in phases of consolidation. In addition, multilingual repetition phases may serve as suitable preparation for the introduction of new subject content.
- Design experiments in heterogeneous classrooms show that students who otherwise do not participate in mathematics become discursively active in multilingual groups, also contributing to whole-class progress in German.

The box below details a practice-proven approach for long-term professional development in schools.

Although the outcomes and implications described here emerged from a carefully designed research environment, together with highly qualified teachers and intensively prepared materials, they can be transferred step by step to regular classrooms.

References & project publications

A. Krause, J. Wagner, M. Çelikkol, A. Redder, & S. Prediger (submitted). "New migrants, new challenges? — Activating multi-lingual resources for understanding mathematics: institutional and interactional requirements".

A. Krause, J. Wagner, A. Uribe, A. Redder, & S. Prediger (in prep.). "Mehrsprachige Lehr-Lern-Formate — linguistische und mathematikdidaktische Beiträge zur Modellierung in sprachheterogenen Regelklassen".

S. Prediger, T. Kuzu, A. Schüler-Meyer, & J. Wagner (2019a). "One mind, two languages — separate conceptualisations? A case study of students' bilingual modes for dealing with language-related conceptualisations of fractions". In: *Research in Mathematics Education*, 21(2), 188–207. doi:10.1080/14794802.2019.1602561

S. Prediger & Á. Uribe (in press). "Exploiting the epistemic role of multilingual resources in superdiverse mathematics classrooms: Design principles and insights into students' learning processes". In: A. Fritz, M. Herzog, & E. Gürsoy (Eds.) *Diversity Dimensions in Mathematics and Language Learning: Perspectives on Culture, Education and Multilingualism*. Berlin: De Gruyter / Mouton.

S. Prediger, Á. Uribe, & T. Kuzu (2019b). "Mehrsprachigkeit als Ressource im Fachunterricht — Ansätze und Hintergründe aus dem Mathematikunterricht". In: *Lernende Schule*, 86, 20–24.

F. Sprütten & S. Prediger (2019). "Wie hängen die Mathematikleistungen von Neuzugewanderten mit Herkunftsregion und Schulbesuchsdauer zusammen? Ergebnisse eines sprachentlasteten Tests". In: *Mathematica Didactica*, 42(2), 147–161.

A. Redder (2019). "Sprachlich-mentale Fachkonzepte als interkulturelle Herausforderung: Zum Beispiel Arabisch und Türkisch relativ zum Deutschen". In: *Der Deutschunterricht*, 71(3), 86–94.

A. Redder, M. Çelikkol, A. Krause & J. Wagner (in press). "Sprachliches Denken in Bewegung — mathematisches Lernen arabisch-deutsch-türkisch". In: C. Hohenstein & A. Hornung (Eds.) *Sprache und Sprachen in Institutionen und mehrsprachigen Gesellschaften*. Münster: Waxmann.

Á. Uribe & S. Prediger (submitted). "Multilingual students' repertoires-in-use for meaning-making: Contrasting case studies in three multilingual constellations".

Developmental steps toward multilingual subject teaching

Allow languages	1. Allow family languages during group and pair work, but conduct whole-class discussions in the language of schooling (*Change in language production according to activity*)
Encourage languages	2. Integrate other, everyday cultural experiences (*Cultural embedding of multilingualism*)
	3. Compare languages for specific concepts (*Multilingualism as an occasion for language and concept reflection, also for monolinguals and groups with non-shared multilingualism*)
	4. Systematically relate different languages, registers and representations (*Multilingual languaging*)
	5. Utilise monolingual teaching material in the language of schooling to help make connections between languages (*Stimulating connective bilingual modes*)
Offer languages	6. Introduce multilingual teaching material (*Simultaneous multilingualism in language reception, difficult to realise with multiple languages*)
	7. Multilingual language production (with flexible linking of languages) by teachers and learners for more versatile explanations of subject content (*Simultaneous multilingualism in language production, only for multilingual teachers or in peer-learning situations*)

Table 1: A practice-proven approach for long-term professional development in schools (Prediger, Uribe & Kuzu, 2019a; slightly adapted by Redder et al., in press)

Russian and Polish heritage languages as a resource in the classroom

Investigating the role of school and family contexts for the use of heritage languages by students with a migration background

Institution
University of Greifswald,
University of Leipzig

Project duration
October 2013 –
September 2016

Team
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Martin Winski,
Maria Yastrebova

Introduction

The objective of this project was to analyse the language proficiencies and use among adolescents from Russian- and Polish-speaking families in Germany. The main research interests of the project were to determine:

1. proficiency levels in the heritage language (Russian or Polish) and in German
2. the role of parental input for the development of proficiency in both languages
3. language use and attitudes within the families
4. the potentials of multilingualism as perceived by the adolescents and their parents

What was investigated and how?

A total of 45 adolescents living in Berlin, Hamburg and Leipzig, along with one parent, were tested in two waves (2014 and 2015) regarding their skills in the heritage language (Russian or Polish) and German. The skills tested included listening and reading comprehension, writing, speaking and language mediation, orthography, pronunciation, grammar and lexis. It was thereby possible to evaluate the adoles-cents' proficiencies and their development during the process of language acquisition. The adolescents and their parents also answered questions concerning their personal language learning biography, language attitudes, family language policies and their use of the heritage language in everyday life. It was thus also possible to evaluate the quantity and quality of parental input in their children's language development and the effect that this may have on proficiency levels.

Results

Adolescents from both language groups (Polish/Russian) showed well-established and well-balanced competences in German. In their heritage language, however, they exhibited a considerable degree of variation in the tested skills, especially with regard to written registers. The strongest results were achieved in oral proficiencies in the respective heritage language, including listening comprehension, with some speaking without an accent. This could also be confirmed by the adolescents' and their parents' personal assessments. In German,

Mother and daughter working on a map task

the adolescents achieved a speaking rate twice as high and a greater reading accuracy compared with the corresponding results in the relative heritage language. The difference in proficiency levels between German and the heritage language became even more apparent in the written tasks. The adolescents used fewer target-like or pragmatically adequate forms in their heritage language; the produced texts were shorter and less elaborate than in German, and displayed orthographic problems. Lexical competence in the heritage language was stronger among those adolescents who speak Russian/Polish in their families and had received formal instruction in the heritage language.

Parental input proved to be an important factor for heritage language development, although this was not the case for the German language. Comparing the quantitative with the qualitative data allows for interesting insights into the commonalities regarding Polish and Russian heritage language acquisition and maintenance, as well as differences connected with the places of residence of the respective families.

Most of the study participants can be classified as being from well-educated families. Most of the mothers surveyed were undertaking systematic efforts to maintain their children's heritage language. However, awareness of factors relating to language maintenance, including their own ability to influence their children in this regard, varied widely within the group. This could be seen in the families' different discourse strategies and language policies. In the interviews, the parents confirmed that their children often act as language mediators in everyday life; in doing so, they experience self-efficacy and increased appreciation of their multilingual competences. It also became apparent that parental persuasion coupled with perseverance and effort on the part of the adolescents is necessary to attain the goal of regular attendance at additional heritage language classes.

Shelf of a 13-year-old teenager with books in German and Russian

What does this mean for educational practice?

We identified some of the contributing factors to both adolescents' and parents' positive perceptions of their heritage language and the potential that they associate with knowledge of the language. The adolescents who had received formal heritage language instruction appear to benefit especially with regard to literacy skills, and could also perceive their learning progress.

However, the potential of heritage language knowledge is not always recognised in mainstream school settings where the adolescents' multilingualism rarely comes into play (we noted here only a few positive exceptions). Some of the adolescents were convinced that their teachers did not actually know that they speak another language alongside German. On average, the participants were able to name a significantly higher number of parallels between their languages in comparison with the teachers who were interviewed as part of the project. Although the adolescents are made aware of the risk of interferences from German during Polish- and Russian-language classes, 'language comparison' is not exploited as the teachers strive to establish a monolingual teaching ideology in the heritage language classroom. The results of this study may serve as a starting point for determining linguistic properties that should be dealt with to a greater extent in heritage language education and should be included in a yet-to-be developed didactic programme for the teaching of heritage languages.

The cooperation between the two teams within the project allowed for the development of innovative instruments that illustrate and document the benefits of multilingualism especially well, and that should receive particular consideration when expanding the potential of multilingualism within the framework of systematic teaching of the heritage language.

Project publications

B. Brehmer (2016). "Bestimmung des Sprachstands in einer Herkunftssprache: Ein Vergleich verschiedener Testverfahren am Beispiel des Polnischen als Herkunftssprache in Deutschland." In: *Glottodidactica: An International Journal of Applied Linguistics* XLIII, 39–52.

B. Brehmer & T. Kurbangulova (2017). "Lost in Transmission? Family language input and its role for the development of Russian as a heritage language in Germany." In: L. Isurin & C.-M. Riehl (eds.) *Integration, Identity and Language maintenance in Young Immigrants: Russian Germans or German Russians.* Amsterdam: John Benjamins.

B. Brehmer & G. Mehlhorn (2015). "Russisch als Herkunftssprache in Deutschland. Ein holistischer Ansatz zur Erforschung des Potenzials von Herkunftssprachen". In: *Zeitschrift für Fremdsprachenforschung* 26 / 1, 85–123.

G. Mehlhorn (2015). "Die Herkunftssprache Polnisch aus der Sicht von mehrsprachigen Jugendlichen, ihren Eltern und Lehrenden". In: *Fremdsprachen Lehren und Lernen* 44 / 2, 60–72.

G. Mehlhorn (2016). "Herkunftssprecher im Russischunterricht. Sprachliches Vorwissen als Ressource." In: *PRAXIS Fremdsprachenunterricht* 5 / 2016, 10–11.

Language awareness and multilingualism

Developing resource-oriented didactics for heritage- and foreign-language education with the example of Russian and Polish heritage speakers

Institution
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Project duration
January 2017 –
December 2019

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Introduction

Based on the language skills and learning needs of the Russian- and Polish-speaking adolescents in the preceding study, the project team in Leipzig aimed to develop didactic approaches for heritage-language instruction. Particular consideration was given to how these adolescents can capitalise on their existing linguistic resources and meta-skills (language awareness and language learning strategies) in acquiring additional languages.

The project team in Greifswald continued to investigate the language skills of the adolescents in order to gain insights into their long-term language development. An additional focus was on whether heritage-language speakers have a generally higher level of language awareness when compared with foreign-language learners from a monolingual background. If so, we hypothesise that this should make it easier for them to recognise structures of not-yet-learned languages, i.e. when building new linguistic knowledge.

What was investigated and how?

We conducted observations in foreign- and heritage-language classes where we focused on the role of differentiation and awareness-raising processes in language instruction. In close cooperation with teachers of Russian and Polish, we prepared internally differentiated teaching units, which were implemented by the team. After these lessons, we reflected upon them together with the teachers and students. In doing so, we empirically tested exercises which are proposed in textbooks for differentiating between different learner groups as well as various formats for differentiation, e.g. working with reading diaries or revising written texts, using differentiated worksheets, cooperative forms of learning or learning by teaching.

At the same time, we continued to investigate participants' skills in the respective heritage language (reading and listening comprehension, writing, speaking, vocabulary, pronunciation, grammar) by using slightly modified instruments from the previous project. In order to test language awareness, we developed tasks in which the participants were to

detect and classify structures of the heritage language. Other tasks sought to activate knowledge from the heritage language as well as other previously learned languages for text comprehension and determining grammatical regularities in languages not previously learned by the participants (Swedish, Serbian, Turkish).

