

Enhancing Vocabulary Recognition in English Foreign Language Learners With and Without Learning Disabilities: Effects of a Multi Component Storytelling Intervention Approach

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The English language plays a major role around the world, making it important to learn English in order to participate and communicate in our globalized age. Adequate foreign language (L2) skills are important for everyday life and can even enhance performance in one's first language (L1). A growing number of very heterogeneous classrooms make it necessary to develop strategies that are beneficial for both high and low achievers. The purpose of this single-case study was to evaluate the effects of a multicomponent intervention consisting of storytelling, flashcards, and a reward procedure on 24 secondary-level students with and without learning disabilities. It appears that all participants benefited from the intervention and improved their sight word vocabulary knowledge. Students diagnosed with a learning disability showed the greatest improvements based on the results of visual analysis, effect size, and a piecewise regression analysis. In addition, follow-up data collected three weeks after the intervention showed that the effects maintained at a very high level.

Keywords: Storytelling, Flashcards, Group Rewards, Vocabulary Recognition, English as a Foreign Language

INTRODUCTION

Importance of English as a Foreign Language

Foreign language (L2) learning is an important aspect of education today. Almost two thirds of the world's population are able to speak two or more languages (Crystal, 2006). It is especially essential to acquire English, one of the most widely taught foreign languages worldwide (Crystal, 2003). Thus, English skills can enhance success in school and the chance of future employment (Reddy, 2016). In addition, it can increase social participation, since many aspects of society even in non-English speaking countries are influenced by English terms such as *social media*, *internet*, *news*, *advertisement*, *fashion*, and so on. In sum, to give everyone the opportunity to participate fully in a multilingual society, L2 learning is an important aspect of education for every individual regardless of the degree of their academic abilities (United Nations, 2006).

For students whose literacy performance in their mother tongue lags behind that of their peers, acquiring literacy in English as L2 is especially challenging (Fraser,

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2007; Ganschow & Sparks, 2000; Kahn-Horwitz et al., 2006; Romonath et al., 2005). This is even more true for those that meet the criteria of a language-based learning disability, characterized by severe problems in understanding and using one's home language in spoken and/or written form (Newhall, 2012). Despite the challenges that students with different literacy problems are faced with, numerous studies suggest that they can make great improvements in learning an L2 when provided with the right support (Sparks, 2006, 2016) while not being prevented from being successful in other subjects by learning a second language (Genesee, 2007; Kay-Raining Bird et al., 2012; Kohnert et al., 2005; Paradis, 2007). Further, L2 learning can increase motivation, participation and performance in students' first language (L1) due to positive cross-linguistic links between L1 and L2 (Erdos et al., 2014; Sparks, 2009; Sparks et al., 2008). Due to the increasingly heterogeneous nature of classrooms today, teachers need methods that meet the needs of both high and low achievers when it comes to acquiring L2 skills (Leons et al., 2009; McColl, 2005).

Vocabulary Acquisition

Overall performance in school depends heavily on the ability to retrieve specific information from long-term memory (Wolgemuth et al., 2008). Similarly, a main aspect of learning an L2 involves the ability to recall vocabulary from long-term memory, the so-called *mental lexicon*. This area poses a particular challenge for many low achievers (Amiryousefi & Ketabi, 2011; Clark & Paivio, 1991; Simon, 2000). Therefore, sight word acquisition and repetitive practice are very important for relieving the demands on working memory and helping struggling students to store vocabulary and, as a result, lay the foundation for communicating in an L2 (Coady & Huckin, 1997; Grabe, 2004; Morra & Camba, 2009; Schmitt, 2010). In particular, results of current research suggest that frequency of encounter (repetition) and additional support through, for example, visual or verbal mnemonics can facilitate vocabulary learning (Amiryousefi & Ketabi, 2011; Ramezanali et al., 2020; Uchiyara et al., 2019).

In his Dual Coding Theory (DCT), Paivio (1991), gives advice about what effective instruction should focus on. This theory assumes that multiple modalities help students to memorize information more easily. For example, when information is presented in a verbal, visual, and gestural way, the likelihood of the information being remembered increases (Paivio & Lambert, 1981). In the case of vocabulary learning, the use of visual, verbal, and gestural connections could facilitate memorization, as the inclusion of multiple modalities seems to increase the chances of remembering new words (Paivio & Lambert, 1981).

