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# Quasi-experimental study on fostering creativity through creative writing in German as a Foreign Language (GFL) in COVID-19 [version 1; peer review: awaiting peer review]

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**Open Peer Review**

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## Abstract

**Background:** In this paper, creative language teaching and learning will be discussed in the context of subject-based development of creativity that supports learning performance. Although there are several benefits of creative teaching and learning methods, creative writing tasks are not typical in foreign language education. The main focus of this study is developing a creative writing test in GFL education. **Methods:** The pilot study was implemented in a primary school in Hungary in 2020/2021 and introduces a model to enhance creativity in German as a Foreign Language (GFL) classroom through creative writing tasks. In the pilot experiment, pre- and post-test design was used. **Results:** Results of the study show that there is significant correlation between creative writing and creative thinking skills, measured with a Language Proficiency Test for Creative Writing Skills and the Test for Creative Thinking/Drawing Development (TCT-DP) by Urban and Jellen (1996). The results indicate that our creative writing skills assessment instrument is valid for measuring creative performance in GFL, however in the development of creative writing we could not prove significant changes in the experimental group, probably because of the online teaching situation during the coronavirus disease (COVID-19) pandemic. **Conclusion:** Creative writing is an important tool for enhancing divergent thinking and foreign language competence. Through creative writing tasks, students engage with the language more intensively and their creative, imaginative thinking skills develop. For the evaluation of students' creative texts analytical rubrics have been developed and they proved to be appropriate. However, despite the exciting and thought-provoking exercises, more motivation and criterion-oriented feedback is needed to support the creative learning process in an online learning environment.

## Keywords

creativity, creative pedagogy, creative writing assessment, foreign language education

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## Introduction
### Enhancing creativity in teaching: new educational approaches

Although there are several benefits of creative pedagogical teaching and learning methods, they are not really valued in schools widely. However, non-traditional pedagogical approaches for creative learning can improve the quality of teaching which impacts the development of student's creativity and learning performance. Non-traditional pedagogical approaches are supported among others through explorative learning, student choice, access to varied materials, problem finding, and problem-solving strategies. In turn, Beauregard (2014) claims that creative activities, such as dance, drama and visual arts, contribute to children's emotional well-being which is crucial for creative self-efficacy.

### Creative pedagogies and educational programmes

Creative pedagogies are contemporary educational models based on the redefinition of learning which include creativity as a key component in their concepts. Creative Pedagogy introduced and described by Aleinikov (1989, 2013), Mehlhorn and Mehlhorn (2003) and Lin (2011) aims at the development of the creative potential of the individual and supports the successful acquisition of knowledge. Dezuanni and Jetnikoff (2011) interpret innovative curriculum as part of the creative teaching-learning process, while Selkrig and Keamy (2017) emphasise the role of the teacher linked to the dimensions of *creative teaching, teaching creativity* and *creative learning* by Lin (2011). The concept of the Creative Classroom (CCR) advocates the renewal of the learning environment that fully embeds the potential of information and communications technology (ICT) to innovate learning and teaching practices in different educational settings (COM, 2012). Less known are investigations in the field of effectiveness of creative pedagogical practice and intervention. According to the meta-analysis of Scott *et al.* (2004a, 2004b) practice-oriented interventions embedded in a specific discipline that used thinking skills and included collaborative activities proved to be the most successful way of fostering creativity. Creative educational programmes are developed in several countries (such as the Learn to Think programme in China, the Creative Schools Programme in Ireland, the BIP Schools in Germany), which we can consider applied creative pedagogies.

