Implementing Peer-Assisted Writing Support in German Secondary Schools

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The alarming results of large studies such as the National Assessment of Educational Progress (NAEP; National Center for Education Statistics, 2012) point to an urgent need for writing support and call for specific and effective methods to foster writing competencies. The main purpose of this paper is to describe an innovative peer-assisted approach designed to foster text composition. Topping’s (2001) step-by-step-algorithm was converted into a board game consisting of highly structured and motivating materials in order to encourage struggling writers to work on their text production skills. Our concept is based on two effective instructional strategies: “direct instruction” (Kame‘enui, Fien, & Korgesaar, 2013) and “positive role modeling” (Macklem, 2011). In addition to describing our concept, this paper reports on initial experiences with this method in two German secondary school classes. A total of 47 fifth-grade students and their teachers were involved in a formative evaluation of our approach as a means of identifying strengths and weaknesses as seen by the participants. The feedback of both students and teachers was encouraging, giving rise to the hope that the concept presented in this paper can be smoothly implemented into everyday classroom routines and serve as an aid for children and youth with learning disabilities (LD) and other struggling writers to improve on their text production abilities.

Our study was a pilot study and, consequently, we are unable to provide information on how effective the intervention actually is. Summative evaluation of the performance gains will be the subject of future research.

Keywords: Peer-assisted strategy, writing support, secondary school, struggling writers, board game, learning disabilities
**Introduction**

*The Importance of Supporting Struggling Writers*

Writing is a crucial cultural tool (Graham, Gillespie, & McKeown, 2013) beyond school, impacting not only an individual's integration into the labor market (Bynner, 2004), but also his or her everyday life. In the developed world, along with mathematics and reading, writing is subsumed under the concept of literacy, meaning to "develop one's knowledge and potential" (Kirsch, Jungeblut, Jenkins, & Kolstad, 2002, p. 2). As such, text production abilities are an important part of the development of independent and productive citizens.

The results of the National Assessment of Educational Progress (NAEP) have shown an urgent need for effective programs to support children struggling with writing. Differentiating between four levels of writing competencies – (a) below basic, (b) basic, (c) proficient, and (d) advanced – the study found that more than two thirds of the participating students fell into the categories of "below basic" and "basic." A high number of eighth graders (54%) were ranked as "basic" while 20% were rated as "below basic." Twenty-four percent of the participants reached the level "proficient," and only 3% ranked as "advanced" (National Center for Education Statistics, 2012). Most students performing below basic writing proficiency may be classified as having learning disabilities (LD) (Graham & Perin, 2007). As such, they often demonstrate poor working memory, planning, and organizing skills, which are crucial for producing meaningful text (Almargot, Caporossi, Chesnet, & Ros, 2011; Mähler, 2016).

These alarming results present a discouraging prospect for these students, who likely will continue to be struggling writers in adulthood without intervention, and underscore the importance of focusing on writing skills and writing support, both on the part of researchers and practitioners. While teachers spend a lot of time teaching children to read and do mathematics, they devote much less time to instructing them how to write (Grünke & Leonard-Zabel, 2015). Also, a review of the German research community suggests that didactic writing gets relatively little attention compared to research on mathematics and reading (Philipp, 2014). For example, in searching PSYNDEX, the German equivalent of PsycINFO, Grünke and Leonard-Zabel (2015) found a large number of articles and book chapters on teaching mathematical skills (1,380), but only 37 publications dealing with fostering text composition and associated expression.

*Strategies for Fostering Writing Skills*

The writing process is very complex (Lienemann, Graham, Leader-Janssen, & Reid, 2006), consisting of drafting, revising, and editing (Lassonde & Richards, 2013). Specifically, Hayes and Flower (1980) noted that three basic processes are involved in writing: planning, translating, and reviewing. Thus,
several cognitive procedures and abilities are needed to be a successful and effective writer (National Governors Association Center for Best Practices & Council of Chief State School Officers, 2010).

Low-achieving and struggling students (like those with an LD) need a textured learning environment using well-structured instructional strategies (Reid & Lienemann, 2006). In inclusive German school settings, where children and youth with and without disabilities learn together, there is a need for teaching arrangements that offer learning opportunities to all students regardless of their academic proficiency level.

An important element of supporting struggling writers involves making it clear that the process of text composition can be divided into several parts. Therefore, instruction needs to be broken down into multiple subgoals that lead students from the very beginning of text writing to a finished product (Cook & Bennett, 2014). Further, Graham, MacArthur, and Schwartz (1998) identified four conditions that are necessary for writers to succeed in the development of writing skills: (a) knowledge, (b) skill, (c) will, and (d) self-regulation. Programs devised to strengthen writing skills, therefore, need to take these conditions into consideration.

