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Incidental Vocabulary Acquisition from Bilingual Books: An Analysis of Bilingual German-English Books for EFL Contexts

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ABSTRACT

This papers looks at bilingual books for German-speaking learners of English and discusses their potential for vocabulary acquisition. Specifically, it focuses on bilingual books following a sociolinguistic structural principle, i.e. books in which the arrangement of languages reflects multilingual practices of non-monolingual language users.
The paper combines corpus analysis and analysis of didactic potential. It reports total words (types and tokens), type-token ratio and distribution across frequency-band classes for three representative bilingual books, and two typical graded readers. It argues that in an assessment of bilingual books' potential for vocabulary acquisition, the relatively low number of target language words has to be balanced against their rich context (especially rich in right-sided context & equivalence cues).

INTRODUCTION

Students in the EFL classroom are not blank slates. In studying the target language, and in developing target language literacy, they build on previously acquired/learned languages and literacy skills (cf. Cummins, 2008). Yet, their previously acquired/learned languages are often made invisible in the classroom, or used as an 'emergency crutch' rather than as a strategic resource. As Cook observes: "Recent methods do not so much forbid the L1 as ignore its existence altogether. (...) the only times that the L1 is mentioned is when advice is given on how to minimize its use" (Cook, 2001)[i].

This papers looks at a range of bilingual books for German-speaking learners of English and discusses their potential for incidental vocabulary acquisition. It is based on a selection of current bilingual books targeting out-of-school reading following a sociolinguistic structural principle. The paper will combine corpus analysis to describe the type of target language input provided, and discuss its potential – while taking into consideration the specific bilingual design of the book – to foster vocabulary acquisition.

Bilingual books

Bilingual books (a subcategory of multilingual books) are books (usually printed) written in two languages. Traditional bilingual books – also known as dual books – are often books that

present two identical versions of a text e.g. one language on the left page, one language on the right page, or one language on top, one language at the bottom (temporal-spatial structural principle). Their design – and the implication specific design choices can have – have long been object of discussion (Ashrafi, 2015; Hodgson & Sarkonak, 1987; Walker, Edwards, & Blacksell, 1996). Other bilingual books similarly contain text in two languages, but the two languages complement each other: Some parts of the text are available only in one language, other parts only in the other language. These texts usually either follow a temporal-spatial structural principle (e.g. one page/paragraph/chapter language 1, the second page/paragraph/chapter language 2, cf. *Who stole Granny?*), or a sociolinguistic structural principle (the arrangement of languages reflects multilingual practices of non-monolingual language users; cf. the *Rettet die Geparde!* book series) (for an in-depth discussion of these different structural principles and how they overlap, cf Buendgens-Kosten (2018)). Some books that neither follow a temporal-spatial nor a sociolinguistic structural principle exist, but are rare (e.g. *The Prince's Underpants*). For an overview, see Table 1.

Table 1. Types of bilingual texts

	Two identical text versions				**One text version**			
	Didactic purpose		**No didactic purpose**		**Didactic purpose**		**No didactic purpose**	
	+/-	**ex**	**+/-**	**ex**	**+/-**	**ex**	**+/-**	**ex**
temporal-spatial	+	dual books, interlinear texts	+	research papers with abstracts in multiple languages	+	"Who stole Granny?"	+	edited volumes with contributions in different languages
sociolinguistic structural principle	-		-		+	"Detectives at work ", "Sherlock Junior", "Holiday Job: Detective!"	+	literary works, e.g. Thomas Mann's "Der Zauberberg"
other	?		?		+	"One third stories" (linguistic progression)	+	literature, poetry

In this paper, the focus will be on bilingual books written for language learning purposes ("didactic purpose"), excluding e.g. non-monolingual literature, but also non-literary texts such as international treaties or scholarly edited volumes. Bilingual books for language learning are often marketed for out-of-school (extensive) reading, though some bilingual books are marketed for in-class use, as well. This paper will not consider bilingual writing by students themselves ("identity texts", Cummins, 2005).

