The Effects of an Intervention Combining Peer Tutoring With Story Mapping on the Text Comprehension of Struggling Readers: A Case Report

Matthias Grünke   *Tatjana Leidig*

University of Cologne

This single-case study tested a peer tutoring model using a visualizing strategy (story mapping) to teach struggling students better text comprehension. Three teams each consisting of a tutor and a tutee attending a fourth-grade general education classroom participated in the experiment. A short series of observations was carried out before and after the treatment. The intervention consisted of merely five lessons spread across one school week. However, it still induced large effects on the tutees' ability to correctly answer different sets of comprehension questions about short stories. Besides, the procedures were easy to implement and applicable to everyday life at school without any difficulty. The article includes a discussion of the limitations of the study and suggests directions for future research.

Introduction
Impact of Poor Reading Comprehension

The purpose of education in schools is manifold. However, equipping students with the skills necessary to participate in the social life of their community is undoubtedly a central aim (e.g., Counts, 1978). Literary language plays a crucial role in this respect. Without the ability to read and write, opportunities for academic and occupational success, as well as for full participation in a modern society, are extremely limited (e.g., Schickedanz & Collins, 2013).

One hurdle that poses challenges for many children is the shift from learning to read to reading to learn (Harlaar,

Dale, & Plomin, 2007). Whereas most elementary school students acquire ample skills to decode isolated words quickly, accurately, and silently during their first years of formal education, a considerable percentage of them do not sufficiently master the thinking processes of selecting facts, information, or ideas from a text required to understand its intended meaning (Veeravagu, Muthusamy, Marimuthu, & Subrayan, 2010). This ability is often referred to as 'reading comprehension' and – according to Snow and Sweet (2003) – defined as "… the process of simultaneously extracting and constructing meaning through interaction and involvement with written language" (p. 1). Such a conception accounts for the challenge of both figuring out how print represents words as well as integrating new meanings with old information.

According to Bailey, Hoeft, Abound, and Cutting (2016), about every tenth child demonstrates specific deficits in reading comprehension (SRCD). These students show a remarkably low level of understanding text despite adequate decoding skills. This, in turn, has devastating effects on almost every aspect of one's academic career. As Grünke, Wilbert, and Calder Stegemann (2013) point out, "… if readers have serious difficulties to gather information from a historical account, a mathematical word problem, or a passage in a biology book, they are bound to fail in most every task that is put before them" (p. 51). Thus, it is no wonder that reading comprehension is often considered the skill most crucial for succeeding in school (Antoniou, 2010).

Ways to Foster Reading Comprehension in Students

Fortunately, many evidence-based methods have been found to improve struggling students' ability to extract meaning from a text (e.g., Berkeley, Scruggs, & Mastropieri, 2010; Reed & Vaughn, 2012; Suggate, 2016). To summarize, effective interventions are based on a combination of a content-enhancement approach plus cognitive as well as

metacognitive strategy instruction (Antoniou, 2010). These methods provide frequent opportunities for learners to respond to intervention and engage them very actively in the teaching process (Archer & Hughes, 2010), and their effect sizes often exceed 1.5 standard deviations (e.g., Talbott, Lloyd, & Tankersley, 1994). But even the most powerful teaching technique is not worth much if it does not find its way into the classroom. And herein lies the dilemma: As Johnson and Semmelroth (2014) point out, "… while arguably no other content area in education has produced more instructional practice research than special education, the profession itself has made little progress in getting these instructional strategies into practice" (p. 71). One of the main reasons for this gap is the failure of researchers to produce findings that help teachers to cope with the challenges of having to provide and facilitate effective instruction for a wide range of learners in very diverse classrooms while having only very limited resources at their disposal (Deshler, 2003).

The need to engage in paperwork, school conferences, management of support staff, parent counseling, case management, etc., is ever growing for today's teachers. According to an estimate by Vannest and Hagan-Burke (2009), the percentage of their standard weekly hours that teachers have left to spend on instructing their students has shrunk to an all-time low of 20 in recent years. Hence, all the accumulated knowledge on the benefits of various reading comprehension interventions is worth little if students at risk for failure do not have access to them.