There are several methods of supporting various aspects of writing ability; for example, self-regulated strategy development (Graham & Harris, 2005), planning for writing (Lassonde & Richards, 2013), and collaborative writing (Boscolo & Gelati, 2013). Of particular interest to the current study is collaborative writing, referred to by various terms, including peer-assisted writing. Peer-assisted writing facilitates the writing process by providing opportunities to practice new skills. It is appropriate for students who are struggling with independent text composition and has proven effective for children and youth with LD. According to Topping (2001), this method is especially effective for students starting from the age of 7 years as well as less able older students.

Peer learning can be defined as the acquisition of knowledge and skill through active helping and supporting among status equals or matched companions. It involves people from similar social groupings who are not professional teachers helping each other to learn and learning themselves by so doing. (Topping, 2005, p. 631)

Cooperative learning is based on ideas of positive interdependence and group dynamics (Johnson & Johnson, 2009). Faced with heterogeneous learning groups, “teachers confront a difficult challenge in attempting to engage all students in high-quality learning activities, even the lowest achievers […] who on their own are unable to perform some of the more difficult classroom assignments” (O’Connor & Jenkins, 2013, p. 507 [emphasis in original]). While the application of cooperative learning does not by itself improve writing outcomes
significantly, the combination of cooperative learning and use of strategies has been found to lead to improved writing outcomes (O’Connor & Jenkins, 2013).

**Supporting Writing Using a Board Game Approach**

An example of cooperative learning is the paired-writing method (Topping, 2001). Using this model, students work in pairs matched according to their writing competencies and aspects of their personalities. Students may be matched either by similar or by differing abilities. In the latter case, it is important that the differences in writing proficiency are not too large in order to avoid bored and/or dominant tutors and insecure and/or dependent tutees (ibid.). Contrary to the fears of many teachers, both weak writers (using Topping’s terminology: writers) and strong writers (in Topping’s terminology: helpers) improve using this approach (Topping, 1996, 2005; Topping, Nixon, Sutherland, & Yarrow, 2000).

**Nature of the Intervention**

The theoretical foundation of this pilot study is a strategy-based model of writing instruction conceptualized as a six-step plan derived from Topping et al. (2000). The steps are presented as a linear flowchart and are as follows:

- Step 1: Idea generation
- Step 2: Drafting
- Step 3: Reading
- Step 4: Editing
- Step 5: Best copy
- Step 6: Evaluate

Board games are highly motivating to most students and offer opportunities for interactive group experiences (Charlton, Williams, & McLaughlin, 2005) and, therefore, a board game was selected as the format for this pilot. In order to adapt the steps into a board game for the purposes of this study, we further specified and expanded them by adding writing occasion, target audience, text genre, additional evaluation steps, and recursive loops. Although Topping acknowledges that the original linear flowchart may be complex (Topping, 2001), he maintains that children should become more familiar with the elements of his model in order to diversify their writing procedure and incorporate recursive loops between steps.

We modified the original flowchart in order to demonstrate the dynamic component of the writing process to students, because writing is a recursive and nonlinear activity involving planning, drafting, revising, editing, and publishing (Graham et al., 1991). As a result, the subgoals of the writing process are presented in a circular and interdependent way, by using recursive loops in the board game that lead students forward step-by-step or back to previous steps.

When playing the game, students work together in teams of two, called pilot and co-pilot, respectively. The pilot (tutee) is the student most in need of
support; the co-pilot (tutor) is the more capable writer, who structures the process of story writing step-by-step. Our game uses the metaphor of traveling the world in an airplane as the background story; isles represent the steps of writing instruction.

The approach consists of two phases. During the first, the teacher introduces the structured steps of story writing, the hallmarks of a good story, and the materials the students will be using in the second phase. The key features are presented in accordance with the basic tenets of direct instruction and positive role modeling (Kame‘enui et al., 2013; Macklem, 2011) with special emphasis on vividly demonstrating each step of the process with an assistant (another teacher or a high-performing student). After completing this introduction, participating students get a certificate, the “pilot’s license,” to prove that they are able to “fly” in teams and write stories by themselves. The second phase involves six weeks of working in pairs using the above-mentioned materials to improve the students’ writing abilities.