Storytelling

Storytelling offers one way of meeting the aforementioned requirements of effective learning (verbalization, gestural support) and, therefore, can activate and motivate learners as teachers tell a story in a very active and communicative way (Roney, 1996). The story is presented visually so that learners can read along while listening. In storytelling, new words can be conveyed while embedding them in a meaningful context, and can bring teacher and students into a communicative circle (Cameron, 2001; Ellis & Brewster, 2002; Roney, 1996). Through communicative in-

teractions between teacher and students, motivation as well as language acquisition can be enhanced (Ellis & Brewster, 2002).

Furthermore, storytelling provides a relevant and motivating context that also appears to be effective when teaching vocabulary (Joshi, 2005). Thus, when new vocabulary is embedded into a meaningful context, it is more likely to be stored (Amiryousefi & Ketabi, 2011; Dong, 2013; Leons et al., 2009; Nation, 2015). If meaningful context is also highly connected to the learners' interests, it is beneficial for remembering vocabulary, especially over time (Oxford & Scarcella, 1994; Van, 2009).

To date, most studies that have examined storytelling in L2 learning have focused on improving reading comprehension and general language skills (Al-Mansour & Al-Shorman, 2011; Hemmati et al., 2015; Huang, 2006; Kim, 2010), with results suggesting great benefits in those areas. However, no study has evaluated the effects of storytelling on vocabulary recognition of English L2 learners, nor have any studies focused on students in inclusive settings. Barwasser et al. (2020) have previously evaluated the use of storytelling with students with language-based learning disabilities and found multicomponent storytelling as a beneficial method for this group of students.

Flashcards

According to the DCT, unknown words can be stored in the mental lexicon more efficiently when introduced with visual support (Schmitt, 2010; Thompson, 1987; Uchihara et al., 2019). By adding flashcards to a storytelling intervention, the requirement of the visual modality can be fulfilled. This method has proven to have a positive impact on sight word acquisition in different subjects (Crowley et al., 2013; Rich et al., 2016). Indeed, flashcards often present words to be trained supported by matching pictures (Oxford & Crookall, 1990) which let students activate the visual system first, as the picture is probably known and afterwards the verbal system for decoding is used. According to Paivio (1991), this type of dual coding is of great importance for the retention of information. Pictorial information benefits from dual coding at this point, as it is represented in both the visual and the verbal system and can therefore generally be better secured than abstract words, since humans automatically assign verbal information to the images they see. Using Flashcards including matching pictures especially facilitates learning in English as L2 (Abbasian & Ghorbanpout, 2016; Thompson, 1987).

Motivational Components

To implement storytelling as well as flashcards in the vocabulary learning of English L2 learners with and without learning difficulties, it may be helpful to also include motivational components. Especially for struggling learners who most likely have experienced failure in their school career and therefore have developed foreign language learning anxiety (Horwitz, 2001), motivation is an essential component of learning (García & de Caso, 2004; Horwitz et al., 1986; Sparks, 1995). One way to motivate learners is to use a system of group rewards. Defined as a contingency in which receiving a reward is dependent on the behaviour of each member of the group (Cooper et al., 2007), this strategy can help to improve students' on-task behavior, as every learner is responsible for the success of the whole group.

Self-graphing as one component of self-monitoring has proven to be particularly practical in this context. As a method of visually recording students' own learning process (Hirsch et al., 2013), self-graphing lets students see changes in their own abilities by recording daily results in a graph, for example. Monitoring one's own learning curve has been found to have positive effects on-task behavior and academic success (Amato-Zech et al., 2006; Gunter et al., 2003; Legge et al., 2010).

Research Question

The present study took place in Germany, a major non-English-speaking country. German teachers are predominantly faced with inclusive classrooms, as especially students with learning disabilities attend general education classes as part of the realization of the Convention on the Rights of Persons with Disabilities (European Agency, 2017). To adequately support every student in very heterogeneous classrooms, it is necessary to develop methods that teachers can implement rather easily and that are beneficial for students with different levels of ability.

The aforementioned components of storytelling, flashcards, as well as motivational aspects, which all seem to have a positive impact on learning, and especially vocabulary learning, were combined in the study. The specific question underlying the study, therefore, was as follows: Can a multicomponent intervention consisting of storytelling, flashcards, group rewards, and self-graphing help students with and without learning disabilities acquire English vocabulary as sight words?