Combining Peer Tutoring and Story Mapping to Support Struggling Comprehenders

Thus, there is a great need for studies on how to improve struggling learners' ability to understand text under the demanding circumstances that many educators face on a daily

basis. One option is to diverge from the traditional scenario whereby the teacher conducts and directs the instruction, while still ensuring a high intensity of student involvement. In this context, peer tutoring has been offered as an alternative teaching arrangement, in which high-performing children or youth assist their low-achieving classmates through guided repetition of key concepts (Kearns, Fuchs, Fuchs, McMaster, & Sáenz, 2015). Such an approach enables teachers to share the responsibility for instruction and frees up time for them to attend to the needs of individual students while the rest of the class is actively engaged in whatever task they need to work on at a given time.

In a large meta-analysis on the effects of peer tutoring on the achievement of elementary and secondary students, Bowman-Perrott and colleagues (2013) found that this kind of intervention produced greater gains than non-peer tutoring instructional arrangements. Furthermore, they substantiated the salient role that rewards play as a moderator variable: Peer tutoring interventions using some kind of a token economy had considerably larger effect sizes than those that did not. This finding is not surprising. According to a recent meta-analysis by Soares, Harrison, Vannest, and McClelland (2016), systems in which elementary or high school students can earn tokens for certain desirable behaviors in the classroom are remarkably beneficial.

According to Antoniou (2010), story mapping seems to be especially effective for fostering reading comprehension within a peer tutorial setting. Story mapping is based on the schema theory by Anderson, Spiro, and Anderson (1978). It proposes that adequate skills to gain meaning from what is read depends on an individual's ability to link previous knowledge structures (schemata) with textual material. A story map is a visual representation of the key elements of a narrative (e.g., characters, setting, conflict, solution), in which a learner is supposed to fill in the information from a text as

she or he works through it. By having to identify the different aspects of a story, students are required to read through a text with heightened attention, which helps them to remember the relevant details and makes it unlikely that they just skim certain parts (Boon, Paal, Hintz, & Cornelius-Freyre, 2015; Grünke, Janning, & Sperling, 2016; Stagliano & Boon, 2009).

Using story mapping in a peer tutorial setting involves a tutor who first demonstrates the procedure by reading a short piece of a narrative out loud, pausing, thinking about whether the respective sentences or passage included any information that should be jotted into a certain part of the graphic organizer, and then either taking some notes or continuing with the text. The process is guided by certain steps that the tutor reverts to as she or he tries to glean the gist of the written material. As such, it follows the scaffolding sequence for direct instruction of "I do it, we do it, you do it" (Archer & Hughes, 2010). This well-known routine is related to Vygotksy's (1978) concept of the zone of proximal development. The zone of proximal development is the gap between what a student has already mastered (the actual level of development) and what she or he can achieve when provided with educational support (potential development). A teacher or tutor offers the assistants needed for attaining a respective skill by working through a number of examples together until the learner is able to perform the task on her or his own.

Peer tutoring approaches have been successfully used to foster reading comprehension skills in students at risk. One especially prominent example is reciprocal teaching (Palinscar & Brown, 2009) – a strategy in which classmates actively discuss a text guided by the strategies of questioning, summarizing, predicting, and clarifying. In his mega-analysis, Hattie (2012) identified reciprocal teaching as a powerful tool to boost reading comprehension. The same is true for story mapping. Similarly, Dexter and Hughes (2011) as well as

Dexter, Park, and Hughes (2011) highlighted the benefits of this strategy for students who have trouble extracting meaning from text in their synopsis of empirical studies on graphic organizers. However, according to our knowledge, the effects of combining peer tutoring and story mapping on the reading comprehension skills of elementary-school children at risk of failing to master the transition from learning to read to reading to learn has never been systematically evaluated.

Research Purpose of this Study

The aim of this pilot study, therefore, was to fill this void in the literature by testing the applicability and efficacy of an arrangement wherein students at the end of their elementary education worked in pairs to help one another to understand text better through the use of a well-known graphic organizing technique (story mapping). To enhance the efficacy of the intervention, we supplemented it with a token economy system. Further, we deemed it important to come up with a very short intervention (five daily sessions) and set it up in such a way that it can easily and quickly be adopted by teachers even under the demanding circumstances of everyday life at school.