Results

1. An important principle of teaching heterogeneous groups is internal differentiation, i.e. the modification of methods, materials and learning activities in a flexible way so that learners with different proficiency levels may be optimally supported. Internal differentiation between foreign- and heritage-language learners can be implemented easily where there are connecting elements — e.g. a common topic — on which the whole group of learners can work; at the same time, the level of difficulty, scope and amount of help for individual learners can be varied or modified. Once these measures are implemented, the different results can be brought together again on the content level and formative feedback given. This procedure requires a great deal of preparation. Further prerequisites for successful differentiation include the willingness to teach in a way that allows for different targets to be reached, as well as good diagnosis of learner proficiency levels.

2. Our investigations showed steady improvement in heritage-language proficiencies; any stagnation in language skills occurred at a high level of proficiency. In addition, the participants displayed generally high, but mostly implicit, knowledge of the examined structures in the heritage language. While these results cannot be generalised, they do indicate that in families with a high awareness of the benefits of heritage languages, and who avail of institutional support, it is possible to continuously expand the skills in the heritage language.

3. Grammar-oriented methods and materials in language teaching, which were originally designed for foreign-language learners, require explicit knowledge of the language and experience in learning language as a formal system. They are therefore less suited to heritage speakers who have mostly acquired their heritage language implicitly and in a natural setting. It is therefore difficult for heritage-language learners to use intuitive grammatical knowledge when acquiring new linguistic structures. This result was confirmed in tasks where the participants were to draw on knowledge

Figure 1: A greeting card written in Russian by a heritage language learner
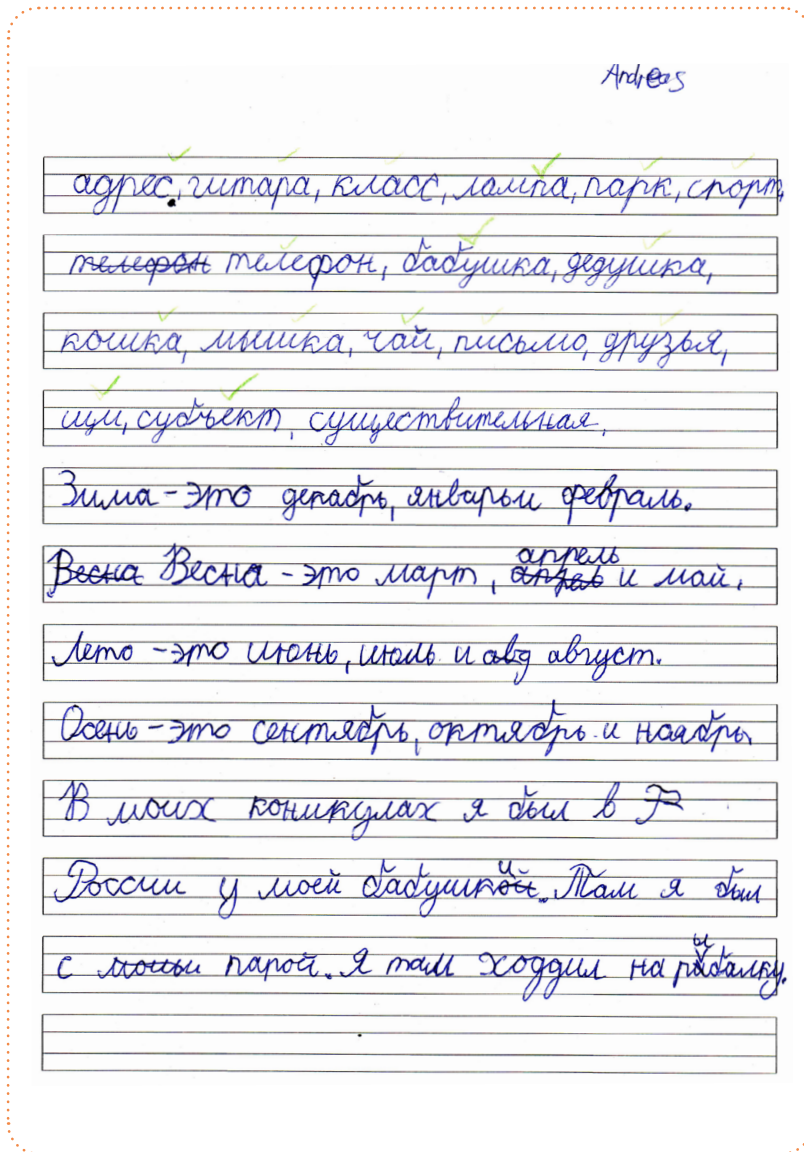
Figure 2: Writing exercises by a 6th-grade learner who recently acquired the Cyrillic script

of their heritage language in order to decode structures of languages they had not (yet) learned. Our analysis revealed that they hardly used their heritage language as a resource in solving these tasks. Such learners would therefore benefit from content-based language teaching which implements awareness-raising processes to focus on the meaning and function of linguistic elements in a particular context. In this way, learners can perceive grammar as a means of constructing meaning.

What does this mean for educational practice?
The project has been able to determine factors that play an important role in the long-term preservation of heritage-language skills. Heritage-language instruction can contribute to language maintenance if it is attended continuously over many years with the highest possible degree of weekly input and where supported by intensive use of the heritage language in the family from birth. Language attitudes in the family are very important for identity formation and language attitudes of children themselves. The more indifferent the parents' attitudes towards preserving the heritage language and culture, the less effort the children invest in maintaining or even expanding their knowledge of the heritage language. Attitudes may be influenced by the perceived prestige and practical value of the heritage language in Germany as well as by individual aspirations for the future. Despite very high proficiency in the heritage language, the participants rarely use it as a cognitive or linguistic resource for learning. We therefore call for methodological and didactic measures which may

heighten awareness of the heritage language as a linguistic resource (for example, when acquiring other languages). Such measures ought to enable more systematic access to previous linguistic knowledge possessed by the adolescents. The interventions carried out as part of this project, which resulted in instruction manuals with best practice examples, as well as the implementation of similar scenarios in teacher training courses, can motivate teachers to use such approaches in their own teaching practice.

Project publications

B. Brehmer & G. Mehlhorn (2018). *Herkunftssprachen*. Tübingen: Narr.

B. Brehmer & G. Mehlhorn (2018). "Unterricht in den Herkunftssprachen Russisch und Polnisch: Einstellungen und Effekte". In: G. Mehlhorn & B. Brehmer (Eds.) *Potenziale von Herkunftssprachen: Sprachliche und außersprachliche Einflussfaktoren*. Tübingen: Stauffenburg, pp. 259–292.

G. Mehlhorn (2019). "Differenzierung im Russischunterricht — Einblicke in ein Aktionsforschungsprojekt". In: A. Drackert & K. B. Karl (Eds.) *Didaktik der slawischen Sprachen*. Innsbruck University Press, pp. 203–234 (online).

G. Mehlhorn, K. M. Rutzen & E. Krauss (2020). "Gelebte Mehrsprachigkeit in russisch- und polnischsprachigen Familien in Deutschland. Eine longitudinale Betrachtung". In: *Zeitschrift für Interkulturellen Fremdsprachenunterricht* 25/1, 27–52 (online).

SchriFT

Writing skills in lower secondary school and the involvement of Turkish — An empirical study on the effects of promoting writing skills in subject lessons and in the heritage language Turkish

Institution

University of Duisburg-Essen

Project duration

October 2014 – Sept. 2017

Team

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Introduction

Subject-specific writing (such as writing up experiments in science class) is a central aspect of language-sensitive teaching, as it is in the writing process that subject content is directly dealt with. This project investigates the interrelation between subject-based skills and writing skills in academic German and in the heritage language Turkish in view of overall biliteracy development. Innovative and interdisciplinary cooperation between the research disciplines German as a Second Language, social and natural science didactics and Turkish studies enables a comprehensive examination of subject-specific and language educational concepts.

What was investigated and how?

This study analyses linguistic-cognitive approaches (e.g. describing or explaining) and the functionally appropriate linguistic means of expression in texts produced by students in class. The text types explored in this project are: the experimental protocol in physics, technical analyses in technology, historical judgement in history, and diagram description in politics.

Test instruments	Measured abilities/characteristics
Writing task in technology, physics, history and politics — technical and linguistic analysis based on a category system	Subject-specific and linguistic writing skills in technology, physics, history and politics
Writing tasks in German and Turkish lessons — content and language analysis based on a category system	Academic language writing skills in German and Turkish
C-Test in German and Turkish	General language skills in German and Turkish
Knowledge test in technology, physics, history and politics	Subject knowledge in technology, physics, history and politics
Questionnaire in German and Turkish lessons	Socio-economic, linguistic and demographic background data

Table 1: Test instruments used and skills measured

Data from 1,718 students in 7th and 8th grade were collected in accordance with the parameters outlined in Table 1.

In the quantitative part of the study (see Figure 1), connections between texts from German lessons and subject lessons were examined. If 7th- and 8th-grade pupils transfer text-specific competences from German to subject lessons, does this occur more in the case of descriptive texts or in graphics? Furthermore, the connection between language and subject learning was examined. A leading question was whether pupils with a higher level of language skills also showed higher levels of subject knowledge. Additionally, interlingual effects among Turkish-speaking pupils who attend lessons in the heritage language were investigated. The focus here was on linguistic-cognitive text features (e.g. text structure or perspective-taking).

In the qualitative part of the study (see Figure 2), teaching and learning materials were developed on the basis of the quantitative findings for coordinated, genre-specific writing for the four subjects (history, physics, politics and technology) as well as Turkish heritage language lessons. A qualitative model review took place for the subjects history, physics and Turkish as heritage language.

Using approaches from multilingual support and scaffolding, the pupils independently produced texts pertinent to the subjects history, physics and heritage language lessons (Enli, 2015; Metropolitan East Disadvantaged Schools Programme, 1989) in three phases (deconstruction – joint construction – independent construction). This genre-based support for

Study design to model connections between language skills and subject knowledge

26 schools — 82 study groups — 1,718 students (360 with Turkish as heritage language)

Language proficiency Turkish

1. Writing tasks for recording general writing skills

2. C-Test for the detection of general language proficiency

Language proficiency German

1. Writing tasks for recording general writing skills

2. C-Test for the detection of general language proficiency

Subject

Expertise tests in the subjects physics, technology, history and politics

Technical

Writing tasks in subject-specific types of text:

Physics: Test protocol

Technique: Technical analysis

History: Historical judgement

Politics: Chart description

Control variables

Cognitive abilities

Socio-economic status

Point of German acquisition

Figure 1: Study design

2 study groups

Group 1: History, Physics

Group 2: History, Physics, Turkish

Genre Cycle

• Work on model text
• Elaboration of the function of linguistic means in text specific writing

• Joint reconstruction
• Adaptation of linguistic means

• Independent construction
• Application of linguistic means in writing

Support for genre-based writing (Turkish **not** included)

Support for genre-based writing (Turkish included)

Pre-tests
• Teacher questionaire
• Initial survey of pupils

Explorative lesson analyses
• Video observation of lessons
• Genre-based writing samples

Post-tests
• Group discussion with teachers and pupils
• Final survey of pupils

Figure 2: Feasibility study design

writing thereby included the demonstration and application of both linguistic and textual particularities. For the writing task in Turkish heritage language lessons, academic language texts were chosen as their features are also relevant to other subjects. The writing task for Turkish as heritage language was conducted prior to the other writing tasks in order to observe whether multilingual resources could be activated in subject teaching.

In line with the translanguaging approach (Roll, Gürsoy, & Boubakri, 2016), pupils were encouraged to use both languages during the group work phases. As the project concluded, group discussions were held with both pupils and teachers to obtain feedback on the materials used in the study and the writing intervention itself. It was revealed that some Turkish-speaking pupils used some of the linguistic structures acquired in heritage language lessons in writing in subject lessons.

