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Creative writing: Thinking beyond the standard text

Teaching high school students to write original texts

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CHAPTER 6

GENERAL DISCUSSION

This study aimed to develop and test teaching materials for creative writing, based on design principles for creative thinking and teachers' practical classroom experiences. The lessons developed were intended to be made available to enable teachers to incorporate creative writing into their curriculum.

When I started this dissertation project, I could have been warned: Who starts a dissertation on creative writing in secondary education when there is hardly any creative writing in secondary education? But it was too late; my interest in creative writing with students was piqued. I wanted to explore how best to teach students to develop creative ideas and to express those ideas in original and engaging writing.

The second warning came from researchers: researching creative writing is challenging (Forgeard et al., 2013; Sternberg, 2009). For example, Forgeard et al. argue that creative writing is harder to study and harder to assess than other psychological constructs. After completing this dissertation, I can agree that creative writing is not easy to study and assess. Perhaps this contributed to the fact that nothing about this dissertation turned out to be straightforward: Everything was nuanced.

What helped was that creative writing fell on fertile ground. Interest in creative thinking and writing was growing in both research and education. On the one hand, researchers and policymakers emphasize the need for creative thinkers. They also recognize the importance of creative writing. This is reflected, for example, in policy decisions in the field of education, such as the inclusion of the domain of *written expression* as part of the innovative domain test on creative thinking skills in the Program for International Student Assessment (PISA) for 2021 (OECD, 2019, postponed to 2022 due to Covid-19).

In addition, the ability to write original and unique texts is becoming increasingly important in a world where writing, both on paper and digitally, has become much more common (OECD, 2016). One example is the recent rise of artificial intelligence. For writing, the emergence of ChatGPT (OpenAI, 2023) is particularly noteworthy. While we do not yet fully understand the implications of artificial intelligence for education, it is expected to have a significant impact on *what* we teach (Holmes et al., 2019) and *how* we teach. Although AI can support student learning and creativity (Marrone et al., 2022), the prevailing view is that human creative thinking and writing will continue to be essential for the original expression of ideas and feelings that are uniquely human. In addition, creative writing teaches students to use and expand their imagination. Not surprisingly,

it is precisely the importance of this imagination that has been emphasized in previous studies (Hernández-Torrano & Ibrayeva, 2020; OECD, 2019).

On the other hand, the increased focus on creativity is influencing Dutch education today, with organizations such as the Netherlands Institute for Curriculum Development (SLO) developing a curriculum framework 'Creative thinking and acting' [Creatief denken en handelen] (SLO, 2020) and a renewed focus on creative writing in relation to literature (Koopman, 2017, Stichting Lezen [Reading Foundation], 2017). The proposed curriculum for Dutch education for 2019 also emphasizes "experimentation with language and language forms [...] in which play and fantasy play an important role" as one of the seven core aspects of the subject of Dutch (Curriculum.nu). As creative writing may be reintroduced into the curriculum in the Netherlands, it is crucial for teachers and teacher educators to know what processes are involved in creative writing and how they can be stimulated.

Although the field of creativity has grown considerably in recent years, with extensive research in various domains, the field of creative writing remains relatively understudied, as Sternberg already noted in 2009. For example, as early as 2013, Forgeard et al. called for the dissemination of instructional practices that foster students' creative writing skills (p. 330). In particular, there is a lack of research that focuses on effective approaches to teaching creative writing at the secondary level.

Therefore, four studies were conducted in this dissertation. The first study was a process study to examine the differences between communicative and creative writing processes and their effects on writing quality (Chapter 2). The findings contributed to the development of design principles for teaching creative writing in secondary schools. Other sources supplemented these principles, including teachers' experiences and a review of the literature on creative thinking in education. They served as the basis for two lesson units: one for creative writing (Chapter 3) and one for creative communicative writing (Chapter 4). We developed the creative writing unit in collaboration with teachers and writing researchers. We then applied the findings and design principles from that unit to the creative communicative writing unit. Both units were tested in authentic school settings. Finally, we conducted a meta-analysis of creative writing in secondary schools to determine if additional design principles were needed (Chapter 5).

In this concluding chapter, I will discuss the main findings of each study and address the central questions of this dissertation, as well as the limitations of the study and opportunities for further research.

1 SUMMARY OF THE MAIN FINDINGS

Although almost everything about this dissertation was nuanced, this is perhaps most true of the findings. In the first study (Chapter 2), we first examined the difference between creative and argumentative writing processes to design an effective creative writing unit. We determined the extent to which: (1) students' writing behaviors differed for creative and argumentative writing, and (2) the effect of writing behaviors on writing performance differed by task type. In addition, we examined the contribution of student variables such as writing motivation and creativity to students' writing behaviors.

The results showed that the quality of both creative and argumentative texts improved when students wrote longer texts using short writing cycles with short pauses in between. There was also a difference between the creative and argumentative writing processes, as creative writing processes were faster, more stable in terms of writing flow, and resulted in longer texts with fewer revisions than argumentative writing processes. Finally, learner characteristics played a role. Students wrote longer and better texts at higher writing speeds when they considered themselves more creative and thought more positively about writing. Finally, students wrote better creative texts when they believed in their own creativity and/or when they believed that writing required personal effort.