The board game includes the seven steps below (shown as “isles”) listed on a world map. Before students travel to isle 1, they have to pass the “safety check” where they must specify important details about the story they are going to write (e.g., text genre and target audience). The two characters shown in Figure 1 accompany the pair throughout the game, from text writing to the best copy of the text.

*Figure 1. The pilot and the co-pilot (pictures drawn by Marc Büsing).*
The board game contains the following materials: A poster depicting the seven stations (Figure 2), one card for each station with a matching isle picture, short written specific instructions, the “safety check” card, and checklists like the “black box” (description below), and, finally, further information and directions for the teacher.

The seven steps are as follows:

1. **Collect ideas** (the student who takes the co-pilot role asks questions: *What happens? Why? How? Where? When? Who?* etc.; the pilot takes handwritten notes to sum up their ideas)

2. **Create a first draft** (the pilot sorts the handwritten notes from step 1, turns them into complete sentences, and makes a first attempt at writing a story without paying attention to spelling; the pilot gets support from the co-pilot, as needed (the pairs can choose one of five stages of support, ranging from stage 1, *great support*, to stage 5, *no support*)

3. **Read** (first the co-pilot reads out loud, the pilot repeats, the co-pilot improves incorrect words; at this point, the writer changes the perspective into that of a reader to anticipate this perspective)

4. **Edit** (the pilot revises the text according to the hallmarks of a good story and checks for order, meaning, development of suspense, actionable words, tense, spelling, and punctuation; the co-pilot repeats these steps, and the two finally exchange ideas)

5. **Compose a preliminary version** (the pilot writes the complete story down with all the improvements from step 4; the co-pilot helps with difficult words)

6. **Evaluate** (the various teams exchange their stories; each team reads and checks the other team’s story according to given indicators and gives feedback and editing advice on the “black box” sheet. This sheet structures feedback into three points: “What we really like about the text,” “What strikes us,” and “We have some open questions”)

7. **Revise and finish** (the teams exchange ideas about notable elements in the “black box”; if a team agrees with another team’s suggestions, team members make the appropriate revisions)

While the students generate their texts, the teachers observe the teams, focusing on difficult writing processes and supporting students when needed. When a team has completed one step, the tutee and tutor give each other brief, constructive feedback and travel to the next isle (i.e., move on to the next step). Given the nature of writing as a dynamic process, teams do not complete steps 1 to 7 in an automatic manner. If revisions are needed that require returning
to previous steps, the team is asked to incorporate recursive loops (to fly in a “loop”) (shown as dashed circles in Figure 2) and repeat the particular steps.

Figure 2. Poster showing the seven steps.

Each pair is provided with a portfolio for writing the story down step-by-step. In doing so, the pilot uses the right-hand page and the co-pilot uses the left-hand page to jot down their notes. For better cooperation “in the cockpit,” we set social targets for every lesson (e.g., “I’m working with my partner and we support each other”) followed by feedback from the partners and teachers. As writing stimuli, the students are given different illustrated cards, so-called “Dixit” cards, from the game *Dixit* (Roubira & Collette, n.d.), a highly communicative quiz. The pictures are designed to be very motivating and allow students to let their imagination run free.

At the end, the stories are presented to the class. At this stage, the students present their stories on specially selected paper in front of the class. They may also create a book with all the stories for the class.

**Purpose of This Paper**

In addition to adapting Topping’s (2001) original flowchart into a board game (see above), we wanted to document our initial experiences implementing the intervention under conditions of everyday life at school, including capturing the viewpoints of students and teachers on the effectiveness and feasibility of this novel approach to improving student writing. However, in conducting this inquiry, striving for the highest methodological rigor possible was not our first
priority. Rather, our goal was to administer a relatively flexible and informal survey in order to get an initial impression of how well our approach was received by students and teachers. While we hold research excellence in high esteem, we wanted to better understand the issues surrounding the application of our approach under practical conditions before tackling well-grounded hypotheses and, therefore, designed this as a pilot study.

**Methods**

**Participants**

Two schools in Germany were contacted to obtain permission to include fifth graders in our pilot study. Both were secondary schools, called “Oberschule” in the German education system. (Transition to secondary school occurs in Germany after grade four.) By the end of grade five, students know each other, and teachers are able to give an approximation of the classroom climate. Furthermore, at this age, students are expected to be able to produce stories and other forms of simple texts.

One class was located in Oldenburg, a medium-sized town in Lower Saxony. The other class was located in the large city of Hamburg. Participants were 47 students at the end of grade five. The average age was 11.1 years; 47.8% were male and 52.2% were female. Most of them had an immigrant background, with 68.1% of them speaking a language other than German in their familial contexts (the remaining 31.9% were monolingual Germans).