Method

Participants and Setting

We recruited three tutees and three tutors from a fourth-grade class of an elementary school in a large metropolitan city in Northrhein-Westfalia (Germany) on the basis of a classwide screening. Our aim was to select participants with ample decoding skills, who differed distinctly with regard to their ability to understand and interpret text as a whole. We used the Salzburg Reading and Writing Test (SLRT-II; Moll & Landerl, 2014) to identify students who scored above the 50th percentile on reading fluency. From this group, we

selected three tutees who fell in the bottom tenth part of their respective reference group and three tutors who scored above the 75th percentile in the German Reading Proficiency Test (ELFE 1-6; Lenhard & Schneider, 2006), an instrument to measure text comprehension.

The tutees consisted of Acar, Efkan, and Oliver; the tutors were Baran, Fadil, and Liam (with names changed to ensure anonymity). All participants were male. At the time of the study, Acar was 10;7 years old. His parents were children of Turkish migrants. Even though neither Acar nor his parents were born in Turkey, the dominant language spoken at his home was Turkish. Efkan was also 10;7 years old. Like Acar, he came from a Turkish immigrant background. However, unlike in Acar's case, both of Efkan's parents were born in Turkey. At home, he spoke Turkish with his family. Finally, Oliver was 9;9 years old. He did not have an immigrant background and, therefore, spoke German at home with his family.

Acar was matched with Baran, Efkan with Fadil, and Oliver with Liam to form three peer tutoring teams. Baran was 9;8 years old and the son of Iraqi parents. He spoke Kurdish at home. Fadil was 10;0 years old and came from a Turkish family (with Turkish as the preferred language in the home). Finally, Liam was 9;9 years old; he did not have an immigrant background and, therefore, spoke German at home. The composition of the teams was arranged by the classroom teacher on the basis of students' test results and the teacher's assessment of the social compatibility of each student with his respective partner.

Response Measures
The dependent measures included randomly selected sets of 10 comprehension questions about standardized short stories of 150 words each. We used a widely accepted and well-tested pool of 18 narratives and corresponding comprehension

questions from a previous study (Grünke et al., 2013). The questions were stated in such a way that only one specific and distinct answer would be counted as correct. It was possible to achieve points between 0 and 10 for each set for Correctly Answered Comprehension Questions (CACQ). The items had previously been tested with average-achieving fourth graders to ensure that they were of fairly equal difficulty, ranging slightly around 0.50 (Grünke, 2011).

During each probe, the tutees were presented with a different, randomly selected story from the pool mentioned above, along with the corresponding set of questions (no participant was presented with the same text twice). We asked the students to read their respective narrative, while trying to understand it and remember its basic content. Students were given a time limit of 15 minutes to finish their assignment. We told them that they were allowed to do whatever seemed meaningful to them to memorize the gist of each story (rehearse the information verbally, make notes, draw diagrams, etc.). When the students decided they were ready to answer the questions for a given text, the sheet with the text as well as any other aids (notes, pictures, story maps, etc.) were removed.

Experimental Design and Data Analysis
We used a special modification of a multiple-baseline design (Kazdin, 2011) across subjects to show the effects of the intervention. The number of daily probes during the baseline condition varied for each participant: We ordered the three tutees according to which of their given names came first in the alphabet. The baseline of the first student on the list (Acar) consisted of five measurements, the baseline for the second student (Efkan) of four, and the baseline for the third student (Oliver) of three. This procedure was supposed to ensure that possible improvements in performance upon the onset of the intervention could not be linked to any other

event except the start of the peer support arrangement. During the five training sessions, no measures of the students' comprehension skills were taken. That is, unlike most single-case studies, we did not collect any response measures during the time of the intervention. This was due to the teacher's request to keep data collection to the barest minimum possible. Upon completion of the intervention, we captured the performance of each tutee on three consecutive days.

Intervention
The Friday before the treatment was to start on the following Monday, the tutors participated in a two-hour training by an undergraduate university student of special education on the components of the instructional framework of the intervention, including modeling and strategy instruction. The lessons followed a simple, but detailed, script, which was given to the tutors in order to guide them through the process.

The intervention consisted of five daily 45-minute lessons (Monday to Friday) during which each team worked independently in a quiet area of the classroom, while the rest of the children were engaged in self-study. Along the way, the undergraduate student was present to provide support if needed. We used a German version of a simple story map, depicted in Figure 1.