Research on educational use of bilingual books is dominated by studies looking at texts following a temporal-spatial structural principle. Their use to support literacy in the school language and heritage language is well documented (Ernst-Slavit & Mulhern, 2003; Hélot, 2011; Naqvi, McKeough, Thorne, & Pfitscher, 2012; Naqvi, Thorne, Pfitscher, Nordstokke, & McKeough, 2012; Sneddon, 2009). Less empirical work exists on use of such bilingual books in foreign language learning settings (but cf. Zhang 2017; Lohe 2018, Elsner & Buendgens-Kosten, 2018; Buendgens-Kosten, Hardy & Elsner 2017).

Books following a sociolinguistic structural principle are only mentioned occasionally, and usually in work that is conceptual, rather than empirical (Gnutzmann, 2000; in passing: Butzkamm, 2003; Daly, 2016 in the section on "interlingual" books). Empirical work on these types of bilingual books is rare. One exception to this rule is the action research-based report by Dollenmayer and Even (2005), who used a book following a sociolinguistic structural principle in a university-based German as foreign language class. For bilingual texts beyond the book form that follow the sociolinguistic structural principle (at least to some degree), there has been work on acceptance by stakeholders. Götz, Kutzelmann, and Massler (2017) discuss the acceptance of multilingual reading theatre by teachers, an approach using multilingual theatre scripts for repeated reading to improve reading skills in school languages and foreign languages. Also, Buendgens-Kosten, Lohe, and Elsner (2019) discuss pre-service teacher trainees' acceptance of different permutations of multilingual language learning games.

Incidental vocabulary acquisition from reading

Linguistic input plays an essential role for language acquisition. Krashen (2003), for example, stresses the role of comprehensible input for the acquisition of vocabulary and grammar. Consequently, he recommends extensive reading, in the form of free voluntary reading (Krashen, 2011), as a means for language acquisition, including vocabulary acquisition. An early demonstration of vocabulary acquisition through reading is the "Clockwork Orange study" (Pitts, White, & Krashen, 1989).

Vocabulary acquisition through reading depends on context. Context, of course, is a complex term, potentially encompassing textual and non-textual aspects. In this paper context will be use to refer to text-inherent context only, i.e. intratextual context or co-text, "the relation of a piece of text to its surrounding text" as well as infratextual context, "the relation of a piece of text to the whole of the text" (Meibauer, 2012, p. 11). Sternberg and Powell (1983) suggest that in addition to the internal context (morpheme meanings, e.g. photosynthesis), each word has an external context that provides contextual cues, and suggest seven types of contextual cues: temporal cues, spatial cues, value cues, stative descriptive cues, functional descriptive cues, class membership cues, and equivalence cues (Sternberg & Powell, 1983, p. 882). Haß (2018), furthermore, distinguishes between implicit contextual cues, which require inferencing from explicit contextual cues, which merely require grammatical knowing-how.

Haß (2018) did show that adults reading a popular science text in their L1 or school language could identify context that supported their comprehension of unknown or partially known words. There was a slight tendency to use more 'right side' context than 'left side' context (p. 54), and a strong tendency to mark co-referential expressions as part of the relevant context (p. 54f.). Based on her study, and on an analysis of a schoolbook text, she concludes:

> "Der Kontext kann für das Verständnis eines einzelnen Worts viel weniger leisten als ihm oft zugetraut wird. Hilfreiche Kontexte enthalten viele koreferentiellen Ausdrücke und

entfalten den zugehörigen Frame vollständig, explizit und in mehreren oder gar in vielen Sätzen.“ (Haß, 62). [“Contexts can contribute less to the comprehension of a single word as is often assumed. A helpful context contains many coreferential expressions and expands the relevant frame fully, explicitly, and in several or even in many sentences.”]