Based on these findings, we concluded that having high school students write creatively might be beneficial to their writing performance because creative writing promotes text production, speed, and flow. Thus, a creative writing unit should focus on encouraging text production and flow writing. In addition, such a unit should pay attention to student motivation. Students should understand the importance of creative writing, and practicing creative writing can help increase their creative confidence.

We co-designed a creative writing unit with teachers to promote flow writing and to foster students' motivation to write creatively and their attitudes toward creativity, in the second study (Chapter 3). We measured the effect of the writing unit on students' creative and argumentative writing performance and writing speed in a quasi-experimental, switching replications design ($N = 105$) and included creative self-concept (CSC) as a moderator in the analysis. In the first phase of the intervention (Panel 1) half of the students received creative writing instruction (experimental condition) and the other half argumentative writing instruction (control condition), after which the conditions switched in the second phase (Panel 2).

The unit was based on two design principles and two conditions. The first principle is to explicitly teach creative thinking strategies, and the second is to

provide opportunities for choice and discovery to stimulate imagination and fantasy. The conditions for successful creative teaching are: First, to foster intrinsic motivation; and second, to create a learning environment that fosters creativity. A full description of the writing unit and design principles can be found in Chapter 3.

Results on writing quality were mixed. In Panel 1, creative writing instruction improved the quality of creative writing compared to argumentative writing instruction, but in Panel 2 we did not find this effect. Moreover, in Panel 1, we found that for argumentative writing, it did not matter whether students received argumentative or creative writing instruction because argumentative writing was equally good in both conditions. This suggests a transfer effect of creative writing instruction on the quality of argumentative writing, with larger effects for students with relatively high CSC. We did not find this effect in the second panel, but we did find a transfer effect from creative writing instruction in Panel 1 to argumentative writing instruction in Panel 2, again most pronounced for high CSC students. High CSC students wrote better argumentative texts when they received creative writing instruction first, followed by argumentative writing instruction.

For the group that received creative writing instruction in Panel 1, there was a decrease in creative writing speed in Panel 1, except for students with relatively high CSC. In Panel 2, however, creative writing speed increased. In addition, higher CSC had a greater effect on the quality of creative and argumentative writing and on the speed of argumentative and creative writing in Panel 2 for the group that received creative writing instruction first and then argumentative writing instruction.

These findings suggest the importance of building students' creative self-confidence. Furthermore, we were able to show that skills can be transferred from creative writing to argumentative writing, but not vice versa, both in terms of writing quality and writing speed. Thus, we can tentatively conclude that it is possible to design a creative writing unit that has an impact on students' writing quality and speed.

In the third and fourth studies (Chapter 4), we developed and tested a writing unit designed for writing original communicative texts, a domain that does not require creativity *by default*. We included divergent thinking and narrative techniques.

The third study was a design study in which we adapted the design of the creative writing unit and tested its feasibility in a pre-posttest design. In the fourth study, we tested whether the writing unit improved the holistic text quality of both communicative and narrative texts and affected students' writing

behavior. In addition, we examined motivational variables as possible moderators.

The results of the two studies showed that students were relatively positive about the lessons and the creativity of the lessons. However, we did not find an effect of the unit on writing quality for either genre, although we did find an effect on students' writing behavior: the unit enhanced students' narrative writing production, even though the training focused on communicative writing. This suggests a transfer effect from communicative to narrative writing: even training students to think divergently for communicative writing enhances their narrative writing process. As in the previous studies, motivation played a key role: students with positive affective attitudes toward writing produced better narrative texts, and in study three, they also produced better communicative texts. These findings led us to revise our instructional design. I return to this topic on page 156.

Study five (Chapter 5) reviews the research literature on creative writing (e.g., text quality and processes) in secondary education. Thirteen studies were reviewed. The results were consistent with the findings of our second study: instruction helps to improve both students' creative writing performance and the creative writing process. In addition, the intensity of instruction was found to be important because writing quality improved when instruction was extensive. However, we were not able to fully clarify what exactly instruction should consist of due to underreporting in many articles. We did find, nevertheless, that writing quality improved when students read fictional texts and when attention was paid to the writing process. In this process, instruction was most effective when it focused on the writing process or a combination of the writing process and the creative process. Based on our analysis, we concluded that more research is needed on the effects of creative writing instruction in secondary schools. In addition, we made inevitable recommendations about the quality of reporting on writing interventions.

2 RESEARCH OUTCOMES

The more I read and learned about creative writing, the more I realized that there was no clear and unambiguous definition of either *creative writing* or the *creative writing process*. Yet these are the two core concepts underlying this research. Perhaps this lack of clear definitions is due to the interdisciplinary nature of creative writing and the lack of research in the field (Forgeard et al., 2013; Sternberg, 2009). A clear definition of *creative writing* is not only lacking in

research, but also in education, which is not surprising given the lack of a clear definition of *creativity* in educational curricula (Patston et al., 2021).