Story Map

Title: _____

_____

Beginning

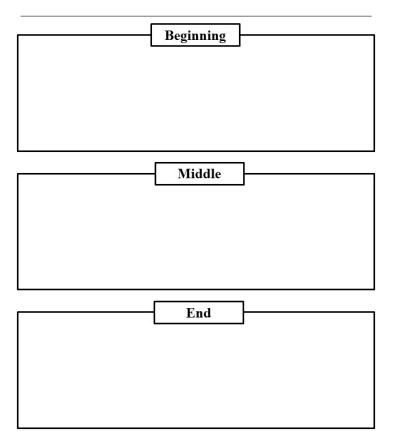| Middle |
|:---:|
| |

End

Figure 1. A simple story map used in this study.

In the first lesson, the tutors presented a poster to the tutees that visualized the steps of the story mapping strategy: (1) Make yourself familiar with the headlines of the boxes in the story map. (2) Read the first two sentences of the story. (3) Jot down any important information in the appropriate

boxes of the story map. (4) Read the next two sentences of the story and again take some notes. (5) Continue until the story is finished. (6) Tell the story in your own words with the help of the story map. The tutors then modeled the strategy by reading a short (80 words) narrative entitled "The man who climbed up the wall," from a German storybook by Wölfel (2010). Subsequently, the tutees were asked to repeat the procedure with the same text using a new story map, while the tutors scaffolded their attempts.

During the second lesson, the tutors modeled the approach once more, but this time with a slightly longer text of 100 words from the same storybook. Afterwards the tutees had to read a different narrative of the same length and fill out their own story map with the help of the tutors while referring to the poster. The third lesson followed the same pattern. During the fourth lesson, the tutors read a story consisting of 150 words without using a prefabricated story map. Instead, they created their own graphic organizer on which they took notes. The tutees imitated the actions of the tutors with a different text. In the fifth and final lesson, the tutees worked through two to three additional stories of 150 words each while generating their own visual representations with little or no assistance from the tutors.

To help keep up the students' motivation, we implemented a token economy system whereby teams were able to earn points on a daily basis for working through stories and filling out pre-built or self-created graphic organizers. If they accumulated 10 points or more by the end of the intervention, they got a cake of their choice, baked by the undergraduate student. All teams achieved this benchmark and received their rewards.

Results

The raw scores, means, and ranges of CACQ for each tutee during baseline and maintenance conditions are listed in

Table 1. As illustrated, Acar showed a strong improvement in performance after participating in the peer tutorial intervention. Whereas he was able to only answer between 0 and 4 questions correctly during the baseline condition, he scored 8 points, on average, in the maintenance phase. Due to his already relatively high baseline scores, Efkan's improvements were still noteworthy, but not as great. He started out with a mean value of 5.75 and ended up achieving the maximum score of 10 during the last two measurements. Oliver's baseline was stable, with him attaining 3 points during each of the three probes. After the intervention, he answered almost three times as many questions correctly as before. All in all, a visual inspection of their scores clearly suggests that the treatment had a positive effect on the tutees' ability to correctly answer the comprehensions questions about the short stories.

Table 1: *CACQ for Each Tutee*

		Baseline	Maintenance
Acar	N (Probes)	5	3
	Raw	2; 1; 4; 1; 0;	6; 8; 10;
	Scores	1.60	8.00
	M	0-4	6-10
	Range		
Efkan	N (Probes)	4	3
	Raw	4; 5, 7; 5;	6; 10; 10;
	Scores	5.75	8.67
	M	4-7	6-10
	Range		
Oliver	N (Probes)	3	3
	Raw	3; 3; 3;	7; 10; 9;
	Scores	3.00	8.67
	M	3-3	60-167
	Range		

To quantify the magnitude of the outcome of the treatment, we used mean baseline difference (MBD) as an effect size. MBD is easily calculated by subtracting the mean of the baseline observations from the mean of the maintenance scores and then dividing the difference by the mean of baseline observations and multiplying by 100 (Campbell & Herzinger, 2010). For Acar, the MBD equaled $(8.00 - 1.60)/1.60$ x $100 = 400$, for Efkan $(8.67 - 5.75)/5.75$ x $100 = 51$, and for Oliver $(8.67 - 3.00)/3.00$ x $100 = 189$. The indices of Acar and Oliver may be considered as indications of a very effective treatment, and even Efkan's score suggests that he responded well to the intervention.