Findings

For history, politics and technology, correlations between the scales for subject-specific and linguistic writing skills could be observed (see Figure 3). In all subjects there were high, positive correlations between academic and linguistic achievements in the texts produced by the participating pupils. The more students deploy the necessary linguistic means for subject-specific text types, the higher the subject-specific correctness of those texts. In addition, medium to high correlations are also shown for subject knowledge as well as interdisciplinary textual competence in German. Connections between subject knowledge, subject-oriented language and academic language skills can be proven.

The evaluation of the group discussions with the German and Turkish-speaking pupils shows that, when coordination between heritage language and subject lessons takes place, knowledge transfer from one to the other is possible and awareness of the linguistic requirements of different types of texts increases. The Genre Cycle approach proved to be effective, as the pupils came to understand, with the help of a 'model text', the linguistic and textual particularities of writing in various subjects. Initial observations show that German/Turkish-speaking pupils compose longer texts in both German and Turkish, while taking greater account of the linguistic means required for subject-specific texts. For example, in the post-test, the passive voice used for writing up an experiment in physics was transferred to describing building instructions in Turkish (although emphasis in Turkish lessons lay on creating coherence in writing). In the pre-test, the same pupils seldom used the passive voice in Turkish, opting instead to address the reader directly. These qualitative results support the quantitative findings and indicate promising outcomes in terms of literacy development when subject and heritage language lessons are coordinated.
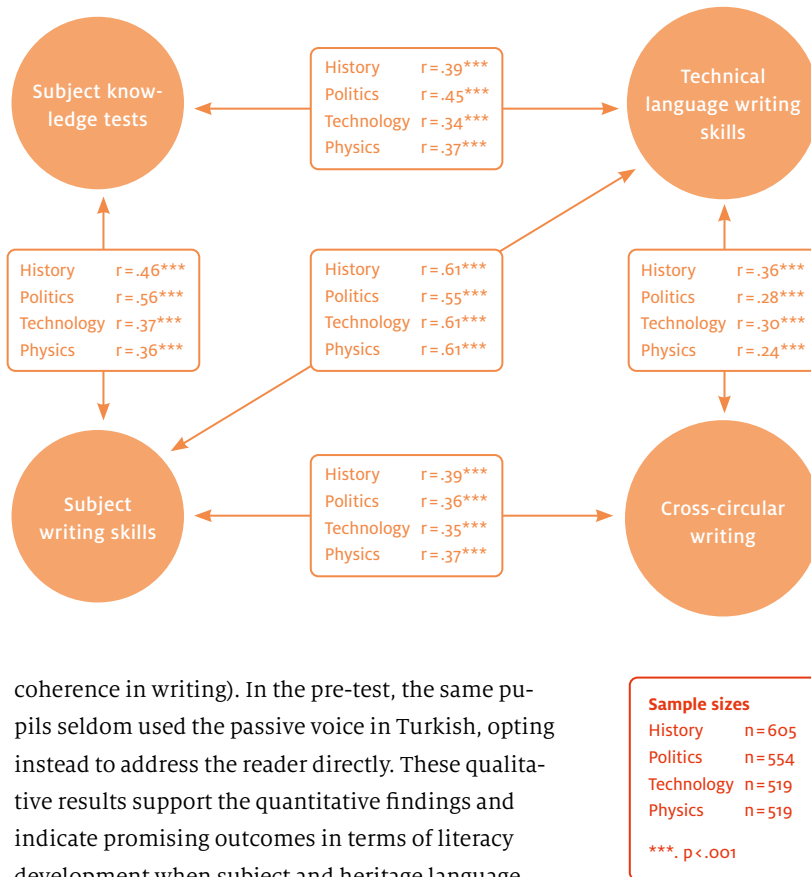
What does this mean for educational practice?

Language and subject-specific learning must be seen as two sides of the same coin. In order to create subject-specific texts, students require not only subject but also subject-oriented language knowledge. Text 'types' must thus be introduced to subject-oriented language education and taught explicitly in those lessons.

Subject knowledge tests

History	$r = .39^{***}$
Politics	$r = .45^{***}$
Technology	$r = .34^{***}$
Physics	$r = .37^{***}$

Technical language writing skills

History	$r = .46^{***}$
Politics	$r = .56^{***}$
Technology	$r = .37^{***}$
Physics	$r = .36^{***}$

History	$r = .61^{***}$
Politics	$r = .55^{***}$
Technology	$r = .61^{***}$
Physics	$r = .61^{***}$

History	$r = .36^{***}$
Politics	$r = .28^{***}$
Technology	$r = .30^{***}$
Physics	$r = .24^{***}$

Subject writing skills

History	$r = .39^{***}$
Politics	$r = .36^{***}$
Technology	$r = .35^{***}$
Physics	$r = .37^{***}$

Cross-circular writing

Sample sizes

History	n = 605
Politics	n = 554
Technology	n = 519
Physics	n = 519

$^{***}.\ p < .001$

Figure 3: correlations SchriFT I (Roll et al., 2019)

**Suggestions for coordinated language educa-
tion between heritage language lessons and all
subjects:**

1. Internal subject-specific considerations: Which
    language patterns are required in subject-spe-
    cific texts? What means need to be acquired to
    produce such texts?

2. Exchange with other subjects: Define common
    linguistic patterns, means and behaviours
    required in written texts.

3. Exchange between subject and heritage lan-
    guage teachers: Work out basic linguistic
    approaches in the heritage language that also
    prepare pupils for subject lessons.

The mediation and appropriation of linguistic means and behaviours in heritage language lessons can trigger cognitive thought processes that can be used in subject lessons. The coordination of linguistic and textual knowledge in the heritage language and in German, as well as the systematic coordination of heritage language with subject lessons, may also reduce inhibitions among German-Turkish bilingual pupils to use their heritage language as a resource for learning.

References:

L. Enli (2015). "Implementing Genre-Based Curriculum Cycle in Teaching Writing in Secondary School Settings". In: *Studies in Literature and Language*, 10(1), 47–50.

Metropolitan East Disadvantaged Schools Programm (1989). *The Discussion Genre*. Erskineville: The Department of Employment, Education and Training.

Project publications

N. Akkuş & J. Kaulvers (2019). "'In das Plastikbechern Kreis ausschneiden' — Instruktionstexte auf Deutsch und Türkisch". In: B. Ahrenholz, S. Jeuk, B. Lütke, J. Paetsch & H. Roll (Eds.). *Fachunterricht, Sprachbildung und Sprachkompetenzen. Berlin, Boston: de Gruyter*, pp. 237–258.

M. Beese & H. Roll (2015). "Textsorten im Fach — zur Förderung von Literalität im Sachfach in Schule und Lehrerbildung". In: C. Benholz, M. Frank & E. Gürsoy (Eds.) *Deutsch als Zweitsprache in allen Fächern — Konzepte für Lehrerbildung und Unterricht. Beiträge zu Sprachbildung und Mehrsprachigkeit aus dem Modellprojekt ProDaZ.* Stuttgart: Fillibach bei Klett, pp. 51–72.

M. Bernhardt & M.-C. Wickner (2015). "Die narrative Kompetenz vom Kopf auf die Füße stellen – Sprachliche Bildung als Konzept der universitären Geschichtslehrerausbildung." In: C. Benholz, M. Frank & E. Gürsoy (Eds.) *Deutsch als Zweitsprache in allen Fächern – Konzepte für Lehrerbildung und Unterricht. Beiträge zu Sprachbildung und Mehrsprachigkeit aus dem Modellprojekt ProDaZ.* Stuttgart: Fillibach bei Klett, pp. 281–296.

C. Boubakri, H. Krabbe & H. E. Fischer (2018). "Schreiben im Physikunterricht anhand der Textsorte Versuchsprotokoll – Eine empirische Studie zu den Einflussgrößen auf die Schreibfähigkeit im Physikunterricht". In: C. Maurer (Ed.), *Qualitätsvoller Chemie – und Physikunterricht – normative und empirische Dimensionen. Gesellschaft für Didaktik der Chemie und Physik Jahrestagung in Regensburg.* Regensburg: Universität Regensburg, pp. 258–261. (Available at http://www.gdcp.de/images/tagungsbaende/GDCP_Band38.pdf)

D. Büttner & E. Gürsoy (2018). "Mehrsprachig-inklusive Sprachbildung: Ein (Zukunfts-) Modell". In: M. Gutzmann (Ed.) *Sprachen und Kulturen.* Frankfurt / Main: Grundschulverband, pp. 96–111.

C. Boubakri, M. Beese, H. Krabbe, H.-E. Fischer & H. Roll (2017). "Wie sprachliche Strukturen in Versuchsprotokollen in der Physics fachliches Lernen und experimentelle Kompetenz unterstützen." In: M. Becker-Mrotzek, H.-J. Roth (Eds.) *Sprachliche Bildung – Grundlagen und Handlungsfelder.* Münster: Waxmann, pp. 335–350.

E. Gürsoy & H. Roll (2018). "Schreiben und Mehrschriftlichkeit. Zur funktionalen und koordinierten Förderung einer mehrsprachigen Literalität". In: W. Griesshaber, H. Roll, S. Schmölzer-Eibinger & K. Schramm (Eds.) *Schreiben in der Zweitsprache Deutsch. Ein Handbuch.* Berlin: De Gruyter, pp. 350–364.

M. Lang (2015). "Förderung der fachspezifischen Schreibkompetenzen im Technologyunterricht". In: J. Menthe, D. Höttecke, T. Zabka, M. Hammann & M. Rothgangel (Eds.) *Befähigung zu gesellschaftlicher Teilhabe. Beiträge der fachdidaktischen Forschung.* Band 10. Münster: Waxmann-Verlag, pp. 81–94.

S. Manzel & Farina Nagel (2017). "'Links unten steht der Bundespräsident' – Sprachliche und fachliche Herausforderungen politischer Schaubilder mit ersten Resultsn aus dem BMBF-Projekt SchriFT". In: S. Manzel & C. Schelle (Eds.) *Empirische Forschung zur Politischen Bildung.* Wiesbaden: Springer Verlag, pp. 19–29.

H. Roll, M. Bernhardt, C. Enzenbach, H. E. Fischer, E. Gürsoy, H. Krabbe, M. Lang, S. Manzel & I. Uluçam-Wegmann (Eds.) (2019). "Schreiben im Fachunterricht der Sekundarstufe I unter Einbeziehung des Türkischen. Empirische Befunde aus den Fächern Geschichte, Physik, Technik, Politik, Deutsch und Türkisch". In: *Reihe Mehrsprachigkeit*, Bd. 48. Münster: Waxmann.

H. Roll, E. Gürsoy & C. Boubakri (2016). "Mehrsprachige Literalität fördern – ein Ansatz zur Koordinierung von Deutschunterricht und herkunftssprachlichem Türkischunterricht am Beispiel von Sachtexten." In: *Der Deutschunterricht.* 6, 57–67.

I. Uluçam-Wegmann, H. Roll & E. Gürsoy (2016). "Türkisch an der Ruhr. Zur Dynamik des deutsch-türkischsprachigen Sprachgebrauchs bei mehrsprachigen Schüler*innen im Ruhrgebiet". In: *UNIKATE* 49, 78–85.

M.-C. Wickner (2018). "So schließt sich der Kreis. Textsortenspezifische Schreibförderung im Geschichtsunterricht mit dem 'Genre Cycle'". In: *Geschichte lernen*, 31 (182), 49–56.