Further, 10.6% were diagnosed with special educational needs (this is a third more than found in the general population of fifth graders in Germany). Determination of special educational needs was based on the standards of the International Classification of Diseases and Related Health Problems (ICD-10; World Health Organization, 1992). Most of these students with special needs demonstrated some kind of LD. One teacher for each class participated in the study. Both were female, in their mid-thirties, specially trained in teaching German.

**Design and Procedure**

After obtaining the necessary parental consents, we carried out our formative evaluation study in the two classes, both receiving the same intervention. To assign the children to teams, we ranked all students according to their writing competencies, as determined through a rubric developed by Becker-Mrotzek and Böttcher (2012). Two research assistants evaluated the texts produced by the students during a free essay-writing task. Any disagreements between raters were resolved through discussion. We subsequently divided the list of students in two. The best writer from the top half of the list became the co-pilot (tutor) and the best writer from the lower half of the list became the corresponding pilot (tut-tee), and so on. As a result, every team was heterogeneously matched by writing
competency without too great a differential between the students (see Topping, 2001). When matching the pairs of students, we also focused on aspects of social interaction in the class by consulting the respective teacher about which students got along with each other. Fortuitously, it turned out that there was no need to change the initial allocation of tutors to tutees.

After five introductory sessions where the teachers explained and demonstrated the game, the teams started their independent practice for six weeks with four 45-minute sessions per week (for a total of 24 peer-tutoring training lessons). After the completion of the intervention, the two research assistants conducted surveys with the students and interviews with the teachers, as described below.

**Instruments and Data Analysis**

Upon completion of the peer-tutor intervention, students were asked the following questions through a researcher-developed questionnaire to gauge to their acceptance of the methods and materials: (1) How did you like working with the board game? (2) What did you enjoy most about the project? (3) What did you not like about the project? (4) Do you think the seven structured steps are going to help you when writing texts in the future? (5) How well did the teamwork go? Questions 1 and 4 were closed questions with fixed-choice responses. For question 1, we used a 4-point scale. For question 4, we offered just a simple yes or no choice. Questions 2, 3, and 5 were open-ended questions asking students to comment on what they thought about the intervention. (A copy of the questionnaire is available from the first author.)

In addition, the two research assistants conducted unstructured interviews with the teachers to learn how they perceived the treatment. The gist of their responses was jotted down as accurately as possible and subsequently analyzed in terms of the thinking units and general categories (see Tesch, 1990).

**Results**

**Student Surveys**

In response to the first question, “How did you like working with the board game?,” 21.3% of students responded “very much” while 55.3% answered “much.” Only 10.7% did not like the board game and answered “not much” (6.4%) or “not at all” (4.3%) (values were missing for 2.0%). For question 2, “What did you enjoy most about the project?,” 34.2% of the students mentioned writing stories with a partner and 55.3% mentioned the board game itself. Thus, encouraging struggling writers to produce texts in pairs using motivating materials seems to be a promising approach.

When asked, “Do you think the seven structured steps are going to help you when writing texts in future?,” 68.1% answered “yes” whereas 19.1% answered “no” (values were missing for 12.8%). Students who responded “yes”
were asked to provide an explanation. The following are examples of student comments:

- “I can write texts better.”
- “I learned about the indicators of a good text.”
- “Before, I didn’t know how to write a story.”
- “My problem is spelling. So by writing a draft I can improve my spelling and afterwards write the best copy.”
- “I improved my spelling.”
- “I won’t forget the several steps of writing text.”
- “I learned how to prepare a text.”

Thus, in the open-questions part of the survey, most students reported that working in teams was a positive experience for them. They also stated that being shown the steps by the teacher in the form of positive role modeling was very helpful. The results yielded no clear picture as to what the children did not like about the game. They either did not respond at all or gave very short answers indicating that some of them saw it as lasting too long.

Finally, for question 5, 65.3% of all students responded that they wished they had been given the opportunity to switch the roles of pilot and co-pilot after a while. The possibility of switching roles, therefore, should be considered in the future use of the game procedure. In addition, 18.7% of the participants mentioned that they would like to choose their own partners.

**Teacher Interviews**

During the interviews, the two teachers repeatedly expressed surprise at the fact that the students got along so well with the materials and methods. They were amazed by the quality of the writing products and the children’s level of concentration when working on the texts. Thus, launching the materials and methods in class using the principles of direct instruction led to very positive results. However, both teachers also noted that the duration of the game was challenging for some students, possibly causing them to lose motivation. In their judgment, meeting four times a week for six weeks could in the long run decrease the children’s excitement about participating. Besides, the teachers expressed their preference for more flexible instructional strategies involving active student engagement over the structured steps of direct instruction.