In addition, we calculated Tau-U for each participant as well as a weighted, across-case Tau-U using an online calculator (Vannest, Parker, & Gonen, 2011). This method is a simple test that accounts for both data overlap and data trend within and across two phases. Compared to other non-parametric methods for analyzing single-case data, Tau-U is an effective, non-parametric technique, free from assumptions of distribution and linearity, robust to serial dependence, and superior in both power and precision (Brossart, Vannest, Davis, & Patience, 2014). Tau-U follows the "S" sampling distribution, making it possible to calculate exact p values and confidence intervals. In multiple-baseline designs across subjects, settings, goals, or problems, scores from individual phase contrasts can and should be aggregated. Tau-U analysis yields scores between -1.0 and +1.0, with a score of 0 indicating no difference between phases. Values from 0.2 to 0.5 are considered small to moderate intervention effects, whereas values between 0.5 and 0.8 are viewed as strong. Thus, any value above 0.8 may be considered an indication of a very beneficial treatment (Parker & Vannest, 2009; Parker, Vannest, & Davis, 2014).

A Tau-U of the maximum score of 1 was obtained for all participants except Efkan; yet his Tau-U, 0.83, was also

very high (see Table 2). Equaling 0.94 [$SD = 0.20$, $z = 3.43$, $p = < .01$], the weighted Tau-U across all three tutees was statistically significant, and thus provides evidence of a highly effective treatment as it is close to the maximum value of 1.

Table 2: Effects Sizes and Tau-U Scores per Case

	MBD	Tau-U
Acar	400	1.00 [$SD = 0.45$, $Z = 2.24$, $p = .025$]
Efkan	051	0.83 [$SD = 0.47$, $Z = 1.77$, $p = .077$]
Oliver	189	1.00 [$SD = 0.51$, $Z = 1.96$, $p = .049$]

Discussion

In this single-case study, teaching a specific graphic organizing strategy (story mapping) to enhance the text comprehension skills of struggling learners through peer tutoring proved highly effective. Even though the intervention lasted for only one five-day school week, the tutees achieved a level of performance that was near ceiling after the treatment ended. Thus, all methods employed to analyze our data (visual inspection, MBD, Tau-U) led to conclusions that speak to the remarkable potency of our approach. Whereas the percentages of correctly answered comprehension questions in connection with stories that the tutees read averaged between 16.00 and 57.50 before the training, these percentages rose to mean values between 80.00 and 86.70 after the intervention was finished. These findings support previous research on the benefits of story mapping and peer tutoring (see above).

However, some limitations to the study should be noted. First, the findings are not generalizable to other participants. Conclusions about populations are always based on limited samples. Hence, even results from very large

experiments cannot automatically be applied to everyone supposed to be represented by a given sample. This is especially true in the case of studies in which subjects are not randomly drawn from a population. However, the problem of limited generalizability constitutes a bigger threat to the external validity of small-N studies, such as the current investigation. In addition, we do not know how persistent the effects are over time.

Another limitation pertains to the applicability of our findings to other contexts. We conducted our research with fourth graders, who learned how to answer a certain style of comprehension questions about a peculiar kind of short stories. We do not know whether similar results would be found with regard to understanding a word problem, a passage in a biology textbook, or a worksheet used in a social studies lesson. The story maps helped students in the present study to comprehend a certain genre. It remains uncertain whether our approach would have worked equally well with other types of texts. The same reservation applies to different age groups. Finally, we do not know what specifically caused the improvements in reading comprehension, because peer tutoring, story mapping, and positive reinforcement through a reward system were all delivered in the same sequence of lessons.

Nevertheless, our findings yield a reason for hope that it does not take extraordinary effort to help prevent students from falling behind as they try to master the critical transition from learning to read to reading to learn. Peer tutoring is relatively easy to implement and, according to Kohler and Greenwood (1990), "permits the efficient application of the teacher's and peer tutor's skills in the process of individualizing instruction and managing students' classroom behavior" (p. 307). Our intervention lasted just five days, but elicited remarkable improvements. Implementing similar approaches on a regular basis in day-to-

day school life could surely contribute to effectively addressing the individual needs of all students. Teachers are advised to make use of the potential that our approach of combining peer tutoring and story mapping offers. They should make sure to not overlook children who have trouble comprehending what they read at the end of their elementary school education and match them with a suitable classmate as a tutor who guides them through the process of using graphic organizers to better understand text.