### Creativity in language learning

Creative language teaching and learning offers the possibility of creativity development via cross-curricular interventions. Foreign language (FL) curricula are generally less rigorous than those of science and mathematics, so the FL classroom teachers can adapt topics to the learners' interests and vary them during the lesson. It is also essential for natural language use (Fehér, 2015), which means the use of real content, demonstration of real-life language situations and practices. It includes the use of language compensation strategies through gesticulation, drawing, paraphrasing a word or phrase, which require creativity. According to Woodward (2015), the most important elements to facilitate creative language teaching and learning are: tools for attention-grabbing (for example, listening to a piece of music or playing a game that requires concentration), brainstorming techniques (for example listing objects of a particular colour or beginning with a particular letter), making unusual associations and combinations (for example exploring the relationship between a text and an unrelated picture). Woodward (2015) also stresses the importance of an inspiring, stimulating environment, physical activities and collaboration, rewarding creative expressions and more than one idea, encouraging risk-taking and preferring imagination and visualising.

Creative language learning is also linked to linguistic creativity and the language of ideas, described as the completion of an academic task, no matter how far from the 'literate' use of the language it is (Bunch, 2014). According to Bunch and Martin (2021), creative language learning is especially important in the case of students from a wide variety of linguistic backgrounds. In the process of foreign language learning, students should be encouraged to focus on self-expression and mediation of ideas and not the linguistic features of interactions or conversations. "Language creativity" defined as the playful use of language to construct new meaning (Tin, 2011), requires learners to communicate about new meanings and to construct unknown meaning: "The cognitive and linguistic processes learners go through in creative language play tasks can contribute to learners' language development." (Tin, 2012:179). Tin (2011, 2012) argues that in a creative language task, language users/learners must somehow innovate and complexify their language, by reanalysing and combining known utterances and structures to create new ideas and forms. He claims that students explore and exploit more syntactically and lexically rich utterances in creative play tasks as compared to non-creative tasks and tasks. In the experiment of Liao *et al.* (2018), language skills, creativity and motivation of 6–7-year-old Taiwanese primary school students were investigated. The technique of brainstorming was used in the intervention, which involved 256 students and lasted only eight weeks. According to the results, the vocabulary of the pupils increased significantly although the short time frame of the experiment, their creative ability measured by the Torrance Test of Creative Thinking (TTCT) improved (except fluency), and their motivation increased compared to the control group as well.

According to the Common European Framework of Reference for Languages (CEFR, 2001) the aesthetic-artistic use of language, which includes poems, songs, stories, creative writing and role-playing exercises is an alternative way in the teaching and learning process, but also important for the FL acquisition and competence. It is widely known that art

activities are suggested as a way to support FL learning, however, there is little empirical evidence. According to the research of Ludke *et al.* (2014) which focuses on the effects of art activities on specific aspects of FL learning, students engaged in singing and song activities improved more on grammatical skills, listening comprehension, conversation/speaking, and intonation and flow speech, different from the group where visual art and drama activities were integrated into FL instruction. However, there were smaller mean differences between the groups for vocabulary and reading skills. The findings of the six week intervention show a stronger benefit of singing activities, although an important limitation of a study is the sample size (N = 45). Another empirical research with pre- and post-test design (Tok and Kandemir, 2015) found that during a four-weeks intervention in seventh grade English language classes of an elementary school in Turkey, students' achievement in writing skill was increased, however, their attitude to English courses was not. Results indicate that creative writing exercises have a positive effect on writing performance among students at the age of 13–14 years old.

## Creative skills and writing performance

Although there are several benefits of developing and writing skills in foreign language learning, textbooks focus on listening, reading and speaking exercises (like practising short dialogues) and include fewer writing tasks. That is why writing skills in language learning are often overlooked, especially creative writing opposed to expository or technical writing. The latter is based on standardised rules and conventions, and performance is easier to assess. On the other hand, there are other problems with writing creatively, namely the lack of experience of how to develop and assess such tasks. Moreover, most teachers and students are not really aware of the importance of creative writing in the development of thinking skills and FL achievement in general.