A range of factors impacts how learners acquire vocabulary from input. One well-documented fact is that a relatively high proportion of words in the input have to be known by the learner to allow enough (comprehensible) context for acquisition. Studies conducted in the context of foreign language learning suggest between 95% to 98% of tokens have to be known by the reader (Hu & Nation, 2000). Below these thresholds, the amount of context understood by (i.e. available to) the reader may be too limited. Another factor is the frequency with which a word appears in the input. It is suggested that multiple encounters are needed to acquire a word – depending to a large degree on how ‘knowing a word’ is operationalized (Pellicer-Sánchez, 2016; Waring & Takaki, 2003; Webb, 2007). Presence of a word in a text in itself does not, of course, guarantee even partial acquisition – the salience of the word/noticing plays an essential role (Schmidt, 1990)

Vocabulary acquisition from bilingual books

Above, we have argued that the kind and amount of context provided, the comprehensibility of that context, the frequency of a target word in the input (associated with the number of different contexts in which the word is presented) as well as the salience of a word are essential for vocabulary acquisition from context.

Achieving the 95%-98% coverage assumed to be needed for vocabulary acquisition in texts written for beginners can be challenging. A wide range of graded readers exists, many catering to learners below the A1 level threshold (e.g. Oxford Bookworms “Starter” readers, with 250 headwords), but at least at the lowest levels the quality of storytelling will often not compare favourably with texts students normally read in their free time. Didacticized bilingual books can offer a solution here, as the words in the non-target-language are part of the context needed for comprehensibility of the target language textii. Bilingual books offer an opportunity to language learners to read age- and reading-level appropriate texts based on their interests, and be exposed to target-language input at the same time.

Bilingual books written for language learners do not just combine two (or more) languages, but they do so in a way that provides an especially rich context, as the following examples demonstrate:

Example 1:
“It’s a flea market”, erklärte Chris. [explained Chrisiii]
“Flea market?” Britta konnte mit dem Begriff nichts anfangen. [Britta didn’t know the term.]
„Flohmarkt“, übersetzte Chris. [“Flea market”, translated Chris.] „It’ll be hard to follow her. It’s very crowded.”
(Holiday Job: Detective!, p. 68)

Example 2:
„Fourth, I need twenty pounds in advance“, sagt er dann mit tiefer Stimme. Watson pfeift überrascht durch die Zähne. Zwanzig Pfund Vorschuss! Dafür kann man eine Menge

> Weingummi kaufen! [he said with a dark voice. Watson whistled in surprise. An advance of twenty pounds! One could buy a lot of wine gums with that!] (*... und der Bär von London*, p. 29)

> **Example 3:**
> "Aber wir haben kein Geld mit." [we haven't brought any money.]
> "We'll get it for you", sagte Johnny und zeigte auf sein Portemonnaie. [said Johnny, and pointed towards his wallet] (Rettet die Geparde!, p. 14).

Dollenmayer and Even (2005) report that most of their advanced beginners of German who read a bilingual book written for German-speaking learners of English, had the impression to be able to read this text more fluently, and to understand more from context.

Also, bilingual books written for language learners (specifically those following a sociolinguistic structural principle) can use a range of devices to increase the salience of individual words or phrases (e.g. by making them the object of negotiation of meaning by characters within that book, cf. Buendgens-Kosten, 2018, see also example 1), possibly increasing the likelihood of noticing.

Regardless of this strong potential of bilingual books, there is limited research on incidental vocabulary acquisition through reading bilingual books. There is one masters' thesis that looks at readers using a temporal spatial structural principle, and that investigated the effects of specific ways in which to order the text versions (Zhang, 2017). Zhang found that young adults English language learners (students at a Chinese vocational school) who read an English graded reader with L1 (=Mandarin) glossing scored best in an immediate target word post-test, and that learners who read the text in English first and then in Chinese scored slightly better than those who had read the text in Chinese first and English second. All three bilingual-treatment groups had better immediate post-test results than the group that received the English-only text. In a delayed post-test one week later, the English first group scored highest, followed by the Chinese first group, with glossed text and monolingual text on places three and four (Zhang, 2017, p. 18).