METHODS

Participants and Setting

The study was carried out at a secondary school in a low socio-economic area in North Rhine-Westphalia (Germany). It was concentrated on two seven-grade classrooms, one of which was an inclusion class. All students of both classes were included in the selection process for the study ($N = 33$). Final participants were chosen based on the following criteria:

- 1) Low performance in English learning in general: the teachers gave information about the children's previous assessment performance in English, especially vocabulary knowledge and learning difficulties, on the basis of test scores in the classroom setting.
- 2) Low performance on an English vocabulary test: A researcher-developed vocabulary pretest was additionally used, consisting of 120 common English words. The exact structure of the test is described below under instrument since it has the same structure as the measurement for collecting data during baseline and intervention.

The words were selected from a list of the 1,000 most frequently used words in the English language (Education First, 2019). The vocabulary test was administered over three days (40 words each session) in order not to overwhelm the children. Eligible to participate were students who translated 10 or less words expressively and correctly from English into German (German spelling was not considered) and were recommended by the teacher based on previous results. As an outcome of this process, a total number of 24 students, meeting the criteria, participated in the study. Of

these, three students were German L2 learners from different language backgrounds. The literacy abilities of six of them were so low that they had been diagnosed with a learning disability (see above). Whereas in many countries, this condition is only ascribed to individuals with average general intellectual functioning, the German concept also includes students with a below average IQ (Grünke & Cavendish, 2016). Through the aforementioned vocabulary test, 30 words were identified that were answered incorrectly across the 24 participants for the storytelling intervention.

Materials

The stories told by three graduate university students who served as interventionists (prior to the study, the second author had briefed them on how to implement the treatment in three 45-minute sessions) were printed in big letters and presented in a ring binder that could be positioned so that participants were able follow the story auditory and visually. The 12 stories for the intervention were composed by the interventionists (available from the first author upon request) who also conducted the training after being instructed by the authors of this study. They tried to keep the stories equal with regard to sentence structure and word difficulty. Every story consisted of 150 words and contained the same characters and was part of an overall framework plot. The stories dealt with topics related to the everyday reality of teenagers to arouse the participants' interest. Furthermore, each story contained 10 randomly assigned words out of the 30 words to be trained. To draw attention to these words, they were highlighted on the printed version. All stories were written in English. In addition, 30 flashcards, each presenting one of the 30 words and related pictures on a 8.3 x 11.7-inch sheet, were used. Finally, for the self-graphing procedure as well as the group reward, self-created graphs and tokens were used. The diagrams consisted of 12 consecutive lines (maximum number of intervention sessions), each with empty boxes to be filled in by the students according to the number of correct answers at the measurement points.

Design

To estimate the effects of the intervention both process-wise and individually, a multiple baseline design across participants (AB) was applied (Ledford & Gast, 2018). The study took place over a period of six weeks. Participants were randomly distributed over six groups of four students each, who received intervention together. Only the six students with learning disabilities were evenly assigned to the groups. The groups were randomly allocated to three intervention starting times. Data was collected after baseline and intervention sessions, totaling 16 measurements. The groups started the intervention with a time delay as they had a minimum of four and a maximum of six sessions, whereby two groups always started the intervention at the same time. Consequently, the intervention took place 10-12 times. A follow-up measurement was conducted three weeks after the intervention with a two-week Easter break in between to determine how well students maintained the vocabulary over time.

Measurement and Dependent Variable

The measurement consisted of a vocabulary test of the 30 words that were taught in the intervention step-by-step through storytelling. The measurement was conducted over a period of six weeks directly after the intervention sessions. Students had to complete the vocabulary test within 5 minutes. The measurement instrument was constructed the same way as the vocabulary pretest. The children received two sheets (8.5 x 11 inches) each with two columns. In the left-hand column the 30 English words were placed one below the other, and in the blank right-hand column the students were to write the correct German translation. As in the pretest, the German orthography was not evaluated. As long as it was clear that the students knew the German translation for the English word, the word counted as correct. This way of capturing expressive vocabulary was chosen to find out if the English word in its entire word form is already stored in the students' memory and if they are able to recognize and understand it in their L1.

In terms of inter-observer agreement, all three interventionists counted the correct words on the tests with 100% agreement for each measurement time. This was due to the fact that words that were counted as correct, for example synonyms, were determined by the authors beforehand. The order in which the 30 words were presented was randomized in each measurement. At the end of the intervention, participants were asked to complete a questionnaire for social validity. Specifically, students were asked to report whether they liked the storytelling method and would like to continue working with it, whether remembering new words through storytelling was easy, and whether they liked to work in a group. Finally, they were also asked to fill in their personal graph at the end of the sessions.