However, a definition of creative writing is essential for formulating design principles for creative writing instruction, one of the goals of this dissertation. It was through a process of progressive insight that the final definitions of both concepts emerged in this discussion. Several versions of earlier definitions can be found in the different chapters of this dissertation. I will first discuss the final definitions and, in light of them, suggest how creative writing can be encouraged in high school students and how creative writing can best be assessed.

2.1 *Creative writing*

Writing is creative when it is both *original* and *appropriate* (Hayes, 1989, Runco & Jaeger, 2012, Sternberg & Lubart, 1999). In this research creative writing was defined as "...products that fit the situation or genre being practiced while being original and innovative" (Kieft & Broekkamp, 2005, p. 5). Because all writing is a form of meaning construction and an open-ended creative task, the path to solving the writing task is not given but must be created; therefore, all writing requires some degree of creativity (Flower & Hayes, 1977; Galbraith & Baaijen, 2019; Hayes, 1989). This creativity can be expressed in writing in two ways: through form and through content.

The form of a text influences the creativity of a text. Again, this is true for all writing, but the freedom for narrative fiction is much greater than for communicative writing, where the writer must achieve an explicit rhetorical goal: to persuade or inform, often based on fixed elements. Although narratives also have fixed elements (such as fairy tales), there are fewer restrictions on text structure in creative writing, giving writers much greater freedom. In addition to greater freedom in structure, a text can also become creative through the use of language. Special word usage, figurative language such as the use of metaphors, and beautifully phrased sentences all contribute to the creativity of a text. In short, in terms of form, creativity is expressed through text structure and language use.

In terms of content, creativity is expressed through *imagination*. And perhaps this imagination is the crucial difference between fictional and communicative texts: to write a fictional text, imagination is essential. In a communicative text, writers share the world they are writing about with the reader, and their texts reflect that world. In a fictional text, on the other hand, writers create and imagine a fictional world (Doyle, 1998) and empathize with the characters they create: how do they feel, what do they think, what are they capable of, and what

choices do they make? The same is true when writing about personal experiences, memories, and emotions. Writers must evoke this world of experiences and memories, and the writing process gives meaning to these memories and emotions.

Imagination can also contribute to the originality of communicative texts: an unusual and evocative description of Amsterdam during the garbage collectors' strike requires imagination and demands imagination from the reader. However, the use of imagination in communicative texts is different because these texts refer to a world that writers and readers share, and originality therefore has more to do with deviations in thought patterns and perspectives. Moreover, imagination is not essential for a good communicative text, but it can be used to write a truly *original* communicative text that goes beyond the standard text. However, a fictional text cannot be written without imagination, so creativity is an absolute requirement. Perhaps creating a fictional world is the most important feature of fictional writing. To teach fictional writing is to teach imagination.

2.2 *The creative writing process*

In cognitive psychology, writing and creative processes are considered "problem-solving processes" (Flower & Hayes, 1980; Baaijen, 2022; Amabile, 1996), and creativity research often refers to problem finding in addition to problem solving (Abdulla et al., 2020). Recent research has proposed several models of creativity that focus primarily on the subprocesses of the creative process (e.g., problem finding, incubation, divergent thinking, etc.) and the organization of these processes (Lubart, 2009). Central to this work is the cyclical Geneplore model by Finke et al. (1992), in which there is a continuous interaction between generative and exploratory processes. The generative process generates ideas that the exploratory process evaluates and elaborates. In some cases, one cycle is sufficient to arrive at a creative idea, but often a repetition of this process is necessary. Thus, in this model, the continuous interaction between the two processes leads to a creative idea or product.

As with creative thinking, process models have been developed specifically for writing, such as Galbraith and Baaijen's (2018) dual-process model. While the processes in this model do not fully match the cognitive processes in creativity models, both Finke's Geneplore and Galbraith's dual-process model include generative and exploratory activities. What is unique, however, is that Galbraith & Baaijen's model links the generation of ideas to the act of writing (Baaijen, 2022). The generative process is knowledge-forming in that the act of writing

triggers the "opening" of ideas that were previously implicit. The text in production stimulates further generation, creating a flow of writing. In addition, the other part of the dual-process model focuses on knowledge organization. This process is driven by the rhetorical context to ensure that new ideas are processed into a rhetorically effective text. The key difference between the Geneplore and the dual-process model is that in the dual-process model, the act of writing itself contributes to the generation of ideas. Or as the French writer Marguerite Duras said, "If we knew in advance what we were going to write, we would never write. It would not be worth the effort (Duras, 1993, p. 44)".

Creative writers thus move between two thought processes and between their thoughts and the text. For narrative fiction writing, there is a third interaction: moving between two worlds of experience – a *writingrealm* and a *fictionworld* (Doyle, 1998, p. 36). The fiction world is the world of narrative improvisation: in which writers immerse themselves to develop their stories through imagination. The writing realm, on the other hand, is the world of the text as conceived. In this world, the writer works purposefully and reflectively on the written text in order to make the imagined reality a believable reality for the reader. This usually requires revising and elaborating, which in turn requires moving back and forth between the two worlds. Doyle thus identifies two distinct processes in writing that are similar to those in creative models: associative, narrative (generative) processes in the fiction world on the one hand, and purposeful, reflective (exploratory) processes in the writing realm on the other.