Studies have shown that creative writing supports language development at all levels. Raimes (1983) claims that writing reinforces the acquisition of grammatical structures, idioms and vocabulary and it encourages students to be adventurous with the language. According to Craik and Lockhart (1972) language learners engage with the language at a deeper level of processing than with most expository texts, they manipulate the language in interesting and sophisticated ways in their attempt to express uniquely personal meanings. Maley (2006) claims that the benefits are noticeable in grammatical accuracy, appropriacy and originality of lexical choice, and sensitivity to rhythm, rhyme, stress and intonation. According to Piazza and Siebert (2008), affective aspects are also important, because writing creatively is considered as a construct which requires such resources as self-discipline, perseverance in the face of difficulties, tolerance of ambiguity, autonomy, willingness to take risks, motivation, self-efficacy, and interest. Lutzker (2015) argues that stories not only shape the imaginative and emotional life of a child, but also the acquisition of language and the development of thought and self. Storytelling and story writing techniques can help to aid the development of these processes, but it requires enough possibilities to practise them.

## Assessment of creative writing
*Assessment techniques*

The assessment of creative writing, like other dimensions of measuring creative performance raises a number of questions. Mozaffari (2013) describes three types of assessment techniques: the first is based on the feature of divergent thinking, the second on the consensus or the common judgement of experts of the field and the third one is based on the main characteristics and attributes of creativity.

There are debates about the possibility of assessing creative writing in foreign language education and research in this area is scarce. According to Tung (2015), if creative writing as a skill is valued in 21st century education, then valid and reliable assessment methods should be introduced in language art education. Because unless it is resolved, there will be no instructional programmes carried out by teachers and other stakeholders of education which would be effective. He argues, in agreement with other Chinese educators, that the objectives of writing assessments have become more complex, and it also requires creative thinking skills. Among others, Brookhart (2013) suggests that using rubrics for assessing creativity in writing may also clarify criteria or show the continuum of creative performance. Blomer (2011) also argues that rubrics are needed to ensure objectivity in creativity assessment, but their design is difficult. Most foreign language education (FLE) rubrics contain criteria which are irrelevant to creativity (correctness of grammar, punctuation, syntax, *etc.*), non-creative features like mechanics, organisation and structure or inclusion of all required elements of a story (Mozaffari, 2013). He concludes that the validity of creative writing tests depends also on the theory upon which the tests are based and the criteria they set (Blomer, 2011). However, the rubric seems to be the most appropriate and reliable method to assess creative writing.

*Criteria of creative writing assessment*

Morris and Sharplin (2013) argue that an optimal analytical marking scheme is needed which can define qualities of creative writing. Analytical rubrics are appropriate to set categories of achievement to describe how far each quality has

been achieved. Based on the literature in the field, creative writing includes four major qualities: image, voice, characterization and story (Burroway, 2011; Mills, 2006). Image is a central feature that "evokes one or more of our senses" (Burroway, 2011:15). There are two ways of creating images: the use of significant details (without abstraction, generalisation and judgement) and literary tropes (such as metaphor, simile, personification). According to Burroway (2011), literary figures are powerful tools for writers to create images which appeal to the readers' senses and details allow us to draw our own conclusion about the character. Voice is understood as the use of images to make the diction original and appealing. Voice also involves indirect characterization through significant details that is employed in most types of creative writing: in a short story, novel, poetry, playwriting, nonfiction and fiction. It is implemented through action (what a character does), thought (what a character thinks about his/her surroundings), dialogue (what a character says and how it is said), setting (where and when a character is situated), and symbols (added information about a character). Story is another aspect of evaluating creative writing among the four qualities. It refers to the narrative which puts events in a sequence (Mozaffari, 2013) and provides readers with some information which allows them to draw conclusions about the purpose of the text (Mills, 2006).

## Methods

### Ethical approval
Institutional approval was obtained by the scientific committee of the Eötvös József College (2019/PED01). The school leader, teachers and the students' parents were provided with written information about the data collection and the purpose of the study and gave their written informed consent.