Another project that looked at parallel texts (temporal-spatial structural principle) and assessed vocabulary acquisition is LIKE. LIKE looked at comprehension & vocabulary acquisition in paired reading of digital storybooks (Elsner, 2011), comparing a monolingual version of the story against a trilingual version of the story in which learners could switch languages on every page, and varying linguistic background of dyads working with the text. Final results have not yet been published, but preliminary findings that look at usage patterns within the trilingual storybook version can be found in Buendgens-Kosten, Hardy, and Elsner (2017) and Elsner and Buendgens-Kosten (2018). These studies, it is to be noted, looked at texts following a temporal-spatial structural principle.

Research questions

Question 1: How do didacticized bilingual books following a sociolinguistic structural principle compare with traditional graded readers regarding the amount of target language input (types & tokens)?

One challenge when looking specifically at bilingual books following a sociolinguistic structural principle is the question of quantity and quality of target language vocabulary included in the text. English input is needed to acquire English words by reading. Yet, it is in the nature of

bilingual books that, page by page, they contain less English input than comparable monolingual English texts. The proportions of target language and non-target language text differ between the different series and between different authors, from a few words in the target language to the majority of text being in English. Calculating the total amount of English (tokens & types) and comparing it with traditional graded readers gives a clearer understanding of the potential for English word learning.

Question 2: What proportion of words belongs to the K1 and K2 frequency bands?

Frequency-band coverage is a useful indicator for the suitability of input in two ways. On the one hand it provides a rough estimate of the vocabulary-based reading difficulty of the text, though this interpretation can be problematic when discussing context-rich bilingual texts, in which the non-target language can carry parts of the comprehension-load. On the other hand, a high proportion of words from the first and second 1000-most-frequently-used lemmas might indicate a high re-usability of vocabulary, and an increased probability of encountering these words in other texts.

METHOD

Materials

In this paper, we will look at books following a sociolinguistic structural principle published by major German publishing houses (see Table 2). All books belong to a series of German-English books, are currently in print, and target out-of-school reading (even though, for some of them, teaching material is available from the publisher's website). In addition, they all feature detective/crime-fiction related themes.

Table 2. Overview over the three bilingual books

Title	Author	Publisher	Publisher's age recommendation	Length
Sherlock Junior … und der Bär von London	ThiLO	S. Fischer	8 years (~3rd grade)	85 pages (~120 words per full page, fewer on pages with images)
Detectives at work: Rettet die Geparde!	Renate Ahrens	Rowolt rotfuchs	10 years (~5th grade)	119 pages (~ 200 words per full page, fewer on pages with images)
Krimis für Kids: Holiday Job: Detective!	Luisa Hartmann	Langenscheidt	10 years (~5th grade)	156 pages (~200 words per full page, fewer on pages with images or vocabulary aids)

Sherlock Junior is the story of Walter from Berlin (called "Watson"), and his friend "Sherlock Holmes the fifth", who investigate crimes in London. The volume on *… und der Bär von London* consists of nine chapters, all of which end in a riddle that readers have to solve using hints from the text and the images. The English language is used in dialogues, occasional single

words (e.g. “Saturday morning”) and occasionally in texts such as notes, a calling card, etc. English dialogues are highlighted using blue bold print. A glossary at the end of the book presents all English words and phrases and their translations to German. The book is illustrated throughout.

Rettet die Geparde! is the first volume of the Detectives at work trilogy. It presents the adventures of Niklas and Lea from Germany and Julie and Johnny from South Africa in Cape Town, who try to stop animal smugglers. In this book, the English and German text are not typographically marked. The book has occasional illustrations and no vocabulary aids.