Procedures

During the baseline phase, students worked within their groups of four. For a period of 35 minutes, they worked on math and German worksheets that were randomly chosen for each session. These were simple puzzles with the intention under no circumstances to train English words in order to get an adequate baseline of the students. The vocabulary test, which served as the measurement, was completed directly after the working phase in each baseline session.

Within Phase B (intervention) storytelling as a multicomponent intervention was also implemented for a period of 35 minutes in each session. Groups were led by three master students who each were responsible for two storytelling groups. These were the same students who did the treatment fidelity checks and the data collection after each baseline and storytelling session. Implementation of the intervention was carried out as part of a two-step model, which included repetition of the 10 words from the previous session and introduction of 10 new words at the beginning as a pre-listening phase. This was realized with the help of flashcards and matching pictures to train meaning and pronunciation for 10 minutes.

The storytelling component followed as the second step of the intervention for 25 minutes. Each narrative contained 10 of the 30 unknown words, randomly chosen. Each word was used in at least three stories and appeared twice in the same story. As soon as one of the highlighted vocabulary was mentioned by the interven-

tionist while telling the story, the corresponding flashcard with the word and the picture was brought out and discussed and repeated with the students. Every session was conducted according to this two-stage model. The first three intervention sessions were dedicated to mentioning all 30 words, 10 words at each meeting. Sessions 4–14 were focused on automation and repetition, with all words recurring randomly after being introduced the first time. Just as in the baseline condition, the participants were evaluated again with the 30-word vocabulary test after each session.

After each measurement of the B Phase, students completed the self-graphing sheet to see their own progress. They received one point for maintaining the level of known vocabulary and two points for improving their score. Additionally, the points of each member of the group was summed up to count the overall score of the whole group. The goal was to reach a previously defined number of known words to receive a group reward.

Treatment Fidelity

A manual was available for every interventionist with step-by-step explanations of how to implement the training in order to ensure identical treatment for each group. Additionally, the interventionists were asked to complete a treatment fidelity checklist after each session to make sure the standards of the study were constantly fulfilled. Furthermore, graduate students who were not involved in the treatment observed at least one third of all sessions and filled out the same treatment fidelity checklist to make sure the intervention was implemented as planned. It included 15 questions regarding the following general topics: environment (e.g., “Did the session take place without interruptions?”), material (e.g., “Was the material ready before the session started: stories, flashcards, ring binders, laptop?”), procedure (e.g., “Was the content of the previous lesson repeated before the new session started?”), diagnostic/feedback (e.g., “Did the participants record their scores on the graph?”), and how the interventionists dealt with the students (e.g., “Was the attention of the participants drawn to the task?”). Most of the questions demanded a “yes/no” answer, but some had to be answered on a 5-point scale from “entirely true” to “does not apply at all.” Review of the self-assessment scores and observation scores indicated that interventionists followed the criteria of the study at all times.

RESULTS

Visual Analysis

Figure 1 shows an overall stable baseline with no trend. Directly after the intervention was implemented, all participants showed improvements. Each student improved recognition of correct training words, visible in a stable slope.

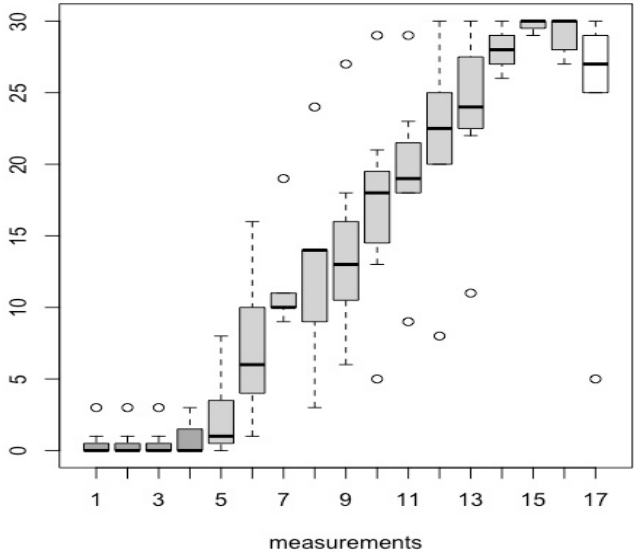


Figure 1. Number of correctly recognized words for phases A and B of groups 1 and 2 with baseline measurement times = 4

As the intervention times increased, the variance in the results decreased, but there were some outliers below and above, indicating that children reacted differently to the intervention. However, groups 1 and 2 (see Figure 1) displayed less variance than the other four groups.