**Discussion and Future Implications**

The purpose of this paper was twofold: (a) to introduce the rationale behind a peer-to-peer tutorial board game based on Topping’s (2001) flowchart to foster composition skills in struggling writers; and (b) to describe the various components of the game and initial findings. To that end, we emphasized the high number of students who demonstrate severe difficulties producing meaningful texts and the dire consequences that deficits in this area have for the rest
of their lives. In addition, we cited evidence as a basis for choosing cooperative or peer-to-peer learning as a way to remedy the writing problems in students of a certain age group within inclusive schools. As mentioned, we adapted Topping’s (2001) paired-writing method to devise a board game that allows learners to get one-on-one help by fellow classmates as they practice their text production skills. The article describes the approach and the materials in sufficient detail so as to enable readers to visualize the procedure.

With regard to the second purpose of this pilot, we presented some preliminary experiences related to implementing the game in two inclusive fifth-grade classes in two secondary schools. After the six-week intervention, a survey and interviews, respectively, showed that a great majority of the students liked the game and believed that it was helpful, and that the two teachers overall responded favorably to our approach.

These initial findings are clearly subject to several limitations. First, the fact that we as game designers asked participating students and teachers how they liked our approach is likely to produce answers that are to some extent influenced by social desirability. Second, our instruments and data analysis do not meet the standards of rigorous research. However, as emphasized above, our study is not the substance of this article. At this point, we did not view it as expedient to invest what it takes to execute an ambitious and demanding survey. Rather, our goal was to outline our concept and capture some cursory feedback from participants on how the game was received under conditions of everyday life in school as the basis for continuing efforts to improve our approach and make it more feasible.

Based on the experiences we have gained over the course of executing our study and the responses we received from students and teachers, we feel encouraged to optimize the following features as we plan an elaborate and laborious survey to evaluate our approach in greater depth:

1. **Introductory phase:** The process of launching materials and methods in the classroom was very intensive and teacher-focused, applying the tenets of direct instruction. Many German educators do not like the methods that we used, considering them too stringent. Specifically, the participating teachers mentioned that they favored open-ended concepts over teacher-centered approaches like direct instruction. However, we cannot ignore the vast research base that speaks to the effectiveness of writing instructions that include demonstration, controlled exercise with prompts, and independent practice with feedback (see Cook & Bennett, 2014; Gillespie & Graham, 2014; Rogers & Graham, 2008). Thus, for our pending study, we will develop ways to make our concept appear less rigid, while maintaining the key components of direct instruction. For example, instead of having two teachers act as role models, we
will consider presenting short video sequences with a team of two students of the same age presenting the steps of text writing.

2. Organization of working in teams: In this paper, we illustrated how we used highly motivating materials while integrating effective methods such as positive role modeling and cooperative learning into a classroom environment. While both students and teachers gave positive feedback, nonetheless they indicated that some aspects needed further revision for the main project. For example, some students noted that they would prefer to switch roles during the game. As a result, we plan to diversify the intervention to include opportunities for changing partners and roles.

3. Structure of the intervention: In response to teacher feedback, we plan to adjust the length of the game and the intensity of meeting four times a week to ensure that student motivation remains high. This will also include working with teachers to make sure that every student understands the methods, the use of materials, and the pilot’s and co-pilot’s tasks.

In summary, a future study, we will take into account the insights gained from both student and teacher feedback, adapt our approach accordingly, and address the following research question: Is the peer-assisted writing support based on Topping (2001), and realized as a board game, effective for increasing students’ writing competence? We plan to not only follow the highest quality standards for summative evaluations, but also to incorporate ways to ensure maintenance of the expected treatment effects. After working in pairs and benefiting from a classmate’s support, each student needs to become independent. To that end, after successfully working in teams, students will be instructed to compose a story on their own using the materials of the game, which can serve in individual settings as scaffolding upon which to build (Puntambekar & Hübischer, 2005).

Based on these considerations, we hope to contribute to the empirical knowledge base concerning well-grounded and easily implemented practices to help improve the text production skills of students with LD and other struggling writers by means of peer teaching and the use of instructional board games. The approach introduced here represents a promising option to enable educators to meet the increased demands of attending to the individual needs of children and youth in diverse classrooms.

References


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