“Holiday Job: Detective!” is a book within the “Krimis für Kids” series. Britta from Germany visits her Aunt and Uncle in London. Together with her cousin she investigates a woman who behaves in a conspicuous way. The English text as such is not typographically marked, only those English words that are included in the vocabulary hints on the bottom of the page are highlighted in bold print. Some illustrations are included.

In all three books, the narration is in German, and dialogues are in the language that is sociolinguistically realistic. Niklas and Lea, or Britta and her father, speak German; when Niklas talks to Johnny and Julie’s father, who is a monolingual speaker of English, or when Britta is in London and talks to a ticket vendor, they use English. Many bilingual characters appear in *Rettet die Geparde!* and *Holiday Job: Detective!*, and these books are characterized by frequent negotiation of meaning and code-switching, with the negotiation of meaning sequences providing right-hand contextual cues (see Example 1). In … und der Bär von London, Walter/Watson seems to be the only bilingual character. Here, all dialogues are exclusively in English, but Walter’s thoughts (which are presented in German) provide mediation to the reader (see Example 2).

The books differ noticeable in how German and English are used. In *... und der Bär von London*, Watson’s thoughts provide pretty straightforward equivalence cues to the reader – always in the right-sided context, and usually very close to the utterance. Negotiation of meaning sequence are absent, and while the overarching context also provides contextual cues, these are not really needed for comprehension. Internal monologues that provide the reader with an equivalence cue or additional context are also found in the other two books, though they do not dominate the books as much. *Both Holiday Job: Detective!* and *Rettet die Geparde!* are rich in negotiation of meaning sequences, in which Britta/ Lea and Niklas – and, through them, indirectly, the reader - are the ‘beneficiaries’. In addition, they also contain more implicit contextual cues (see Example 3; for a discussion and quantification of the kinds of comprehension scaffolding provided by *Rettet die Geparde!*, see Buendgens-Kosten, 2018).

Two standard monolingual graded readers were included in the quantitative analysis for comparison purposes: “The President's Murderer” by Jennifer Bassett an Oxford Bookworms Level 1 (400 headwords) book, and “The Speckled Band”, adapted by Clare West, based on Sir Arthur Conan Doyle’s work, an Oxford Bookworms Level 2 (700 headwords) book.

Data preparation & analysis

For the bilingual books, the English sections of text were transcribed in a Word document. For each text, names (of people, places, etc.), exclamations, as well as non-English sections within English texts were identified in three exclusion word lists. Nonstandard spellings (e.g. used to reflect stuttering) were standardized. For the purpose of this analysis, only the text proper, including chapter titles, was included, with the exception of “… und der Bär von London”, where text in images (but not text on endsheet images) was included. Glossaries, vocabulary aids, etc. were disregarded for the purpose of this analysis.

Digital versions of the two monolingual graded readers were accessed at https://www.lextutor.ca/conc/graded/ and analysed in the format provided there.

Types and tokens were calculated, and wordlist coverage was determined using Tom Cobb's VocabProfiler "VP-Compleat" on lextutor.ca (https://www.lextutor.ca/vp/comp/), with words on the exclusion word list as well as proper nouns (capitalized words mid-sentence) eliminated during analysis.

RESULTS

Question 1: How do didacticized bilingual books following a sociolinguistic structural principle compare with traditional graded readers regarding the amount of target language input (types & tokens)?

The three books contain noticeably different amounts of target language words (see Table 3). Regarding tokens, only *Holiday Job: Detective!* is comparable to the commercial monolingual graded readers, with a token count only slightly below that of the Level 2 Bookworms reader. The other books are equivalent in tokens to 18% /45% of a Level 1 Bookworms reader. *Holiday Job: Detective!* has more types than any of the comparison graded readers, with *Rettet die Geparde!* at the same level as the level 1 Bookworms reader, and *... und der Bär von London* notably below any of the other books.