The degree to which a fictional world is created depends on the genre being written. Writing a fictional story allows for more immersion in the fictional world than an argumentative text that refers to a shared world. But that does not mean that writing a communicative text cannot include that fictional world. When a writer of an argumentative text about climate change paints a picture of the future, a fictional world is also being imagined. But creating an entirely fictional world is a much more imaginative exercise. And this exercise can be facilitated with well-developed lessons based on design principles.

In summary, it is important for teachers, researchers, and curriculum and resource developers to understand the difference between fictional writing and creative communicative writing when developing instruction for secondary schools. The extent to which creative thinking and imagination are used is different in the two writing processes. In fiction writing, the generation of original ideas and imagination is essential and almost inherent to the process. It is a useful and appropriate strategy for generating content for a world that is new and strange, in another galaxy, and so on. As author Drago Jancar says, "With the limited number of letters in the alphabet, we can create endless worlds" (De

Vught, 2023). For communicative texts, on the other hand, original ideas and imagination are less essential, and thus for *original* communicative texts, creativity must be set as a secondary goal alongside communicative goals such as persuasion or conveying information. Thus, while it is possible to produce an effective communicative text that is not original or imaginative, the same does not hold for writing a good narrative text: to teach fictional writing is to teach imagination.

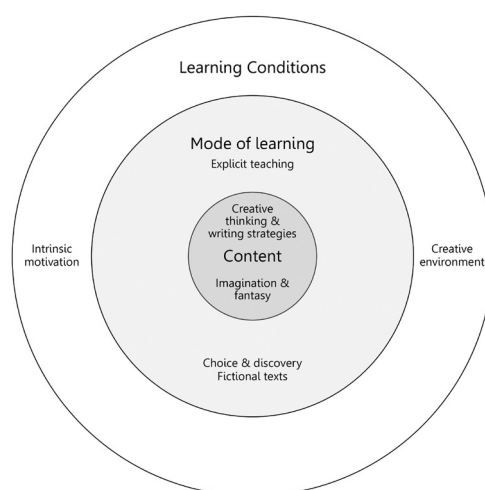
2.3 *A framework for fictional writing*

I consider the design principles for creative writing instruction to be one of the most important outcomes of this dissertation because they can help address teachers' needs for creative writing instruction. In this section, I will briefly describe the design principles we developed for narrative writing in Study 2 (see Chapter 3 for a detailed description), supplemented by the insights from the meta-analysis. Critical to the development of our design principles was the discovery of Schacter et al.'s (2006) framework of creative teaching behaviors based on empirical research, which strongly reflects Merrill's (2002) First Principles of Instruction.

2.3.1 Design principles and conditions for fictional writing

We drew on research on how to foster creative thinking in schools (Beghetto & Kaufman, 2014; Cremin & Chappell, 2021; Davies et al., 2012; Lasky & Yoon, 2020; Schacter et al., 2006) to formulate two conditions and two design principles for teaching fictional writing in secondary schools.

Figure 6.1 shows the three distinct levels of our design. The content plays a central role. It is embedded in the mode of learning, and both are facilitated by conditions that encourage creative thinking. In the following sections, I will first discuss the content principles, followed by the mode of learning principles and the conditions.

Figure 6.1 Three design levels for fictional writing lessons

CONTENT PRINCIPLES: TEACH CREATIVE THINKING AND WRITING STRATEGIES AND IMAGINATION & FANTASY

First, students must learn creative thinking and writing strategies (Baer, 1996; Ten Peze et al., 2023, Chapter 3). For creative thinking strategies, applying the cyclical Geneplore model (Finke et al., 1992) is a proven effective approach (see Chapter 3; Ten Peze et al., 2023) and is well suited to different stages of the writing process. Central to this model is the alternation of divergent and convergent thinking (Fortman et al., 2016; Lubart, 2009), where task-oriented divergent thinking exercises encourage the generation of original content and perspectives, from which the most original ideas are then chosen. It is critical that all divergent thinking activities are focused on the target task (Baer, 1996). For example, if you want students to write fictional stories, all divergent thinking activities should focus on generating ideas for narrative texts.

Because the results of the meta-analysis showed that instruction focused on the writing process improved writing quality, I added attention to writing strategies to the original design principle from Study 2. For example, the writing instructional strategy could consist of a fixed set of learning activities in each lesson that are aligned with the target task: 1. compare and contrast sample texts or writing processes, 2. generate ideas through divergent thinking, 3. select through convergent thinking, 4. apply new knowledge through writing, followed by 5. evaluate results (see Chapter 3; Ten Peze et al., 2023).

Second, students need to be able to use their imagination and fantasy (Schacter et al., 2006). To write a good story, students need to immerse themselves in a fictional world through their imagination (Doyle, 1998). Thus, imagination and fantasy are essential to the production of creative writing and are therefore an inseparable aspect of the writing task.