In conclusion, the findings of our single-case analysis are promising and provide a platform for additional research on peer tutoring and story mapping. Future studies should focus on replicating and expanding upon our results. In particular, it would be worthwhile to consider the shortcomings of this experiment as discussed above by conducting additional research with different and larger samples, other genres of text, longer maintenance phases, and so on. Besides, it would be profitable to examine the benefits that tutors receive from supporting their struggling classmates.

References

Anderson, R.C., Spiro, R.J., & Anderson, M.C. (1978). Schemata as scaffolding for the representation of information in connected discourse. *American Educational Research Journal, 15*(3), 433-39.

Antoniou, F. (2010). Reading comprehension. In R. T. Boon & V. G. Spencer (Eds.), *Best practices for the inclusive classroom* (pp. 155-186). Waco, TX: Prufrock.

Acrher, A. L., & Hughes, C. A. (2010). *Explicit instruction.* New York, NY: Guilford.

Bailey, S., Hoeft. F., Aboud, K., & Cutting., L. (2016). Anomalous gray matter patterns in specific reading comprehension deficit are independent of dyslexia. *Annals of Dyslexia, 66*(3), 256-274.

Berkeley, S., Scruggs, T. E., & Mastropieri, M. A. (2010). Reading comprehension instruction for students with learning disabilities. *Remedial and Special Education, 31*(6), 423-436.

Boon, R. T., Paal, M., Hintz, A.-M., Cornelius-Freyre, M. (2015). A review of story mapping instruction for secondary students with LD. *Learning Disabilities: A Contemporary Journal, 13*(2), 117-140.

Bowman-Perrott, C., Davis, H., Vannest, K., Williams, L., Greenwood, C., & Parker, R. (2013). Academic benefits of peer tutoring: A meta-analytic review of single-case research. *School Psychology Review, 42*(1), 39-55.

Brossart, D. F., Vannest K. J., Davis J. L., & Patience M. A. (2014). Incorporating non-overlap indices with visual analysis for quantifying intervention effectiveness in single-case experimental designs. *Neuropsychological Rehabilitation, 24*(3/4), 464-491.

Campbell, J. M., & Herzinger, C. V. (2010). Statistics and single-subject research methodology. In D. L. Gast (Ed.), *Single subject research methodology in behavioral sciences* (pp. 91-109). New York, NY: Routledge.

Counts, G. S. (1978). *Dare the schools build a new social order?* Carbondale, IL: Southern Illinois University Press.

Deshler, D. D. (2003). Intervention research and bridging the gap between research and practice. *Learning Disabilities: A Contemporary Journal, 1*(1), 1-7.

Dexter, D. D., & Hughes, C. A. (2011). Graphic organizers and students with learning disabilities: A meta-analysis. *Learning Disability Quarterly, 34*(1), 51-72.

Dexter, D. D., Park, Y. J., & Hughes, C. A. (2011). A meta-analytic review of graphic organizers and science instruction for adolescents with learning disabilities. *Learning Disabilities Research and Practice, 26*(4), 204-13.

Grünke, M. (2011, March). *Fostering reading comprehension of students with learning disabilities through story-mapping.* Paper presented at the annual meeting of the German Study Group on Educational Research, Bamberg, Germany.

Grünke, M., Janning, A. M., & Sperling, M. (2016). The effects of a peer-tutoring intervention on the text production of students with learning and speech problems: A case report. *Learning Disabilities: A Contemporary Journal, 14*(2), 225-235.

Grünke, M., Wilbert, J., & Calder Stegemann, K. J. (2013). Analyzing the effects of story mapping on the reading comprehension of children with low intellectual abilities. *Learning Disabilities: A Contemporary Journal, 11*(2), 51-64.

Harlaar, N., Dale, P. S., & Plomin, R. (2007). From learning to read to reading to learn: Substantial and stable genetic influence. *Child Development, 78*(1), 116-131.