Table 3. Tokens and types in the three bilingual books

	… und der Bär von London	**Rettet die Geparde!**	**Holiday Job: Detective!**	**"The President's Murderer" Oxford Bookworms Level 1 (400 headwords)**	**"The Speckled Banner" Oxford Bookworms Level 2 (700 headwords)**
Tokens	659	1648	4162	3623	4297
Types	280	523	889	504	661
Type-token	0.42	0.32	0.21	0.14	0.15

All three bilingual books have a noticeably higher type-token ratio than the comparison monolingual graded readers, i.e. on average, each token is repeated less frequently per book. This might be, though, an effect at least partially explained by the differences in text length.

Question 2: What proportion of words belongs to the K1 and K2 frequency bands?

Table 4 shows the frequency bands the words belong to. Looking at tokens, which are most relevant for identifying comprehensibility in extensive reading, *... und der Bär von London* nearly reach, and the other two books fully reach, a 95% coverage in the K1-K2 word list, with 95% coverage being at the lower end of recommendations for coverage to ensure comprehensibility (Hu & Nation, 2000).

Table 4. Frequency bands of words in the three bilingual books

		… und der Bär von London		**Rettet die Geparde!**		**Holiday Job: Detective!**		**"The President's Murderer" Oxford Bookworms Level 1 (400 headwords)**		**"The Speckled Banner" Oxford Bookworms Level 2 (700 headwords)**	
Tokens	K1	582	88.3%	1492	90.5%	3784	90.9%	3436	94.8%	4028	93.7%
	K2	40	6.1%	83	5.0%	222	5.3%	116	3.2%	145	3.4%
	K3-K8	34	5.16%	52	3.16%	134	3.22%	14	0.39%	56	1.30%
	Off list	3	0.46%	21	1.27%	22	0.53%	57	1.57%	68	1.58%
	Total	605	100%	1648	100%	4162	100%	3623	100%	4297	100%
Types	K1	221	78.93%	417	79.73%	645	72.55%	455	90.28%	579	87.60%
	K2	28	10.00%	60	11.47%	141	15.86%	25	4.96%	46	6.96%
	K3-K8	28	10.00%	37	7.08%	84	9.45%	3	0.6%	13	1.97%
	Off list	3	1.07%	9	1.72%	19	2.14%	21	4.17%	23	3.48%
	Total	208	100%	523	100%	889	100%	504	100%	661	100%

Even though the books differ notably in the number of types and tokens, the frequency list distributions of the three bilingual books are fairly similar. The three bilingual books include more types and tokens beyond the K1 frequency band than the graded readers do. The fairly high number of off list words may be partially attributed to the specialized topics (e.g. words such as "picklock"), but, to a higher degree, to lexical change (e.g. "website", "laptop", etc. are not included in the wordlist used). Sometimes, individual words had an over-proportional impact here, such as "café", which is an offlist-word, and appeared eight times in *Holiday Job: Detective!*. A number of these words are internationalisms and would not pose difficulties for learners.

DISCUSSION

Learners need input to acquire vocabulary from input. Two out of the three bilingual books provide much less target language input than monolingual graded readers. Only "Holiday Job: Detective" contains a comparable amount of English language words.

This, in itself, does not disqualify these books. It must be assumed that experienced L1 readers will read these books fairly fast, or at least faster per page than they would read a monolingual target language book. This means that even if the amount of English input encountered per words read is lower, the difference is not as dramatic when assessed per minute spent reading.

Also, in outside-of-school reading, the amount of time spent reading is not necessarily fixed. In a classroom situation, where only a few lessons per week can be dedicated to English language instruction and even less to reading in the English language, any reduction of time invested into reading the target language will be felt dearly. Yet, in free voluntary reading, an interesting book might lead to an increase in reading duration. If a student spends 30 minutes reading a bilingual book as compared to 15 minutes reading a monolingual book, the precise number of English words in the input loses its importance. This is most pronounced for the Sherlock Junior series, which aims at readers from age 8 on. In most German states, this is the age (grade 3) when students first start English as a foreign language instruction, and would not be able to tackle even a Level 1 Bookworm reader.