MODE OF LEARNING PRINCIPLES: TEACH EXPLICITLY AND PROVIDE CHOICE & DISCOVERY AND FICTIONAL TEXTS AS EXAMPLES

First, thinking and writing strategies must be taught *explicitly* (Schacter et al., 2006). Teachers must explain what creative thinking and writing strategies are and how students can use them. This is extremely important because students lack this metacognitive knowledge and therefore cannot reflect on their own cognitive processes and how and why to apply them (Pretz & Nelson, 2017). Furthermore, for creative thinking, research has shown that teaching metacognitive strategies seems promising (Alade & Kuku, 2022; Jia et al., 2019).

Second, use open-ended tasks that allow for choice in both the approach and execution of the task (Lasky & Yoon, 2020; Schacter et al., 2006). We have tried to find a balance between providing freedom by giving students options to choose from and providing sufficient structure (Davies et al., 2013; see Chapter 3) so that students feel safe and supported enough to think freely and explore and develop different ideas. This can be accomplished by including meaningful (Schacter, 2006; Amabile, 1996) and open-ended assignments that offer students different ways to use their imagination.

The results of the meta-analysis showed that the quality of creative writing improved when fictional texts (excerpts) were used as examples in class. This is not surprising; these can help students as models and clarify what is meant by, for example, suspense, an engaging dialogue, or show don't tell. Thus, the use of fictional texts is added to the original design principle as formulated in Study 2 (Chapter 3).

FOSTER MOTIVATION

Research shows that positive attitudes toward creativity and writing affect both creative and argumentative writing performance (see Chapter 2; Ten Peze et al., 2021). For example, the belief that creative thinking can be learned is associated with better performance (Pretz & Nelson, 2017), and students write better when they see themselves as creative and have a positive attitude toward writing (see Chapter 2; Ten Peze et al., 2021). Teachers can foster this attitude by paying

attention to the metacognitive aspects of the creative writing process, by helping students understand this process and explaining that not all of us will be as creative as David Bowie, but that creative thinking is a valuable process that everyone can practice and improve with effort.

CREATE A LEARNING ENVIRONMENT THAT FOSTERS CREATIVITY

A creative learning environment is characterized by 1. a safe environment (Schacter et al., 2006), 2. a classroom climate where you can try and make mistakes (Cremin & Chappell, 2021; Schacter et al., 2006) and 3. space for feedback (Beghetto & Kaufman, 2014). According to Schacter et al. (2006), creative teaching challenges students to explore, to question, to take risks, and should allow students to make mistakes. Teachers need to be open to ideas and not focus on the "right" answer (Lasky & Yoon, 2020; Schacter et al. 2006). To give students this space, teachers must create a safe environment in which all student contributions are heard, acknowledged, and valued: nothing is too silly or stupid.

For example, teachers can create a safe environment in a writing class by implementing a writer-reader community (Graham, 2018). Students work in groups, and any writing they do in class is shared with their peers for feedback. Working in groups is not only beneficial to the learning environment, but it also encourages student creativity (Davies et al., 2013; Marcos et al., 2020). In addition, this reader-writer workshop is the ideal space for students to give each other constructive and encouraging feedback, for example, by writing tips and tops on post-its or by sharing verbally. This feedback is necessary to arrive at a creative idea or product (Beghetto & Kaufman, 2014, p. 3).

Note that these design principles apply to fiction writing. However, the results of our third and fourth studies provided new insights into creative communicative writing, for which I will recommend additional design principles later.

2.4 *Developing a valid method for assessing creative writing*

Taylor et al. (2021) point out that assessing short stories is not only time-consuming, but that there is often a lack of universally accepted rubrics. This is also true in the Dutch context, where there are hardly any validated rubrics for evaluating creative writing in secondary education. As a result, the assessment of creative writing is often perceived as complicated by teachers. This may discourage teachers from teaching creative writing, together with a lack of

experience in teaching creative writing. Therefore, I believe that the second outcome of this dissertation is very important: the text scale for high school students' creative writing.

Just as definitions of creative writing and the creative writing process have slowly emerged, understanding how best to assess creative writing has also been a matter of evolving insight. In this dissertation, we used different methods to assess creative and argumentative writing. In doing so, we tried to find a single method that could be used for both genres.

In the first study, we used the Consensual Assessment Technique (CAT, Amabile, 1982) by having experts assess texts in pairs and holistically (see Chapter 2; Ten Peze et al., 2021).

In the second study, we also used comparative assessment by having reviewers rate the texts relative to each other and assign a holistic score on a scale of 0 to 100. However, this time we asked the experts to rate six aspects: originality, surprise, aesthetics, creativity, coherence, and quality (Fürst et al., 2017, p. 208) and assign a holistic score to the text based on these aspects. This idea was also motivated by the fact that holistic scores are often used in creativity research and are the most generalizable (Van den Bergh et al., 2012). Finally, previous writing research has shown that holistic scores are reliable (e.g., Bouwer et al., 2016; Van Ockenburg et al., 2021), and a combination of holistic and analytic scores is recommended to monitor the quality of assessment, increase validity, and provide insight to students (Bacha, 2001; Harsch & Martin, 2013).