Hattie, J. (2012). *Visible learning: Maximizing impact on learning.* London, UK: Routledge.

Johnson, E., & Semmelroth, C. L. (2014). Special education teacher evaluation: Why it matters, what makes it challenging, and how to address these challenges. *Assessment for Effective Intervention, 39*(2), 71-82.

Kazdin, A. E. (2011). Evidence-based treatment research: Advances, limitations, and next steps. *The American Psychologist, 66*(8), 685-699.

Kearns, D. M., Fuchs, D., Fuchs, L. S., McMaster, K. L., & Sáenz, L. (2015). Peer-assisted learning strategies to improve students' word recognition and reading comprehension. In K. R. Harris & L. Melzer (Eds.), *The power of peers in the classroom: Enhancing learning and social skills* (pp. 143-187). New York, NY: Guilford.

Kohler, F. W., & Greenwood, C. R. (1990). Effects of collateral peer supportive behaviors within the class-

wide peer tutoring program. *Journal of Applied Behavior Analysis, 23*(3), 307-322.

Lenhard, W., & Schneider, W. (2006). *German reading proficiency test* (ELFE 1-6). Göttingen, Germany: Hogrefe.

Martínez, R. S., Aricak, T., & Jewell, J. (2008). Influence of reading attitude on reading achievement: A test of the temporal-interaction model. *Psychology in the Schools, 45*(10), 1010-1022.

Moll, K., & Landerl, K. (2014). *Salzburg reading and writing test* (SLRT-II). Göttingen, Germany: Hogrefe.

Palincsar, A. S., & Brown, A. L. (2009). Interactive teaching to promote independent learning from text. In D. Lapp & D. Fischer (Eds.), *Essential readings on comprehension* (pp. 101-106). Newark, DE: International Reading Association.

Parker, R. I., & Vannest, K. J. (2009). An improved effect size for single-case research: Nonoverlap of all pairs. *Behavior Therapy, 40*(4), 357-367.

Parker, R. I., Vannest, K. J., & Davis, J. L. (2014). A simple method to control positive baseline trend within data non-overlap. *Journal of Special Education, 48*(2), 79-91.

Reed, D. K., & Vaughn, S. (2012). Retell as an indicator of reading comprehension. *Scientific Studies of Reading, 16*(3), 187–271.

Schickedanz, J. A., & Collins, M. F. (2013). *So much more than the ABCs*. Washington, DC: National Association for the Education of Young Children.

Snow, C. E., & Sweet, A. P. (2003). *Rethinking reading comprehension*. New York: Guilford Press.

Soares, D. A., Harrison, J. R., Vannest, K. J., & McClelland, S. S. (2016). Effect size for token economy use in contemporary classroom settings: A meta-analysis of single-case research. *School Psychology Review, 45*(4), 379-399.

Stagliano, C., & Boon, R. T. (2009). The effects of a story-mapping procedure to improve the comprehension skills of expository text passages for elementary students with learning disabilities. *Learning Disabilities: A Contemporary Journal, 7*(2), 35-58.

Suggate, S. P. (2016). A meta-analysis of the long-term effects of phonemic awareness, phonics, fluency, and reading comprehension interventions. *Journal of Learning Disabilities, 49*(1), 77-96.

Talbott, E., Lloyd, J. W., & Tankersley, M. (1994). Effects of reading comprehension interventions with students with learning disabilities. *Learning Disability Quarterly, 17*(3), 223-232.

Vannest, K. J., & Hagan-Burke, S. (2009). Teachers' time use in special education. *Remedial and Special Education, 31*(2), 126-142.

Vannest, K. J., Parker, R. I., & Gonen, O. (2011). *Single-case research: Web-based calculators for SCR analysis (Version 1.0)* [Web-based application]. College Station, TX: Texas A&M University.

Veeravagu, J., Muthusamy, C., Marimuthu, R., & Subrayan, A. (2010). Using Bloom's taxonomy to gauge students' reading comprehension performance. *Canadian Social Science, 6*(3), 205-212.

Vigotsky, L. (1978). Interaction between learning and development. *Readings on the Development of Children, 23*(3), 34-41.

Wölfel, U. (2010). *Achtundzwanzig Lachgeschichten* [Twenty-eight laugh stories]. Stuttgart, Germany: Thienemann.