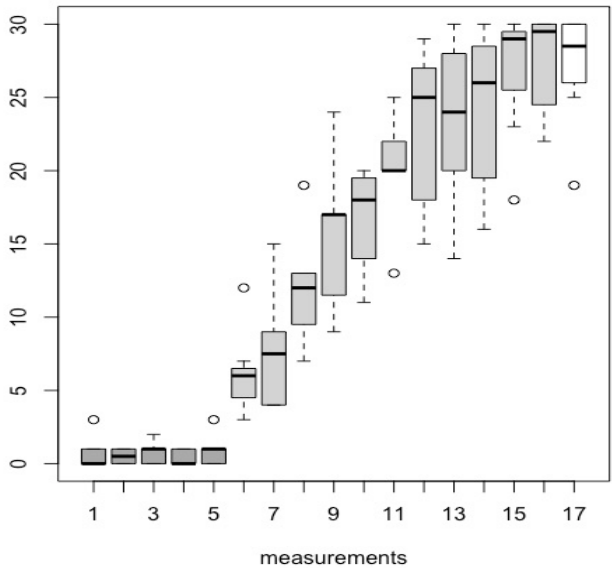


Figure 2. Number of correctly recognized words for phases A and B of groups 3 and 4 with baseline measurement times = 5

Figure 2 also displays an overall stable baseline with no trend tendency. Again, immediately after the intervention, all participants improved. Specifically, all participants from groups 3 and 4 improved their recognition of vocabulary, as seen by a stable slope effect. In contrast, for groups 1 and 2, the variance of the results was greater per measurement time. However, there were fewer outliers. The greatest variance of outcomes was seen for measurements 12, 13, and 14.

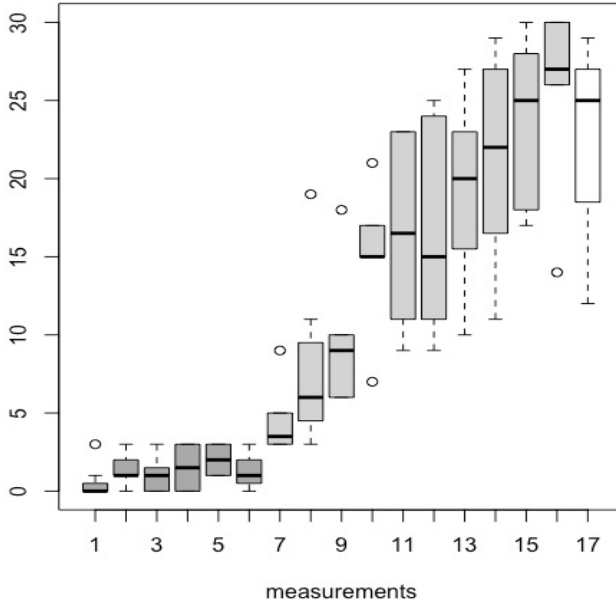


Figure 3. Number of correctly recognized words for phases A and B of groups 5 and 6 with baseline measurement times = 6

Figure 3 shows minimal differences when comparing all three figures. The participants showed slower improvement but still a stable slope. Additionally, an enormous variance of results was recorded for groups 5 and 6, particularly for measurements 11, 12, and 14. Nevertheless, the members of these two groups also presented an improvement in their trained vocabulary.

In terms of the overall follow-up measurement, almost all participants in each of the groups remembered the same number of correctly recognized words as before the Easter break. Data was more stable for groups 1 and 2, along with groups 3 and 4. Groups 5 and 6 are characterized by rather varying results with outliers, but also a mean value that shows groups were able to maintain a good overall score.

Statistical Analysis

Descriptive statistics for the number of correctly recognized words for each group are depicted in Table 1. As illustrated, all groups showed great improvement when comparing Phase A and Phase B. Groups 3 and 4 showed the most significant

improvement, with an average increase of 17.76 words, closely followed by groups 5 and 6, with an average increase to a total of 16.25 words in Phase B. However, groups 1 and 2 were not far behind and also displayed a strong improvement, with 14.73 words in the intervention phase.