However, even when holistic scores are used, assessing creative writing remains a time-consuming task for teachers. To address this issue, we created a text scale for creative and argumentative texts with five reference texts to use in the third study (Chapter 4) (see Appendix L). To describe the texts, we used Fürst et al.'s six items and combined holistic and analytical scoring, which also gave students insight into the evaluation of their writing.

Thus, I advocate the use of holistic assessment, preferably using a text scale, because it is more likely to adequately assess students' creative writing. Creative writing should not be scored in comparison with a perfect model (Amabile, 1996), nor should it be scored by checking boxes on a rubric. Holistic scoring leaves room for textual particularities that often do not fit within the lines and frames of absolute standards and rubrics but are necessary and essential for assessing a fictional world in an original and coherent story.

3 METHODOLOGICAL ISSUES

In this section, I will raise and discuss four methodological issues. First, I will discuss the design of the creative communicative writing unit, followed by how we measured the creative writing process, the generalizability of our findings, and finally I will comment on the research design.

3.1 *The design of the creative communicative writing unit*

First, I would like to comment on the fourth study, which was based on the design principles that proved effective in the second study but did not lead to an improvement in writing quality in Study 4. In the original narrative design, the narrative techniques and the narrative target text were in the same domain, ensuring optimal alignment. For the creative communicative unit, students had to apply divergent thinking and narrative techniques in a different domain: communicative writing. After all, a completely fictional story requires much more immersion in the fictional world than an argumentative text that refers to a shared world. For a narrative, this immersion is essential: the exploration of ideas in the fictional world is needed to produce a creative story. However, a good argumentative text can be written without immersion in the fictional world if the text refers only to the world shared by the writer and reader. Writing an *original* text, requires an extra step, for which thinking beyond this shared world can be helpful. Therefore, the extra dimension of the fictional world can also be used for generating communicative texts. To facilitate immersion in this world, divergent thinking is necessary. However, this divergent thinking is not the default mode for students writing these types of texts, thus transfer is necessary.

Because creative communicative writing involves more than one domain, it can be considered a form of crossover or interdisciplinary creativity. This form of creativity is more difficult to learn (Tromp & Baer, 2022), first because it requires knowledge of more domains, which is especially difficult for students in secondary education. Second, because transfer always requires a lot of cognitive effort (Becheick et al., 2010; Taatgen, 2013), especially for students who have not yet acquired a new skill. Therefore, to enable students to write original texts that go beyond the standard communicative text, originality must be explicitly set as a goal to facilitate transfer from the narrative to the communicative domain.

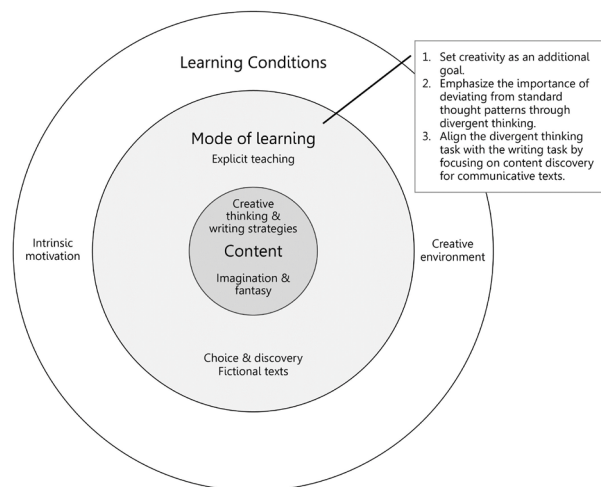
Furthermore, in retrospect, we believe that in designing the unit, we may have made an unfortunate choice. In some lessons we had students generate ideas before writing, for example, by having them create metaphors, but such divergent thinking tasks were not directly focused on finding content for the target text, but rather on generating content for the narrative technique. In doing

so, we inadvertently failed to apply one of the most important principles of divergent thinking: aligning each divergent thinking activity with the target task. This alignment is critical because divergent thinking is most effective when it is focused on the task students are asked to perform (Baer, 1996 & 2013; Lasky & Yoon, 2020). Thus, we recommend shifting the content of instruction from narrative techniques to generating original content for communicative texts through divergent thinking tasks that focus directly on the target text.

Therefore, I propose three new principles for the creative communicative writing unit in addition to the existing design principles. The three principles are all related to the *mode of learning*, visualized in Figure 6.2:

1. Set creativity as an additional goal.
2. Emphasize the importance of deviating from standard thought patterns through divergent thinking.
3. Align the divergent thinking task with the writing task by focusing on content discovery for communicative texts.

Figure 6.2 Three design levels for communicative writing lessons



3.2 Measuring the writing process

In this dissertation, we measured writing processes via keystroke logging and using a process sheet. The choice between the two methods was mainly due to practical considerations. In this section, I will reflect briefly on both methods.

There are several advantages to using keystroke logging. First, it is unobtrusive and therefore does not interrupt the writing process for the writer (Baaijen & Galbraith, 2018). This advantage is reinforced by the fact that students in our target group, Dutch upper secondary students, are used to typing and actually do very little writing by hand. Therefore, the use of keystroke logging ensures the most natural representation of their writing process. Second, keystroke logging provides a much more detailed representation of the writing process than self-report. In fact, the logging data from the first study in this dissertation provided very reliable and valid data that we were able to use as input for the second study and in Studies 1 and 2 the data provided a very reliable picture of the creative writing process.