SchriFT II

Writing in subject-specific lower secondary education, with the inclusion of Turkish. An intervention study on the effectiveness of interdisciplinary and subject-specific writing support in cooperative learning settings

Institution

University of Duisburg-Essen
Ruhr-University Bochum

Project duration

October 2017 –
September 2020

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Introduction

The basic assumption remains that genre-based, epistemic writing, which systematically combines academic speech actions (i.e. how to describe, explain or justify in writing) with linguistic knowledge of expression, offers an effective method of promoting language and subject-integrated learning. Linguistic-cognitive speech actions offer the possibility of a multidisciplinary and cross-linguistically coordinated approach. The coordinated expansion of literacy skills, also in the heritage language, is conducive to — according to our hypothesis and following other findings in research on multilingualism — the development of comprehensive cognitive skills.

In the preceding project, the SchriFT model for supporting language and conceptual skills could be validated with regard to multidisciplinary, cross-linguistic, subject- and language-specific skills among mono- and multilingual pupils. The tests that we conducted indicated a medium correlation between technical language skills and subject knowledge in written texts for physics, technology, politics and history.

These findings suggest, and are accordingly taken up in *SchriFT II*, that the imparting and acquisition of subject-specific writing skills should take place in subject-specific lessons. The findings also show transfer effects at the linguistic level between subject-oriented language skills and interdisciplinary academic language skills in both German and Turkish. That such transfer effects can be proven serves as the basis for coordinated language support across the curriculum, and this was the central object of investigation in this follow-up project.

What was examined and how?

A quasi-experimental design, adapted to the participating schools, was conducted for all subjects (physics, technology, history, politics, German, Turkish) in 7th and 8th grade (see Figure 4).

The aim was to examine the effectiveness of writing support on writing skills in the subjects. Comparable writing tasks were administered in all subjects and in both languages, in which pupils had to describe, explain and justify (the three academic speech actions). These were embedded in situated

writing arrangements, structured according to the principles of scaffolding, i.e. with linguistic support measures. This research project is highly relevant to educational practice as it empirically tested the effectiveness of teaching models and materials, as well as concepts for subject-oriented, networked and bi-literal language education.

Findings

At the time of writing, initial results are available for just the subject technology. Research was conducted in technology lessons at five comprehensive schools in the German federal state of North Rhine-West-phalia. This sub-sample comprised a total of 322 pupils whose average age was 13.3 years; 43.6 % were

Pre-tests

Intervention

Post-tests

Intervention group
3 blocks (270 minutes each) of describing, explaining, justifying in writing

• Subject-specific writing task
• Writing task in German
• Control variables
• C-Test Turkish*

Control group**
Regular teaching

• Subject-specific writing task
• Writing task in German
• Control variables
• C-Test Turkish*

Sample

		German	History	Physics**	Politics	Technology	Turkish
	Schools	11	4	3	2	5	6
Intervention group	Classes	7	9	5	9	12	8
	No. of pupils	161	226	150	247	137	123
Control group	Classes	24	5	5	4	10	8
	No. of pupils	464	131	150	111	185	104

* For Turkish heritage-langue pupils only
** In the subject of physics there were two intervention groups instead of one intervention group and one control group. One group focused on specific action patterns, the other on the linguistic means of expression of linguistic-cognitive actions.
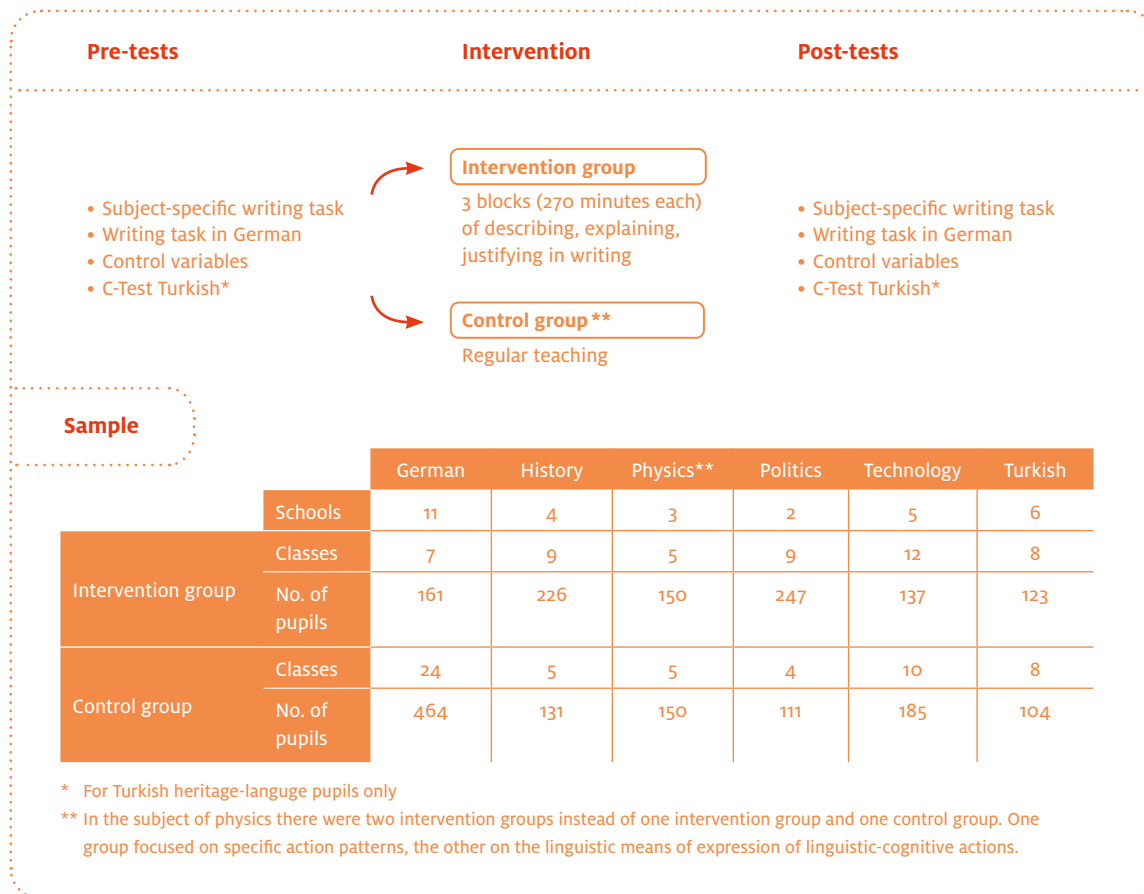
Figure 4: SchriFT II Study Design

female and 56.4 % male. Of this cohort, 63 % were either first- or second-generation migrants, bringing with them a linguistic diversity of 27 different languages (Çıklaşahin & Lang, 2020). Our findings show that the academic speech actions of describing, explaining and justifying are connected, indicating that they potentially build on one other. Furthermore, these findings point to the early success of teaching interventions for language education in technology lessons, illustrating the necessity of such education to take place in subject-specific contexts where multilingualism is taken into account.

The results from the other subject interventions will be published in due course in a dedicated *SchriFT II* volume.

What does this mean for educational practice?

From a linguistic perspective, the project results contribute to a better understanding of the factors responsible for the long-term development of literacy skills. The results will be transformed into recommendations for the resource-oriented design of subject-specific and heritage language classes. The interventions will be documented in teaching handouts with best-practice examples. Guided demonstrations of similar scenarios in teacher training will enable teachers to create appropriate sequences in their own practices. Teaching materials will be published for all subjects with didactical annotations. In addition, the approx. 10,000 texts composed by students as part of the project will be used for teacher training, enabling linguistic analyses of authentic source material.

Project publications

M. Bernhardt (2020). "Sprache(n) des Geschichtsunterrichts – Sprachliche Vielfalt und Historisches Lernen". In: T. Sandkühler & M. Bernhardt (Eds.) *Sprache(n) des Geschichtsunterrichts. Sprachliche Vielfalt und Historisches Lernen.* [Beihefte zur Zeitschrift für Geschichtsdidaktik, Bd. 21]. Göttingen: Vandenhoeck & Ruprecht, pp. 29–44.

M. Bernhardt & F. Conrad (2018). "Sprachsensibler Geschichtsunterricht". In: *Geschichte lernen*, 31 (182), 2–9.

A. Çıklaşahin & M. Lang (2020). "Textsortenbasierte Sprachbildung im Technikunterricht". In: *Journal of Technical Education (JOTED)*, 8 (1), 33–55.

A. Çıklaşahin, C. Husemann & C. Steck (2018). "Beschreiben und Erklären in Technischer Analyse und Historischem Sachurteil — Anforderungen und Zugänge für den Fachunterricht". In: C. Caruso, J. Hofmann, A. Rohde & K. Schick (Eds.) *Sprache im Unterricht. Ansätze, Konzepte, Methoden.* Trier: WVT, pp. 389–403.

C. Husemann (2020). "Fachspezifische Sprachhandlungen konkretisieren. Schüler*innentexte zum Beschreiben, Erklären und Begründen im Rahmen des Historischen Sachurteils". In: T. Sandkühler & M. Bernhardt (Eds.) *Sprache(n) des Geschichtsunterrichts. Sprachliche Vielfalt und Historisches Lernen.* [Beihefte zur Zeitschrift für Geschichtsdidaktik, Bd. 21]. Göttingen: Vandenhoeck & Ruprecht, pp. 189–208.

H. Krabbe, P. Timmerman & C. Boubakri (2019). "BESCHREIBEN, ERKLÄREN und BEGRÜNDEN im Physikunterricht". In: C. Maurer (Eds.) *Naturwissenschaftliche Bildung als Grundlage für berufliche und gesellschaftliche Teilhabe. Gesellschaft für Didaktik der Chemie und Physik, Jahrestagung in Kiel 2018,* pp. 265–268. Universität Regensburg. (Available at: https://gdcp-ev.de/wp-content/tb2019/TB2019_265_Krabbe.pdf)

C. Luft (2019). "Sprachliche Handlungen in politischen Sach- und Werturteilen. Theoretische Überlegungen aus interdisziplinärer Perspektive". In: *CIVES-Forum #7,* Universität Duisburg-Essen.

S. Manzel & D. Gronostay (2018). "Videographie". In: C. Wagemann, A. Goerres & M. Siewert (Eds.), *Handbuch Methoden der Politikwissenschaft.* Wiesbaden: Springer, pp. 1–20. https://doi.org/10.1007/978-3-658-16937-4_41-1

S. Manzel & C. Luft (2019). "The effects of linguistic competencies and civic literacy on political decision-making in school — First results of the interdisciplinary project, 'SchriFT II'". In: E. Gutzwiller-Helfenfinger, H. J. Abs, & P. Müller (Ed.)/(Eds.) *Thematic papers based on the Conference "Migration, Social Transformation, and Education for Democratic Citizenship"*. University of Duisburg-Essen: DuEPublico, pp. 137 – 149. doi: 10.17185/duepublico/47644

S. Manzel & F. Nagel (2019). "Politik/Gesellschaftslehre, Sekundarstufe I: Textsortenbasierte Schreibförderung im sozial-wissenschaftlichen Unterricht". In: K. Peuschel & A. Burkard (Eds.). *Sprachliche Bildung und Deutsch als Zweitsprache in den geistes- und gesellschaftswissenschaftlichen Fächern*. Tübingen: Narr Francke Attempto Verlag, pp. 153–160.

L. Möllers & S. Manzel (Eds.) (2018). "Populismus und Politische Bildung". In: *Schriftenreihe der Gesellschaft für Politikdidaktik und politische Jugend- und Erwachsenenbildung*, Bd. 17. Schwalbach/Ts.: Wochenschau.