The type-token ratio provides more reasons for concern. It suggests that, on average, each lemma is repeated less frequently in the bilingual books when compared to the monolingual readers, though the reduced length of English text in two of these books will have inflated the difference. Less repetition equals fewer opportunities for acquisition. Also, due to the specific design of these books, repetition is fairly often in the same context, not in a different context. For example, in ... *und der Bär von London*, the word 'outrageous' appears three times, once in the phrase "That's absolutely outrageous!", and twice repeated by a parrot, directly following this utterance: "Outrageous! Outrageous!" (p. 25). In *Rettet die Geparde!,* the word "tongue" appears twice: Once uttered by Helen the housekeeper, and then, directly following this utterance, in a negotiation of meaning sequence:

> „Can you speak Afrikaans?", fragte Niklas, während Helen ihnen zwei Stück Kuchen abschnitt. [asked Niklas, while Helen cut them two slices of cake]
> Sie nickte. [She nodded] „It's my mother tongue."
> „Tongue?"
> Helen zeigte auf ihre Zunge. [Helen pointed towards her tongue]
> „Ihre Mutterzunge", rief Lea und fing an zu kichern. [„Her mother tongue", called Lea and started giggling.]
> „Muttersprache heißt das", sagte Niklas. [„This means native language", said Niklas.] (*Rettet die Geparde!*, p. 43)

In other words, quite often, a word is not being repeated in different parts of the book, allowing the reader to extend their understanding of the word over time and to continue their acquisition of the word with each occurrence. Rather, it is repeated multiple times in one 'scene', increasing salience rather than providing extended context.

Often, frequency list coverage is used to estimate difficulty of a text. Here, though, the German text supports comprehension of the English text, and these three bilingual books should be considered to be much easier than the word list analysis suggests. In other words, even though we can see that the Level 1 and Level 2 Bookworm readers have noticeably higher proportions of K1 words than any of the bilingual books, this does not mean they have to be easier for learners. What the frequency list analysis shows, though, is that for all books K1 and K2 wordlist words clearly dominate, providing many opportunities to use, and extend, basic vocabulary that is highly relevant for many different types of texts. This is important as, e.g. …und der Bär von London is marketed as targeting 8-year old pupils, who, in most German states, would be in their first year of English studies and, consequently, still in the early stages of developing K1 frequency list vocabulary.

Looking at the lexical composition of these texts is not meaningful without also looking at how the combination between languages supports comprehension and vocabulary acquisition. Unlike traditional dual books that follow a temporal-spatial structural principle, in these books the German sequences serve the English text, providing an enriched context and plenty of equivalence cues. The degree of support is so strong in *... und der Bär von London*, that the book would be comprehensible even without any English reading competences. For the other books, though, both English reading skill and a certain amount of plurilingual comprehension skill (Council of Europe, 2018) might be needed to achieve satisfying levels of comprehension.

What is of great interest here, especially in *Rettet die Geparde!* and *Holiday job: Detective!,* is the potential of the negotiation of meaning sequences to not only provide context and equivalence cues, but to also increase the salience of vocabulary items. This may, to a certain degree, balance the comparable scarcity of encounters with these words within the text.

CONCLUSION

This study looked at three bilingual books following a sociolinguistic structural principle, comparing them to typical graded readers. The large proportion of K1 and K2 frequency band vocabulary means that the books provide opportunities to encounter relevant vocabulary. Unfortunately, they include fewer target language words (types and tokens) than comparable graded readers. This observation must be balanced, though, against the added benefits created by their bilingual design, in which use of the L1 creates an enriched context, and may increase salience of some target language words.

Limitations of this study & desiderata for further research

The degree to which the three books discussed differ in design and in the quantitative measures described here suggests a broad variability of books on the market more generally. This might limit the generalizability of these findings.