However, there were also drawbacks to keystroke logging. First, the keystroke data reflect students' actions, and do not reveal their thought processes as they write. Why they pause at certain points and write more fluently at others cannot be determined based on this data. Although the writing processes were recorded, it was unfortunately not possible to interview some of the students within the time constraints of this study to better understand their thought processes. However, combining keystroke logging with other research methods such as think aloud protocols is a promising idea for future research (Leijten & Van Waes, 2013).

The second drawback is of a more practical nature. In both studies in which we used keystroke logging, it required a great deal of effort on the part of the teacher-researcher, the participating teachers, the school organization, and the students. Students must have access to computers with the logging program, and they must be carefully instructed on how to use the keystroke logging program and how to store the data appropriately. Strong support from a school's ICT department is often essential. For example, in the third study it was not possible to use the software for practical reasons. Also, in the second study at one school, we did not have permission to use the software because of student privacy concerns.

Finally, interpreting the data requires considerable knowledge of both the keystroke logging data and cognitive writing process theories. Despite these drawbacks, we see many possibilities for the use of keystroke logging in education in combination with other research methods. Collaboration between teacher-researchers, teachers, and writing researchers is probably the most ideal and feasible setting for conducting such research.

There were no significant problems with the use of the process sheet in our study. Students wrote on the computer for twenty minutes, choosing from eleven activities while they wrote when hearing a beep once a minute. However,

some students indicated that they found the beep and interruption of the writing process disruptive. The advantage of this method is that it is easy for teachers to use, especially when computer equipment is not available. Although it gives a less detailed insight into students' writing process, it certainly gives a reliable picture of that process. Especially if you want to study the flow of writing as it happens. The extent to which reliability is affected by the interruption of the beep cannot be fully determined, but we have seen that students are comfortable with the form and get used to it quickly. In addition, the use of a process sheet has been shown to be reliable in previous research (Luger, 2020). Although keystroke logging is preferable because of its unobtrusiveness and detailed insight into the writing process, I think the use of a process sheet is a good second choice for gaining insight into students' writing processes.

3.3 *Generalizability*

Both intervention studies were conducted at the upper secondary level of the pre-university track (vwo), which limits generalizability. We also conducted Study 2 at the pre-vocational level (havo), but unfortunately, we were not able to use the data. Therefore, we do not know if our findings apply to other levels as well. However, the design principles we developed are not limited to upper secondary education and can easily be applied to different educational levels. Moreover, creative writing revolves largely around facilitating the creative thinking process and guiding students to develop original ideas. This thinking process is not level dependent and perhaps not so different at all for a 12-year-old student and a 17-year-old student. Moreover, previously developed teaching materials have already shown that it is quite possible to teach the same creative lesson at different levels and for different age groups (see, for example, Van der Meer et al., 2021). However, more research is needed to determine whether our design principles are applicable to other school levels.

3.4 *Using a switching replications design*

A last methodological issue was related to the switching replications design that we used in both interventions. This is an ethically sound design because it allows all students to benefit from the extra effort put into the intervention lessons (see Chapters 3 and 4). This is particularly important because the lessons were delivered in an authentic classroom situation where all students should have the same opportunities, especially since the lessons are delivered over several weeks. In addition, this design provides the opportunity to measure the effect with a

comparison between an experimental and a control group, and the measurement of the effect can be replicated immediately by switching conditions. In Study 2 (Chapter 3), however, we were not able to take full advantage of the design because the test tasks in Panel 2 were not counterbalanced across measurement moments. In addition, the results are generally more nuanced when using a switching replications design. For example, in our second study, the effect of Panel 1 was not replicated in Panel 2. Thus, this design provides a much more nuanced picture than, for example, if we had used a pre-posttest design, and avoids the risk of drawing overly hasty conclusions.

In addition, this design is challenging for teachers and students because the intervention is quite long due to the two panels and has three measurement moments, which are also demanding for all those involved. Nevertheless, we were able to use this reliable and ethically strong design in two studies, which allowed all students to benefit from the designed lessons and gave us a much more nuanced picture of the results than if we had used a standard pretest-posttest experiment.

4 FUTURE RESEARCH

During this dissertation, several new issues arose that we could not explore within the time frame, but which are important for the full development of creative writing in secondary education. I will discuss the four recommendations that I feel are most important for future research.

First, I recommend further research on teaching students to write creative communicative texts. In this regard, two aspects of making a communicative text more original should be considered. First, a communicative text can be made more original by finding a creative point of view for the text. For example, a text about gender-neutral language can be made more original than the standard text by using metaphors and an unexpected opening. Second, originality can be improved by using a more creative writing style. An effective writing unit should probably focus on both aspects. Our fourth study showed that to help students develop such an original style or point of view, it is recommended to develop divergent thinking tasks that focus directly on generating content for the communicative text.