P. Timmerman & H. Krabbe (2019). "SchriFT II: Messung der Sprach- und Fachkompetenz in Versuchsprotokollen". In: C. Maurer (Eds.) *Naturwissenschaftliche Bildung als Grundlage für berufliche und gesellschaftliche Teilhabe. Gesellschaft für Didaktik der Chemie und Physik, Jahrestagung in Kiel 2018,* pp. 791–794. Universität Regensburg. (Available at: https://gdcp-ev.de/wp-content/tb2019/TB2019_791_Timmerman.pdf)

P. Timmerman & H. Krabbe (2020). "SchriFT II: DESCRIBING, EXPLAINING AND JUSTIFYING: HOW TO SUPPORT WRITING LAB REPORTS IN PHYSICS CLASSES". In: S. Habig (Ed.) *Naturwissenschaftliche Kompetenzen in der Gesellschaft von morgen. Gesellschaft für Didaktik der Chemie und Physik, Jahrestagung in Wien 2019,* pp. 1071–1074. Universität Duisburg-Essen. (Available at: https://www.gdcp-ev.de/wp-content/tb2020/TB2020_1071_Timmerman.pdf)

I. Uluçam-Wegmann (2017). "Federal Almanya'da Türkçe Derslerinin Geçmişi, Yapısı, Alan Dersleriyle Etkileşimi ve Öğrenci Profili. [Geschichte, Struktur und Schülerprofil des Herkunftssprachen-unterrichts Türkisch in der Bundesrepublik Deutschland und Möglich-keiten der Kooperation des Herkunftssprachenunterrichts mit dem Fachunterricht]". In: H. Ülper et al. (Eds.) *Türkçe Öğretimi Güncel Araştırmaları*. [Aktuelle Studien zur Vermittlung des Türkischen]. Ankara: Pegem Akademi, pp. 1–19.

I. Uluçam-Wegmann (2018). "Birinci ve İkinci Dilde Metin Türüne Özgü Yazma: Benzerlikler, Farklılıklar ve Etkileşimler. [Textsorten-spezifisches Schreiben in der Erst- und Zweitsprache: Ähnlichkeiten, Unterschiede und wechselseitige Auswirkungen]". In: N. Uzun & Ü. B. Bozkurt (Eds.) *Türkçenin Eğitimi ve Öğretiminde Kuramsal ve Uygulamalı Çalışmalar*. [Theoretische und angewandte Studien zur Vermittlung der türkischen Sprache]. Istanbul: Okan Üniversitesi Yayınevi, pp. 37–75.

I. Uluçam-Wegmann (in press). "Çokdilli Ortamlarda Translanguag-ing Yaklaşımı Temelli Kökendili Türkçe Dersi [Translanguaging-Ansatz basierter Herkunftssprachenunterricht Türkisch in mehrsprachigen Kontexten]". In: Işyeri, K. et al. (Eds.) *Türkçe Öğretiminde Kuramsal ve Uygulamalı Çalışmalar*. [Theoretische und angewandte Studien bei der Vermittlung der türkischen Sprache]. Ankara.

M.-C. Wickner (2020). "Der Apfel fällt nicht weit vom Stamm. Sprachsensibler Geschichtsunterricht fängt mit einer sprachsensiblen Geschichtslehrer*innenbildung an". In: T. Sandkühler & M. Bern-hardt (Eds.) *Sprache(n) des Geschichtsunterrichts. Sprachliche Vielfalt und Historisches Lernen*. [Beihefte zur Zeitschrift für Geschichtsdidak-tik, Bd. 21]. Göttingen: Vandenhoeck & Ruprecht, pp. 59–75.

SimO

Writing skills support in multilingual secondary schools.
The effect of profiled revision tasks on written production
of 6th grade students in the L1s German and Turkish and
the L2 German

Institution
University of Bremen,
University of Siegen

Project duration
October 2013 –
September 2016

Team
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Introduction

Despite the importance of literacy education, especially for students raised speaking heritage languages in addition to German, little is known about writing skills in both languages of bilingual secondary school students. Drawing on insights from multilingualism and literacy research, the goal of SimO was to understand better how different writing settings in the majority language German can support writing skills in German as a first or second language and — for students participating in Turkish heritage language classes — in Turkish. The collaborative project thus examined both the effects of differently profiled writing settings on writing skills in German and the potential for interlingual transfer into the heritage language Turkish.

What was investigated and how?

322 6th grade students in 15 classes from three different schools participated in a material-based intervention. Each student took part in one of four different, weekly writing settings. The settings involved either the presentation of (1) only topic knowledge (control condition), (2) topic knowledge and task schemata (language functions), (3) topic knowledge and language-dependent text schemata (language forms), or (4) topic knowledge, task schemata, and language-dependent text schemata.

The study extended over five months. A pretest in the control condition was followed by the intervention and two follow-up tests in German. In the same weeks as the German tasks, but always following them, students in Turkish language classes completed writing tasks in Turkish; these were only presented in the control condition. In all cases, the setting consisted of a revision task in which students rewrote a poorly written description of a superhero or villain. To prevent students from reiterating previous texts, each task involved a different character. Students thus composed a total of seven different character descriptions in German class and seven subsequent descriptions during the same weeks in Turkish.

The analysed data included all 2166 German texts of the 322 participants, as well as 607 Turkish texts written by the 91 students who also took part in Turk-

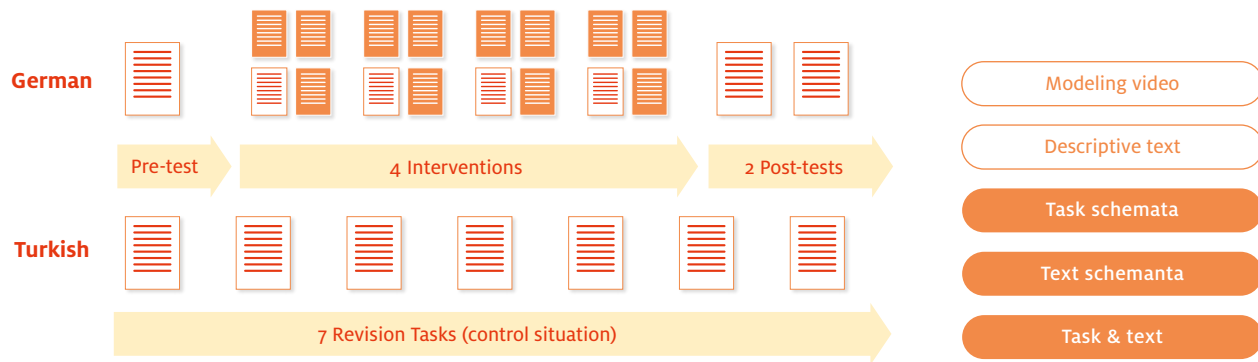ish class. Supplementary data were gathered on students' reading abilities in German (using the standardised FLVT test) and in Turkish (using an adaptation of the TELC test for Turkish), students' classroom grades, and diverse individual informa-tion, including reading and writing preferences, interests, and bilingual and biliteral skills. The writ-ten texts were analysed according to three measures: (1) text length (number of orthographic words), (2) analytic rating of text quality, developed specifically for the SimO project, and (3) holistic rating of text quality.
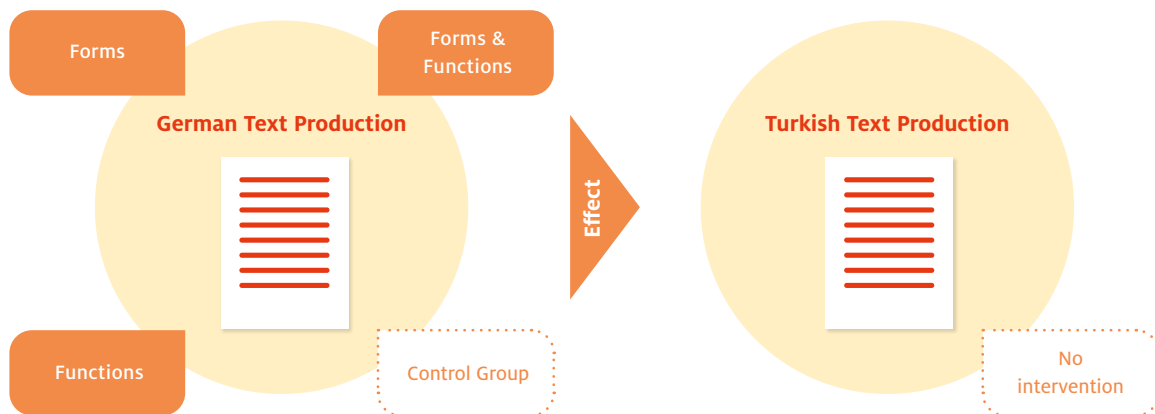
Results

Results showed that, first, on all measures in the German written texts, there were no differences between students who speak solely German at home with their parents, students who speak mostly a heritage language at home, and students who speak a combination of both. Thus, earlier studies showing differences between these groups in the majority language were not supported by the SimO study.

Second, intralingual intervention effects in German were evident. Students participating in writing tasks involving task schemata (intervention groups two and four, above) profited most from the intervention, whilst students receiving only topic knowledge support or form-focused support without schematic information also improved, but not as much as those who received this information.

Third, interlingual intervention effects were also evident, provided students profited from the inter-vention in German and participated in interventions which focused on task schemata (groups two and four, above). Thus, even those students who profited in German from a form-based intervention could not transfer this knowledge to Turkish, whilst students who profited from an intervention involving lan-guage functions could, and subsequently did, pro-duce better texts. Interlingual relations were found for the text quality in German and Turkish: those students who wrote better texts in German also pro-duced better texts in Turkish.

|		
German	Pre-test → 4 Interventions → 2 Post-tests	Modeling video
		Descriptive text
		Task schemata
Turkish	7 Revision Tasks (control situation)	Text schemanta
		Task & text

Conclusions

The study showed that students' writing can be improved through language-focused instruction, especially when information on language function is included in the writing tasks; simply providing language forms, however, does not result in a marked increase in text quality. Furthermore, the concentration on language function has an added, interlingual benefit: students who receive information on task schemata not only benefit in the focus (majority) language, but can also transfer this newly gained knowledge to another (heritage) language, even without further intervention steps.

References

H. Feilke (2014). "Argumente für eine Didaktik der Textprozeduren". In: T. Bachmann & H. Feilke (Eds.) *Werkzeuge des Schreibens. Beiträge zu einer Didaktik der Textprozeduren*. Stuttgart: Fillibach bei Klett, pp. 11–34.

H. Feilke (2015). "Text und Lernen – Perspektivwechsel in der Schreibforschung". In: S. Schmölzer-Eibinger & E. Thürmann (Eds.) *Schreiben als Medium des Lernens. Kompetenzentwicklung durch Schreiben.* Münster: Waxmann, pp. 47–71.

T. Steinhoff (2007). *Wissenschaftliche Textkompetenz. Sprachgebrauch und Schreibentwicklung in wissenschaftlichen Texten von Studenten und Experten*. Tübingen: Niemeyer.

Project publications

L. Rüssmann, T. Steinhoff, N. Marx & A. K. Wenk (2016). "Schreibförderung durch Sprachförderung? Zur Wirksamkeit sprachlich profilierter Schreibarrangements in der mehrsprachigen Sekundarstufe I unterschiedlicher Schulformen". In: *Didaktik Deutsch* 40, 41–59.