Table 1. Descriptive Data

	<i>n</i> (A)	<i>n</i> (B)	<i>M</i> (A) <i>SD</i>	<i>M</i> (B) <i>SD</i>	<i>Md</i> (A) Min/Max	<i>Md</i> (B) Min/Max
Group 1 & 2	6	10	1.15 (1.19)	15.88 (8.80)	1 (0/3)	17.00 (10/24)
Group 3 & 4	5	11	0.71 (0.91)	18.47 (8.53)	0 (0/3)	20.00 (13.5/25)
Group 5 & 6	4	12	0.64 (1.09)	16.89 (10.12)	0 (0/3)	18 (5.5/29.00)

Note. *M* = Mean; *Md* = Median; *SD* = Standard deviation.

For further data analysis, overlap indices were calculated to estimate the effectiveness of the intervention. Specifically, Tau-U, which is a combination of the Mann-Whitney U-test and Kendall’s rank correlation (Parker et al., 2011), non-overlap of all pairs (NAP), and improved rate difference (IRD) were calculated. Tau-U values ranged from .96 to 1.00 ($p < .001$) across all groups, and there was no need for any baseline correction. These results cannot be attributed to chance with a probability of less than 0.10%. Regarding NAP, all participants reached the maximal possible score of 1.00 ($p < .001$). Finally, IRD scores ranged from 0.96 to 1.00, indicating a high treatment effect.

Table 2. Effect Sizes for Number of Correctly Recognized Words

	TauU	<i>p</i>	NAP	<i>p</i>	IRD
Group 1 and 2	0.98	.00*	1.00	.00*	0.99
Group 3 and 4	1.00	.00*	1.00	.00*	1.00
Group 5 and 6	0.96	.00*	1.00	.00*	0.96

Note. *significant at the .001 level.

In addition, a piecewise regression analysis was conducted across the three group constellations (level 1 analysis) and across all participants (level 2 analysis). All groups revealed a statistically significant slope effect, meaning that their performance increased gradually in the ability to recall the meaning of the English words presented to them. In addition, a significant level effect was found for groups 3 and 4. Concerning overall effects across all groups, a highly significant slope effect and a significant level effect emerged.

Table 3. Piecewise Regression Model for Number of Correctly Recognized Words (level 1 and 2)

	B	SE	t	p
group 1 & group 2				
Intercept	0.716	1.652	0.434	.66
Trend	0.175	0.315	0.557	.60
Level	1.159	1.381	0.839	.40
Slope	2.186	0.350	6.251	.00**
group 3 & group 4				
Intercept	0.894	1.425	0.627	.53
Trend	-0.009	0.340	-0.026	.99
Level	4.114	1.106	3.718	.00**
Slope	2.240	0.356	6.297	.00**
group 5 & group 6				
Intercept	0.429	1.934	0.222	.83
Trend	0.086	0.508	-0.169	.87
Level	1.457	1.198	1.216	.23
Slope	2.291	0.519	4.417	.00**
overall				
Intercept	0.751	0.939	0.800	.42
Trend	0.065	0.207	0.316	.75
Level	2.271	0.721	3.149	.002*
Slope	2.256	0.217	10.392	.00**

Note. *significant at the .01 level. **significant at the .001 level.

DISCUSSION

Main Findings

The purpose of this study was to examine the effects of a multicomponent intervention consisting of storytelling, flashcards, and motivational components on the vocabulary acquisition of 24 struggling secondary school students. Findings indicate that all participants benefited from the intervention and improved their sight word knowledge. In addition, follow-up data shows that almost all participants maintained their last score after three weeks, two weeks of which were Easter break. All effect sizes underline a high potency of this intervention. All participants who had been diagnosed with a learning disability were able to enhance their sight word knowledge as well. Moreover, they showed one of the greatest improvements during the intervention phase. This fact might not be too surprising, however, as low achievers tend

to show greater gains than higher achievers, as phenomenon known as the “Robin Hood Effect” (Häfner et al., 2017).

Since the new words were introduced gradually, an immediate level effect was not expected. As shown in the visual analysis, improvement was visible after a couple of intervention sessions. Introducing the words in the stories step-by-step was intended to counteract an excessive cognitive demand, especially for struggling learners who face problems in mental retention and working memory processes. Groups 5 and 6 demonstrated slower improvement. This may be explained, on the one hand, as a result of having two students in these groups who performed lower than the others but still had great individual improvement, and, on the other hand, by only having 10 interventions while the other groups had 11 and 12. This finding leads to the assumption that 10 interventions might be insufficient to automatize all words as trained, or individual motivational problems might have played a role.