The second recommendation is to include another dependent variable in follow-up research: motivation to write, regardless of genre. In this dissertation, we examined students' affective attitudes toward writing and creative self-concept. Although we have always suspected that engaging students in creative

writing might increase their overall motivation to write, including their motivation to write communicatively, we have not yet investigated this. Because students' writing skills and motivation to write are lagging (National Center for Education Statistics, 2012; Graham, 2019; Graham & Rijlaarsdam, 2016), it would be valuable to investigate whether creative writing instruction increases students' motivation to write.

Third, more research is needed on the potential of the persistence pathway in secondary education. This recommendation does not stem directly from the research data, but rather from my observations while participating as a teacher in my own research and from the observations of my colleagues. In all intervention studies, we found that some students were not comfortable with divergent thinking. This does not mean that we do not think it is valuable to teach it to them, but rather that it is worth exploring whether it is better for some secondary school students to arrive at a creative product through analytical thinking. By focusing on the flexible pathway in this dissertation, our research fits into a tradition of creativity research that has focused on associative and divergent thinking. However, more recent research has focused on the generation of creative ideas through persistent and analytical thinking (De Dreu et al. 2008; Taylor et al., 2020; Taylor & Barbot, 2021). This persistence pathway uses cognitive persistence with a narrower focus to arrive at a creative idea and is manifested in part by longer time on task (De Dreu et al., 2008). Which pathway an individual prefers depends on personal characteristics and circumstances (Nijstad et al., 2010, Baas, 2022). For example, systematic and persistent thinking is better suited for people who prefer structured thinking (Baas, 2022). For secondary education, it will be valuable to explore and consider the persistence pathway because it will help us explore how and whether this pathway, or a combination of both, can help students generate creative ideas. If students prefer one pathway or the other, allowing them to focus on their preferred pathway by designing lessons that give them that choice may lead to better creative ideas. This will also make it easier for teachers to differentiate instruction to meet students' needs.

Fourth and finally, more research on creative writing in secondary education with strong research designs and clear reporting is needed. Reporting was inadequate in many studies. First, we had to exclude six studies from the meta-analysis because it was not possible to calculate an effect size based on the reported data. Second, some of the thirteen included studies reported very few relevant details. For example, the content of the intervention was vague or unknown in many studies. Four studies did not specify the genre in which students wrote during the intervention, six studies did not specify whether

feedback was given, and as many as nine studies did not specify whether students revised their writing during the intervention.

The desire for more research may seem like a somewhat obligatory final wish for a dissertation, but it is really a must for research on creative writing. In our meta-analysis, we were only able to include thirteen studies with an experimental or quasi-experimental design (Chapter 5). This is a meagre harvest that stands in stark contrast to a society that claims to value creativity. If we believe that creativity is important in schools and should be practiced in all subjects (OECD, 2019; Robinson & Aronica, 2015), it is noteworthy, to say the least, that so little in-depth research has been done on creative writing in secondary schools, even though it is difficult to study (Sternberg, 2009). Especially since creative writing is a domain that lends itself very well to the practice of creative thinking. Perhaps even more so than in some other domains of education.

5 CONCLUSION

The purpose of this dissertation was to develop and test creative writing instructional materials based on design principles for creative thinking and teachers' practical classroom experiences. In our studies, we showed that the creative writing process differs from the communicative writing process: it enhances text production and writing flow. We have also shown that creative writing instruction matters. It influences students' text quality and writing processes in terms of speed. Furthermore, for text quality, we found that creative writing instruction transferred to communicative writing, especially for students with a high creative self-concept, but not vice versa. For writing processes, however, we found a transfer effect from communicative to creative writing: even when training divergent thinking for communicative writing, students' narrative text production is increased. Motivation played a key role in all our studies: students who have a positive attitude towards writing produce better texts, both narrative and communicative. This suggests that it is a worthwhile endeavor to work on motivating students to write and on their attitudes toward writing. Finally, the design principles and text scales we developed proved useful for secondary school teachers.

5.1 *Concluding Remarks*

There are several remaining things I would like to share. For me, the advantage of participating as a teacher in my own studies is that, as a researcher, I received immediate feedback from my students as they worked in my class. I experienced

their enthusiasm, even though not all students enjoy creative writing. They were happy to do something different in the Dutch language classroom, something they could think about freely and that was not necessarily *right* or *wrong*. In this dissertation I have not discussed the insight that creative writing gives teachers into their students' thoughts and sometimes feelings. Storytelling helps students develop a personal identity (McAdams & McLean, 2013), become functioning members of society (Brockmeier, 2012), and express their experiences, feelings, and ideas (Gerbner, 1999). Sometimes, you can learn more about your students by reading a single story they have written than by reading all of their standard textbook assignments combined. Also, grading creative writing assignments that give you a glimpse into students' imaginary worlds is not easy, but it is infinitely more enjoyable than grading standard communicative texts. These are reasons enough, in my opinion, to finally reinstate creative writing as a full component of the Dutch language curriculum and to encourage students to think and write beyond the standard text, thereby contributing, even if only in a small way, to helping students use their imagination and be a little more creative.