A. K. Wenk, N. Marx, L. Rüssmann & T. Steinhoff (2016). "Förderung bilingualer Schreibfähigkeiten am Beispiel Deutsch — Türkisch". In: *Zeitschrift für Fremdsprachenforschung* 27,(2). 151–179.
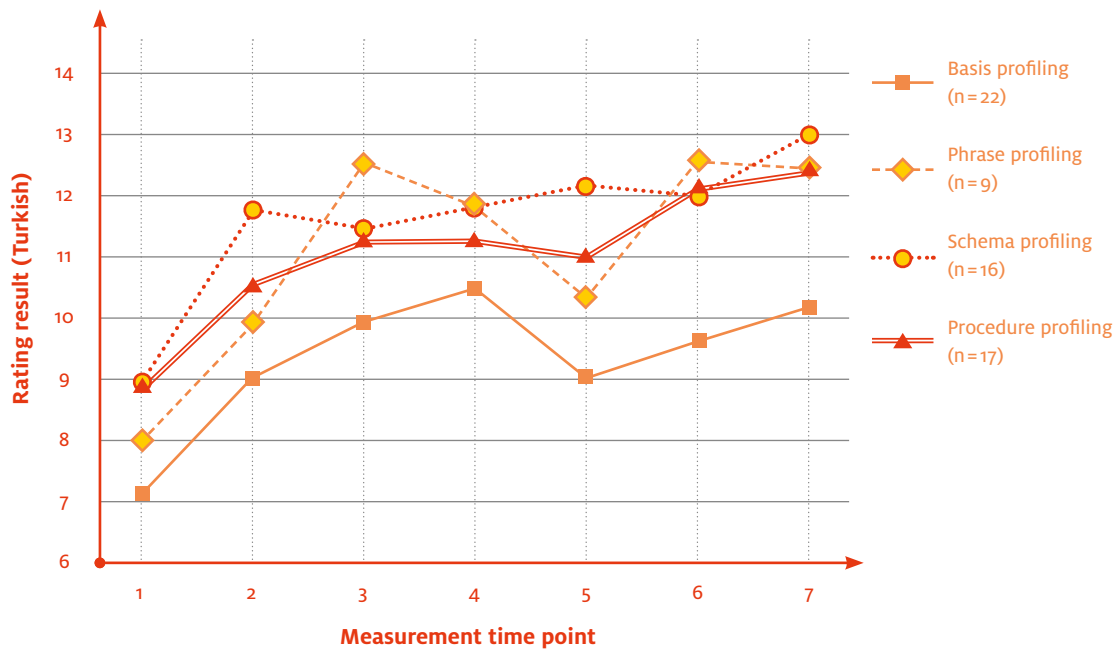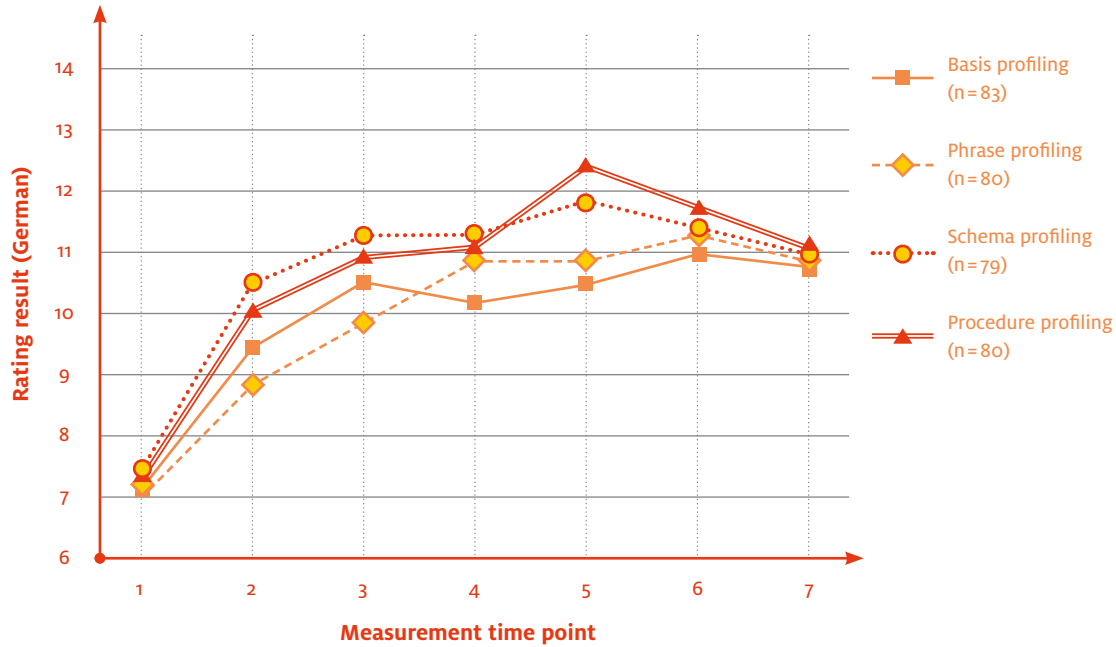
TimO

*Text revision in multilingual
secondary schools*

Institution
University of Bremen,
University of Cologne,
University of Siegen

Project duration
October 2016 –
December 2019

Team
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Marie-Christin Reichert

Introduction

The text corpus collected in the SimO project comprised 2,166 writing samples in German and 607 in Turkish, composed by 322 6th-grade students, of whom 91 attended Turkish lessons. In the SimO project, these texts were analysed for length and quality. In the follow-up project TimO, the focus was on revision processes. It examined types of revisions undertaken in both German and Turkish and how they related to the original texts and intervention support over time as well as to individual writer characteristics. Of special relevance were interlingual commonalities and differences in revision processes. Finally, a didactical model for interlingual support when revising texts was developed on the basis of these results. This model was primarily designed for German majority-language classes, Turkish heritage-language classes, and English as a foreign language classes, but can also be applied to all language classes.

What was investigated and how?

In the first phase of the project, a corpus analysis which categorised text revisions was conducted. Of interest were the revision processes of deleting, copying, changing and expanding elements in the original texts. These actions were classified in both German and Turkish text products and compared intra- and interlingually.

Language-specific revisions, such as the use of expressions that diverge from the original texts, were also investigated.

They were analysed solely in the German texts, as such forms are not comparable across languages.

Results

Results of the project provide evidence for both language-specific and cross-linguistic aspects of text revision.

First, participating students seemed to prefer certain revision processes. This was the case for revising in both languages, but depended on the semantic content being revised. This finding was

largely independent of the type of school that students attended, their first language, or the quality of their written texts.

Second, most students revised texts by changing and expanding the original texts. However, there were some difference between the intervention groups in the German texts. The group which received only a form-based intervention used suggested forms in their revised texts at a higher rate than the other groups — although even here, the use of such 'parallel' forms remained fairly low (25 %). This indicates that students generally considered how to change texts independently of the material-based intervention suggestions.

Third, the best predictor of text revisions in the Turkish-German bilingual group was not the semantic context (as it was in the monolingual analysis of German texts), but rather which revision processes had been chosen in the other language. Thus, revision processes were similar for both languages, indicating that revision is, at least to some extent, an interlingual skill.

Finally, on the basis of the empirical results, a cross-linguistic pedagogical model was developed to support text revision skills in German, heritage- and foreign-language classes. The materials are online and free of charge, and can be found at *www.mehrsprachigkeit.uni-hamburg.de.*

What does this mean for educational practice?

The most significant practical implication of the TimO project is the verification of a strong link between text revision processes in the languages of bilingual pupils. Turkish-German students carried out similar revisions in both their languages, indicating that revision is a skill which is transversal. Combined with the findings from the SimO project, it can be concluded that writing skills can be supported across languages. In this case, such support was successful when it was carried out in the language in which reading and writing were first developed, i.e. in the majority language German. A blueprint for such support is contained in the pedagogical model developed as part of this project.

A further significant implication is the observation that, even when specific formulations are provided in learning materials, students largely produced text segments which were independent of the material. Thus, individual creativity does not seem to be dampened by the provision of formulation suggestions, but rather may be seen as a springboard for the generation of (new) ideas by developing writers.

Project publications

N. Marx (2019). "(Wie) sind sprachenübergreifenden Schreibfähig-keiten lehr- und lernbar?" In: *ÖdaF-Mitteilungen* 34 (2), 91–96.

N. Marx & T. Steinhoff (2019). "Monolinguale Schreibförderung mit bilingualem Lernpotential". In: *Fremdsprache Deutsch* 60, 8–14.

M. C. Reichert, T. Steinhoff & N. Marx (2020). "Texte über-arbeiten! Materialien für den Deutsch-, Herkunfts- und Fremd-sprachenunterricht in der 5., 6. und 7. Klasse". Available online: *www.mehrsprachigkeit.uni-hamburg.de*

Language skills and metalinguistic awareness

Metalinguistic interactions in multilingual learning settings as a predictor of metalinguistic awareness and its relevance to the learning of German, foreign and heritage languages

Institution
University of Koblenz-Landau

Project duration
October 2013 –
September 2016

Team
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Prof. Hans H. Reich,
Muhammed Akbulut,
Dr. Lena Bien-Miller

Introduction

Metalinguistic awareness can be defined as the ability to reflect on language and its utilisation in order to use it purposefully and consciously for accomplishing intended linguistic behaviour. Its development and enhancement is therefore a critical task in language lessons. To date, little is known about the development of metalinguistic awareness or the factors that promote it. In the relevant literature, it is postulated that metalinguistic awareness first correlates with primary language development and second with general cognitive development. What is more, multilingualism is assumed to also play a role in the development of metalinguistic awareness. Yet, so far, there have been no empirical studies that broadly investigate these hypotheses.

This project investigated the metalinguistic awareness of mono- and multilingual primary school children on the basis of their linguistic and cognitive development. The study aimed, firstly, to capture how children processed linguistic structures and, secondly, to investigate correlations between the language skills of mono- and multilingual children and their metalinguistic awareness.

Because metalinguistic awareness is a mental construct which cannot be directly observed, verbal data were generated in order to obtain language-related reflections. A procedure was developed as part of this project to guide children in making linguistic reflections, without influencing or limiting the content of their reflections.

1. Against this backdrop, the first research question of the investigation was as follows: *How can meta-linguistic awareness be assessed and described on the basis of metalinguistic expressions?*

2. Because the role of linguistic and cognitive development has not been conclusively reported in the relevant literature, the second research question was thus: *Is there any relation between the language skills in the first and second languages and metalinguistic awareness?*

3. Furthermore, the role of multilingualism in the development of metalinguistic awareness has also not been widely investigated, although it is often assumed to be a resource for solving meta-

linguistic problems. The third research question was thus: *How do multilingual primary school children use their first language abilities to deal with metalinguistic tasks?*

It was hypothesised that multilingual primary school children, drawing on their linguistic resources in their heritage language, may show qualitative as well as quantitative variability in their metalinguistic expressions.

What was investigated and how?

Data measurement I

Firstly, demographic data concerning gender, age, birthplace (child and parents) as well as language usage in the family and among peers were collected in interviews with the participating children (N = 400).

Then, their general cognitive abilities and language skills in German as well as in Turkish and Russian (for the children who speak these heritage languages) were assessed. For this, an adapted version of the diagnostic instrument Tulpenbeet was used (Reich, Roth & Gantefort, 2008).

Data measurement II

Metalinguistic expressions were then assessed as indicators of metalinguistic awareness. For this purpose, a new procedure called *M-SPRA* was developed which uses six reflection prompts. The participants had to solve metalinguistic tasks, which prompted them to make language-related hypotheses and observations and to verbalise their language knowledge.

A typical sequence in this procedure was as follows: Two children (forming an interaction team) operated the multilingual software My First Stories (2013). Together, they listened to and read the story *Maddox The Magician*, which is available in five languages (German, English, Spanish, Russian, Turkish). They had the option of switching from one language to another at any time. While the children listened to/read the story, the test administrator (i.e. member of the research team) asked questions and provided prompts for the children to express their language-related thoughts. They did this by interacting with their tandem partner and the test administrator. Interactive settings of this kind were recorded on video and then analysed to identify the metalinguistic expressions — i.e. the linguistic levels to which the participants refer — and examine the complexity of their expressions, that is, the depth of their reflection on language and the degree of analysis.