Limitations

The following limitations must be considered when interpreting the results of this study. By implementing a multicomponent intervention, we do not know the extent to which each component contributed to the results. Thus, a specific component may have a greater impact on the dependent variable than others. Not being able to say which component was effective and which was not is the greatest limitation of the current study.

Additionally the study was conducted with only 24 participants, making it difficult to generalize the findings.

Moreover, we cannot make general statements about a deeper understanding of meaning of the target words, or usage in communication as we only measured sight word acquisition. As our focus was English as an L2 we also cannot make any statements with regard to other languages.

The Follow-up measurement was conducted only three weeks after the intervention but due to the fact that there were two weeks of vacation within the break and the learners struggled with remembering new words in the past, a bias of the results seems to be unlikely.

Furthermore, some of our participants were German L2 learners, for whom it might have been more difficult to remember and automatize the chosen trained sight words. Taking a look at the standard deviations and result variances in Phase B across all groups, it is obvious that some students demonstrated greater gain than others. One reason might be the fact that not all students were German L1 learners. Even though all students showed improvement, it is important to determine the reasons for their different reactions to the intervention.

This study was about the enhanced performance of sight words with regard to remembering the form and meaning of each word. We did not examine whether the chosen words could be read or written as well.

With regard to the measurement, it should be noted that it was carried out by the same persons who carried out the intervention. However, each survey was reviewed by all three master students with 100% agreement; thus, any interference by the master students with the results of the groups she supervised is highly unlikely. In terms of measurement there would have also been other ways to measure English

sight words. The decision to let the students translate the target words into German rather than for example giving English explanations of the words was made due to two reasons. On the one hand this task might have been too difficult regarding the learners' English skills and on the other hand the authors wanted to make sure that the words were also known and recognized in the L1.

Finally, as this was a pilot study to assess the effects of a self-developed intervention for the first time, the intervention was not compared to other interventions. Therefore, it is unknown whether it is better than other interventions that also focus on vocabulary learning.

Implications for Future Research

Research on vocabulary acquisition has grown steadily in recent years (Schmitt, 2019). Nevertheless, there has so far been little research in the area of heterogeneous learning groups in the German-speaking area. The promising method of storytelling has also hardly been researched in connection with L2 vocabulary learning (Al-Mansour & Al-Shorman, 2011; Hemmati et al., 2015; Huang, 2006; Kim, 2010; Barwasser et al., 2020). This work thus offers a first basis of evidence in this area. Suggestions as to what must be done in future research in order to further substantiate these first promising but limited results follow. By reviewing the individual components of the intervention in future studies, it could be evaluated which of them are necessary for the effectiveness of the intervention and which could be left out.

To generalize the results, future studies should also include a larger sample size and examine whether storytelling can be used successfully with a whole class. In addition, the study should be repeated with students with different backgrounds, ages, and challenges, such as external behavioral problems. In future research, the impact on reading and writing skills could be studied to identify what areas storytelling can impact. Given that many students learn German as L2 and the fact that many students learn English as a third language, the L1s of the subjects should be recorded in future research.

The intervention is both economical and easy to implement. Design of the materials and implementation itself is simple and can be carried out by teachers without any difficulty. Furthermore, it can be adapted to different age groups by adjusting the themes of the stories and the respective training words to participants' everyday lives. Further, individual components can be exchanged and adapted to students with specific learning challenges.

The results show that students with learning disabilities, even if only a handful in the current study, benefited from the intervention. This is of note given a recurring discussion about whether it is advisable to teach students with a learning disability a foreign language. Thus, there is an indication that students with learning difficulties also benefited from the intervention in terms of long-term effects. In a future study, a larger number of children with learning disabilities could be compared with students without learning disabilities in their response to the intervention.

An additional important area of further research would be to compare the storytelling intervention with another common English L2 intervention that also focuses on vocabulary training in an experimental group design.

Despite its limitations and need for further research, the present study provides important information about the effectiveness of this multicomponent intervention in expanding the vocabulary in English as a foreign language of struggling learners with and without learning disabilities in an inclusive environment. Above all, the simplicity of the intervention should lead to it being used to help children and young people learn English by creating a positive context and making students enjoy learning English through adaptation to the children's world and a high level of active foreign language learning.

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