Also, an analysis of the input provided by these books, and the potential supports offered by their texts can only be very tentative. The decisive factor in evaluating these books is how actual language learners make use of these affordances. Importantly, the assumption that bilingual books can serve language/vocabulary acquisition is based on the premise that the English text in these bilingual books is processed in a way similar to text in monolingual English books, and that the way it is processed is beneficial for language acquisition. This premise can be challenged in two different ways. First, in some bilingual readers reading the English text sections is not essential for understanding the gist of the story. Learners may not read these sections at all, or read them without an attempt at comprehension. If no attempt at comprehension is made, it can be assumed, no acquisition is likely to derived from the input. If this were the case, then books with the same target language input, but who structure the non-target language input in a way to maximize processing of the target language input (without losing the richness of the context), should have higher rates of acquisition than those that do not.

Even if we assume that bilingual texts can support vocabulary acquisition, individual differences might be of interest (Swanborn & Glopper, 1999). One relevant individual difference might be the degree of plurilingual comprehension skill, understood here as “the capacity to use the knowledge of and proficiency (even partial) in one or more languages as leverage for approaching texts in other languages and so achieve the communication goal” (Council of Europe,

2018: 160), or, in other words, "the practical functional ability to exploit plurilingualism for comprehension" (Council of Europe, 2018: 160). Such books as were discussed here might, on the one hand, lend themselves towards developing plurilingual comprehension, but, on the other hand, might require some degree of plurilingual comprehension. This is more pronounced for *Rettet die Geparde! and Holiday Job: Detective!* in which the non-target language is used in different, less predictable ways to provide context, resulting in a higher number of implicit contextual cues.

Emotional-affective dimensions related to reading non-monolingual books should also be addressed. Languages are not just tools, they are intertwined with learners' identities. The presence or absence of specific languages in the classroom (cf. Gogolin's (1994) monolingual habitus) is also a statement about which students, and which aspects of students' lives, are acknowledged in the classroom. This might be especially relevant in the case of minority and migration-related languages, which, unlike the majority language (Gierlinger, 2015; Aminifard & Mehrpour, 2019), are rarely included in foreign language teaching (Hu, 2010).

In a related vein, it should be criticized that this paper looks only at bilingual texts. This decision was a consequence of the current market for non-monolingual books, in which few multilingual books, and virtually no multilingual books specifically for foreign language learning, exist. But in a society not characterized by monolingual students studying one foreign language, but by students with significant likelihood of life-world multilingualism who often formally study multiple languages at school and sometimes later in life, bilingual books are limited in their ability to demonstrate the whole range and complexity of plurilingual comprehension and acquisition from context. Fully multilingual text, possibly adaptive, might open up opportunities for more complex, yet more realistic, multilingual reading and vocabulary acquisition. Digital or hybrid texts that allow learners many choices in what languages to access when (e.g., the multilingual storybook "MuViT" (Elsner, 2011), the plurilingual computer game MElang-E (Buendgens-Kosten et al., 2019), or multilingual texts supported by reading pens) may be especially promising in such a context.

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i Previously learned/acquired languages can be viewed purely as resources for the purpose of learning/acquiring a target language. While this aspect will be forefronted in this paper, it still acknowledges the second, and probably more important aspect, i.e. that plurilingual competencies themselves can and should be fostered in a post-multilingual-turn- classroom.

ii This applies specifically to bilingual books written for language learning, i.e. books that combine pedagogic design principles with either a sociolinguistic structural principle or a temporal-spatial design principle. In other words, this may not apply to literary works employing multiple languages outside of a language learning contexts. For example, the use of French in the German-language novel "Zauberberg" by Thomas Mann reflects sociolinguistic structural principles (Hans Castorp from Germany uses French as a lingua franca when talking to Clawdia Chauchat from Russia), but lacks the kinds of scaffolding pedagogically-designed bilingual texts provide.

iii All text in square brackets are translations added for the convenience of the reader.