Example: Count the words!

One example of such a prompted interaction sequence involved children comparing the number of words in sentences presented to them in different languages. Children were shown the same sentence from *Maddox The Magician* in the five available languages (Figure 2). The test administrator then asked them why the number of words differed for each language. The children expressed and justified their assumptions as to why this might be the case. Their expressions were recorded and analysed.

Figure 1: Image sequence from the Tulpenbeet assessment instrument

Can you say how many words are in these sentences? Switch now to English / Spanish / Russian / Turkish. Are there as many words as in German? Where have all the words gone?

- **DT.** Maddox macht sich auf den Weg zu seinem Lehrer.
- **ENGL.** Maddox goes to his teacher's house.
- **SPAN.** Maddox va a casa de su profesor.
- **RUSS.** Мэддокс идёт к своему учителю.
- **TÜRK.** Maddox öğretmeninin evine gider.

Figure 2: Interaction example: Count the words!

Results

A wide spectrum of metalinguistic expressions was elicited and qualitatively analysed to identify indicators of metalinguistic awareness. Using the four-field model (Bredel, 2007), which distinguishes situation-related from non-situation-related linguistic reflections, the expressions were divided into two groups.

Situation-related metalinguistic expressions include the expressions that children spontaneously voiced while working with the multilingual software. This category comprises: self- and external corrections (e.g. "No, this should be pronounced ‹jo›"); language-related evaluations that concern language skills and/or attitudes or emotional judgements regarding other languages (e.g. "I can say almost nothing in Turkish because I am not Turkish"), and language-related descriptions that simply reproduce aspects discerned in the materials (e.g. "No capital letters are used here").

Non-situation-related metalinguistic expressions were found using the M-SPRA assessment tool. These expressions can also be divided into three hierarchical categories, depending on the amount and degree of metalinguistic reflection: The lowest category contains language-related statements, followed by explanations and, finally, by analyses.

Taken altogether, the statements, explanations and analyses made by each child are considered to constitute a global value indicating his or her level of metalinguistic awareness. These levels were also controlled for with respect to general cognitive and language abilities. German-language ability, general cognitive abilities and metalinguistic awareness showed significant positive correlations.

At the same time, these correlations were too weak to explain metalinguistic awareness among the primary school children. It can thus be assumed that the development of metalinguistic awareness may be influenced by the school context and language classes. No significant correlation was found between Russian and Turkish heritage language skills and metalinguistic awareness. This indicates that German, as the language of schooling, plays a more important role in the formation of metalinguistic awareness among primary school children than languages spoken only in the family or with peers.

In this regard, the role of written language acquisition and school-related linguistic reflection ought to be investigated with respect to the development of linguistic knowledge.

To see whether multilingualism impacts metalinguistic awareness, the metalingual awareness values of multilingual children were compared with those of monolingual German speakers. Our analyses show that multilingual children produced a larger amount of metalinguistic expressions than their monolingual classmates, after German-language skills, general cognitive ability and age had been controlled for. With regard to non-situation-related expressions, the analyses show that multilingual children reflected on language on a higher metalinguistic level than their monolingual German classmates. It can therefore be assumed that children raised with more than one language are more capable of linguistic analyses than those who cannot draw on a second, comparative language. We can further assume that the children who spoke Russian or Turkish referred more often to their heritage languages than the multilingual children whose heritage languages were not available in the software program. Thus, the availability of a particular language somehow guided access to a student's own linguistic resources. More studies with larger sample sizes are, however, necessary to test these assumptions.

Situation-related			Non-situation-related		
Spontaneous correction related to one's own or someones else's language use	Evaluation of language in general, particular language(s), one's own or someone else's language skill(s)	Spontaneous reproduction of aspects from the material	Language-related explanations on a general level, with an intention to provide justification	Language-related explanations related to a linguistic level with a justification	Abstract exposition of relationships based on a sophisticated language-related analysis
Self- and external corrections	Language related evaluations	Language related descriptions	Language related statements	Language related explanations	Language related analyses

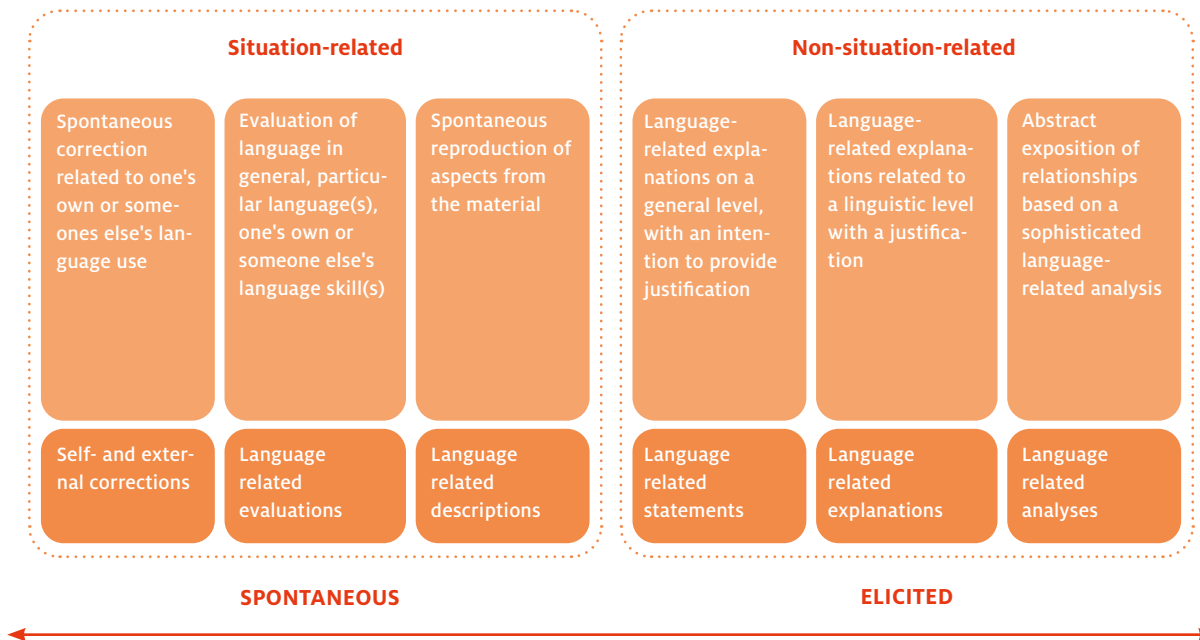**SPONTANEOUS**   **ELICITED**

Figure 3: Metalinguistic expressions (Wildemann et al., 2016)

What does this mean for educational practice?

The results of the study show that primary school children display a wide spectrum of metalinguistic abilities that may be useful both in and outside of school. Multilingualism can be — and is indeed — used as a resource for language reflection and language comparisons. What is more, German, as majority language, has a greater effect on metalinguistic awareness than the children's first languages (where applicable). Other differences observed in this study lead us to believe that the pedagogical approach has a large influence on the development of metalinguistic awareness. In this regard, language lessons in primary school may have two functions: first, the development of metalinguistic awareness as an ability to make language and linguistic behaviour a subject of discussion and, second, the inclusion of existing multilingual resources in language reflection and language comparisons for the benefit of all children.

References

U. Bredel (2007). *Sprachbetrachtung und Grammatikunterricht*. Paderborn: Ferdinand Schoningh.

My First Stories (2013). München: Oldenbourg Schulbuchverlag GmbH.

H. H. Reich, H.-J. Roth & C. Gantefort (2008). "Der Sturz ins Tulpenbeet. Deutsche Sprachversion. Auswertungsbogen und Auswertungshinweise". In: T. Klinger, K. Schwippert & B. Leiblein (Eds.) *Evaluation im Modellprogramm FÖRMIG.* (= FÖRMIG Edition Band 4.) Münster, pp. 209–237.

Project publications

M. Akbulut, L. Bien-Miller & A. Wildemann (2017). "Mündliche Sprachkompetenzen in Schulstufe 3 — eine vergleichende Studie zu diskursiven und morphosyntaktischen Fähigkeiten von Lernenden des Deutschen als Erst- und Zweitsprache". In: *Zielsprache Deutsch,* 44 (2), Tubingen: Stauffenburg Verlag, 39–59.

M. Akbulut, L. Bien-Miller & A. Wildemann (2017). "Mehrsprachigkeit als Ressource fur Sprachbewusstheit". In: *Zeitschrift für Grundschulforschung: Bildung im Elementar- und Primarbereich,* 10 (2), 61–74.

M. Akbulut, L. Bien, H. H. Reich & A. Wildemann (2015). "Metasprachliche Interaktionen in mehrsprachigen Lernsettings — ein Projekt zur Sprachbewusstheit im Grundschulalter". In: ide: *Sprachliche Bildung im Kontext von Mehrsprachigkeit. Die lebensweltliche Mehrsprachigkeit der SchülerInnen im Bildungskontext besser nutzen.* Heft 4, 119–128.

L. Bien-Miller, M. Akbulut, A. Wildemann & H. H. Reich (2017). "Zusammenhänge zwischen mehrsprachigen Sprachkompetenzen und Sprachbewusstheit bei Grundschulkindern". In: *Zeitschrift für Erziehungswissenschaft (ZfE),* 20 (2), Wiesbaden: Springer, 193–211.

A. Wildemann & L. Bien-Miller (2017). "Wo sind die Wörter hin? Sprachvergleiche in mehrsprachigen Lerngruppen". In: *Grundschulunterricht Deutsch,* 01 / 17, 8–12.

A. Wildemann, M. Akbulut & L. Bien-Miller (2016). "Mehrsprachige Sprachbewusstheit zum Ende der Grundschulzeit — Vorstellung und Diskussion eines Elizitationsverfahrens". In: *Zeitschrift für Interkulturellen Fremdsprachenunterricht,* 21 (2), 1–15.

MehrSprachen (ManyLanguages)

An intervention study to enhance metalinguistic awareness and language skills among primary school children

Institution
University of Koblenz-Landau

Project duration
October 2016 –
September 2019

Team
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Introduction

The formation of metalinguistic awareness (defined as the mental ability to comprehend the structure and function of language/s in order to use this knowledge for appropriate language use) is an implicit as well as an explicit goal of language lessons in school. To date, little is known about the development of metalinguistic awareness or its related factors. There are also few studies concerning the role of multilingualism for metalinguistic awareness.

The preceding project 'Language Skills and Metalinguistic Awareness' showed that multilingual primary school children (N = 400) — when involved in metalinguistic interactions — reflect in more differentiated ways and more frequently on language(s) than monolingual students (after controlling for age, cognitive ability and language skills) (Bien-Miller et al., 2017). Moreover, it was shown that the level of bilingual language proficiency (first and second languages) is an important predictor of levels of metalinguistic awareness (Akbulut et al., 2017).

The follow-up project *MehrSprachen* (ManyLanguages) focuses on the transfer of these findings to educational practice. The main objective is to investigate how the integration of language reflections and the usage of the heritage languages of bilingual students for language comparison affects the metalinguistic awareness of primary school students (grades 3–4) in German (i.e. the language of schooling) lessons. The main research question asks whether the students benefit from German lessons that are oriented towards language reflection and comparison in terms of improving their metalinguistic awareness.

What was investigated and how?

The study follows an experimental and control group design (N = 408 students). To begin, a Delphi study was conducted to assess the level of knowledge and the needs of teachers regarding and the usage of multilingualism for language reflections in German lessons (Andronie et al., 2019; Bien-Miller et al., 2019). On the basis of the findings, a multilingual-

and reflection-oriented concept for German-language teaching was developed, geared towards developing students' metalinguistic and language comparison abilities (see also Bien-Miller & Wildemann, 2020). To test the effectiveness of the teaching concept, a treatment teacher group (n = 18) received further training in the use of multilingualism in German lessons. They implemented these multilingual methods and materials in their daily teaching practices and kept a record of their teaching experiences in a weekly digital diary (see also Wildemann et al., 2020a, b.). The control group (n = 17) did not receive any training and conducted classes as usual without integrating students' heritage languages.

A total of 408 children were involved in the study, divided into treatment (n = 210) and control (n = 198) groups. Data was collected at three measurement points: at the first measurement point, cognitive ability (*CFT* 20-R), German-language proficiency (*Tulpenbeet*, Reich et al, 2008) and student motivation (*NFC-KIDS — Need for Cognition*) were recorded; students' metalinguistic awareness and the metalinguistic knowledge of students were then recorded at the second and third measurement points (*M-SPRA* assessment tool (Wildemann et al., 2016)).

Results

The results show that the integration of multilingualism, language reflection and comparison in primary school German lessons has a positive effect on the development of students' metalinguistic awareness. Students in the treatment group showed significantly higher metalinguistic awareness (oper-ationalised as the total amount of metalinguistic expressions made by each child) than those in the control group, as measured directly after the six-month intervention.

Furthermore, differences in the amount and degree of metalinguistic reflection were found between the two groups. Depending on amount and degree, metalinguistic expressions were divided into three hierarchical categories: The lowest category contains *language-related statements*; this is followed by *explanations* and, finally, by *analyses* in the highest category (Wildemann et al., 2016). Students in the treatment group made significantly more higher-level metalinguistic expressions (*explanations* and *analyses*) than those in the control group. This suggests that German lessons that include multilingualism for language comparison have a positive effect on the development of language analytical skills.

The values for both monolingual German and multilingual students in the treatment group show higher metalinguistic awareness than in the control group. For monolingual German students the difference in values for metalinguistic awareness in the treatment and control group is larger than for multilingual students. It can be assumed that monolingual German students benefit in particular from language-comparative German lessons. In contrast to multilingual students, who are more likely to have the opportunity to compare languages by living with two (or more) language systems, we deduce that this possibility for monolingual German students can only be created by formal teaching approaches.

Furthermore we analysed language related conceptions of students and found *pre-concepts, pre-scientific* and *scientific concepts* students have built up about language (see Table 1).

Differences were also found between the treatment and control groups in terms of students' conceptions of language(s). While both groups acquired roughly the same number of scientific concepts in class, with the treatment group bearing a slight advantage, the students in the treatment group revealed significantly more pre- and prescientific conceptions. Considering that this group also made more metalinguistic expressions, it can be assumed that the language reflexive and comparative teaching approach promotes and initiates independent reflective discussion and thus the formation of new conceptions of language. As expected, this supports the development of the ability to reflect on and compare language (see also Wildemann & Bien-Miller, in prep).

What does this mean for educational practice?

The results show that the metalinguistic awareness of both monolingual and multilingual students can be promoted and developed by using multilingualism as a resource for language reflection in teaching. Such teaching supports students' ability to reflect on language, which is a key competence in primary school. The consideration and use of multilingualism in German language lessons leads to a higher metalinguistic awareness for both multilingual students and — in particular — monolingual German students.

Overall, our study shows that the inclusion of multilingualism not only helps multilingual students to develop their metalinguistic awareness. This group already benefits from their multilingual abilities even without the explicit use of multilingualism in school (cf. Wildemann et al., 2018). For monolingual German students, who do not have the opportunity

Conception	Definition	Example Statement
Pre-concepts	Everyday ideas about language(s), their construction, function and use, which have arisen on the basis of one's own experience with language(s) and are not in agreement with linguistic theory. Can be classified as naïve attempts to explain the construction and function of language(s).	"In English, everything is written in small letters, so that you save yourself the trouble of thinking about upper and lower case when writing".
Pre-scientific concepts	Everyday ideas about language(s), their construction, function and use, which include elements of linguistic theory, but are not always in agreement with it.	"In other languages there are no articles, so that one can assume that there are no nouns either".
Scientific concepts	Concepts developed through knowledge acquisition (e.g. via teaching) in such a way that they correspond to linguistic theory.	"In other languages nouns are lower case because different spelling rules apply".

Table 1: Language-related concepts (Wildemann & Bien-Miller, in preparation.)

to think about other languages to compare them with German, it is crucial that they encounter other languages so that their awareness of the German language develops via multilingual perspectives.

References and project publications

M. Akbulut, L. Bien-Miller & A. Wildemann (2017). "Mehrsprachigkeit als Ressource für Sprachbewusstheit". In: *Zeitschrift für Grundschulforschung*, 2/17, 61–74.

M. Andronie, S. Krzyzek, L. Bien-Miller & A. Wildemann (in prep.). "Theory and practice: from Delphi-study to pedagogical training". In: *Qualitative Research Journal*, Vol. ahead-of-print, No. ahead-of-print. https://doi.org/10.1108/QRJ-03-2019-0031

L. Bien-Miller, M. Akbulut, A. Wildemann & H. H. Reich (2017). "Zusammenhänge zwischen mehrsprachigen Sprachkompetenzen und Sprachbewusstheit bei Grundschulkindern". In: *Zeitschrift für Erziehungswissenschaft*, 2/17, 193–211.

L. Bien-Miller, A. Wildemann, M. Andronie & S. Krzyzek (2019). "Handlungsrelevante Überzeugungen zu Mehrsprachigkeit und deren Bedeutung für die Professionalisierung von Lehrkräften". In: A. Schmölzer-Eibinger & M. Akbulut (Eds.) *Mit Sprache Grenzen überwinden: Sprachenlehren/lernen im Kontext von Flucht und Migration*. Waxmann, pp. 143–161.

L. Bien-Miller & A. Wildemann (2020). "Mehrsprachigkeit als Ressource für Sprachbetrachtung nutzen. (K)ein Konsens zwischen Theorie und Praxis möglich?" In: *Der Deutschunterricht*.

H. H. Reich, H.-J. Roth & C. Gantefort (2008). "Der Sturz ins Tulpenbeet. Deutsche Sprachversion. Auswertungsbogen und Auswertungshinweise". In: T. Klinger, K. Schwippert & B. Leiblein (Eds.) *Evaluation im Modellprogramm FÖRMIG*. (= FÖRMIG Edition Band 4.) Münster, pp. 209–237.

A. Wildemann & L. Bien-Miller (in prep.). "Mehrsprachigkeit und sprachlich-kognitive Konzepte in der Primarstufe".

A. Wildemann, M. Akbulut & L. Bien-Miller (2018). "Mehrsprachige Sprachbewusstheit und deren Potenzial für den Grundschulunterricht". In: G. Mehlhorn & B. Brehmer (Eds.) *Potenziale von Herkunftssprachen: Sprachliche und außersprachliche Einflussfaktoren*. Tübingen: Stauffenburg, pp. 117–140.

A. Wildemann, M. Akbulut & L. Bien-Miller (2016). "Mehrsprachige Sprachbewusstheit zum Ende der Grundschulzeit – Vorstellung und Diskussion eines Elizitationsverfahrens. Mehrsprachigkeit-Language Awareness-Sprachbewusstheit". In: *Zeitschrift für Interkulturellen Fremdsprachenunterricht*, 21/2.

A. Wildemann, M. Andronie, L. Bien-Miller & S. Krzyzek (2020b). "Sprachliche Übergänge im Deutschunterricht (schaffen) — eine Interventionsstudie mit Grundschullehrerinnen und -lehrern". In: A. Budde & F. Prüsmann (Eds.) *Vom Sprachkurs Deutsch als Zweitsprache zum Regelunterricht: Übergänge bewältigen — ermöglichen — gestalten*. Münster: Waxmann.

A. Wildemann, S. Krzyzek, M. Andronie & L. Bien-Miller (2020a). "Explizite Sprachthematisierung im Deutschunterricht der Primarstufe – zum sprachreflexiven mehrsprachigen Handeln von Lehrkräften mit und ohne Fortbildung". In: A. Peyer & J. Uhl (Eds.) *Sprachreflexion – Handlungsfelder und Erwerbskontexte*. Frankfurt a. M.: Peter Lang, pp. 109–136.

KoMBi — Coordination Office for Multilingualism and Language Education

As a cross-project research infrastructure, KoMBi assisted the projects in the research cluster to network together and to disseminate research activities and findings in Germany as well as internationally. KoMBi also supported emerging researchers within the research cluster, and assisted in the development of the research field. In the following we provide an overview of KoMBi's work from 2013 to 2020 via selected activities.

Internal networking

KoMBi organised both internal meetings and workshops on overarching topics of relevance to the research projects. Workshop topics included 'Working with Turkish language data' (March 2015), 'Archiving and re-using qualitative research data' (July 2015), 'Transfer of research results to educational practice' (April 2016), 'Intervention in educational research' (September 2018), and 'Educational Linguistics' (January 2020).

Publicising the research cluster (including dissemination of findings)

Via conferences, regular newsletters, this brochure, our website and social media channels, KoMBi has brought the work and findings of the research projects to a broad audience. We also target specific interested audiences:

- **Academic researchers**
  KoMBi has appeared at national (*e.g. Tagung Bildungsforschung* 2020) and international conferences (e.g. European Conference on Educational Research; World Education Research Association Focal Meeting). KoMBi also cooperates with other research initiatives in Germany, such as BiSS (ELaL; Education through Language and Literacy) at the University of Cologne, as well as internationally.
- **Educational practitioners**
  In cooperation with local municipal partners, KoMBi organised two transfer workshops for educational practitioners: in September 2016, 'Multilingualism as an Educational Resource' in North Rhine-Westphalia; in December 2019, 'Multilingualism — For a New Culture of Language Education' in Saarland. The aim of the workshops was to transfer state-of-the-art findings and examples of best practice from the area of multilingualism and language education to be implemented in classrooms.
- **The general public**
  Multilingualism is a social phenomenon, language education an investment in the future. In order to raise public awareness of the significance of this research area, KoMBi participated in relevant public events in Hamburg. We also take advantage of digital technologies to reach broader audiences

and started, for instance, a blog on research in multilingualism and language education. We thereby aim to make research findings accessible to everyone.

KoMBi also designed a website with information and materials on multilingualism and language education, addressing academics, educational practitioners, parents of bi- and multilingual children, and members of the general public.

Support for emerging researchers

KoMBi supported emerging researchers in the research cluster who were working on doctoral dissertations. We organised webinars with international experts on topics and methods in the field of multilingual education, and workshops for academic careers. In 2019 we partnered with emerging researchers from the cluster to organise a conference just for emerging researchers. The two-day event covered various stages in the doctoral process, and participants could present their work and gain valuable feedback from peers and experts working on similar topics.

Developing the research field

KoMBi conducted a Delphi survey on the most pressing research questions in the field of multilingualism and language education. The study was adapted in other countries and implemented by research partners in Italy, the Netherlands, Portugal and Spain.

Network Heritage Language Education

Together with partners at the University of Duisburg-Essen, KoMBi co-founded a network for actors in the area of *heritage language education* in Germany. It brings together practitioners, researchers, parents and policymakers who want to see heritage languages gain more focus in education. The network further aims to compile evidence-based information on heritage language education, and to initiate new research where there are gaps.

Find out more about us and our work via the following:

Blog	www.blombi-kombi.de
Facebook	www.facebook.com/KoMBiHH
Website	www.mehrsprachigkeit.uni-hamburg.de
E-Mail	kombi@uni-hamburg.de