### Sample
Since language teaching can differ from school to school, the pedagogical experiment was carried out in one institution with the same curriculum for all classes in one grade. So, for validating the new assessment tool, six German as foreign language (GFL) classes in the fifth–sixth grades of a Hungarian primary school were recruited at the beginning of the school year of 2020/2021. Because of this limitation (the primary school has only three classes in one grade) the sample size (N=99) was relatively small. The students with average socioeconomic status learn German as a second language from the beginning of the school years and are expected to achieve A2–B1 level in the fifth–sixth grades. Language skills were tested among fifth grade students in the previous pilot study before COVID-19 and this school age group proved to be appropriate for creative writing exercises based on their vocabulary and grammar skills.

### Materials and instruments
The study was designed as a three-month intervention project and was carried out in the second half (March, April, May, June) of the school year of 2020/2021. Quasi-experimental research design with pretest and posttest was used. Besides the participants' language background and experience, information about language proficiency of the parents was also collected before the intervention. Mastery Motivation in German as a foreign language was also assessed by the Subject Specific Mastery Motivation Questionnaire (SSMMQ), developed in Hungary (Józsa, 2014) to avoid differences between the motivation of the experimental and the control group. The questionnaire has been made available by the author for free use. In the adapted version of the questionnaire 10 Likert-type items were used. Subsequently, the standard German language curriculum for the 12-week period was supplemented with creative writing activities in the classes of the experimental group. Learning outcomes regarding students' creative writing skills in German language class (GLC) and creative thinking skills were assessed through pre- and post-tests. Both instruments were implemented as paper-and-pencil tests in the classroom.

*Introduction of the test measuring creative writing skills in GLC*

The test measuring creative writing skills in GLC consisted of a series of tasks developed specifically for this study. The test was based on divergent thinking components (fluency, flexibility, originality) related to creative writing qualities like describing details, characterization and context. The creative writing test also included visual stimuli: one image with three pictures of a story, one image to describe and one image to complete (Figure 1). The test was improved and after deleting one item it showed good internal consistency (Cronbach's α = 0.725).

Task 1.

**The Fox and the Raven**

A fox sees a raven fly off with a piece of cheese in its beak and settle on a branch of a tree. The fox says: "*Good morning, you beautiful raven! What a beautiful bird you are! Let me hear but one song from you that I may greet you as the Queen of Birds.*" The raven likes these words very much and opens her mouth to sing. That moment the cheese falls to the ground and the fox grabbed it away.

**What else could the fox have said to the raven to achieve his goal?**

**Exemplary solutions for Task 1:**

> *Dear Raven … please come down. We could divide the cheese in two. / … I have a gift for you. / … please, sing a song for me. / … I bring you to a talent show. It costs only a mere trifle! / … I would like to take a closer look at your feather. / … please come here, I am your dentist.*

Task 2.

**Use the words below to tell the story using the pictures. You can use as many of the words as you like.**

lake    rowing    boat    funny    duck    overturns



**Use the words below to tell the story using the pictures. You can use as many of the words as you like.**

lake    rowing    boat    funny    duck    overturns
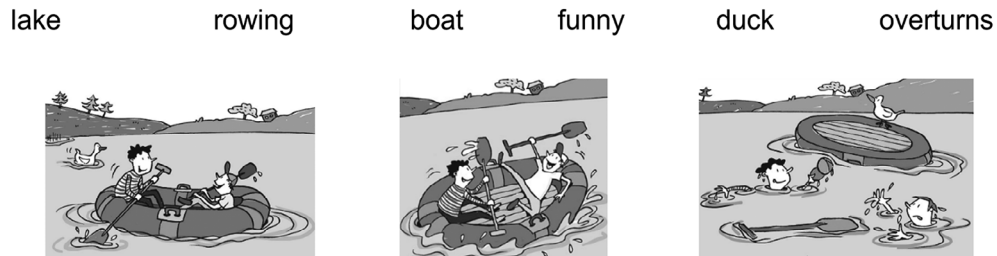
**Imagine and write down where the parachutist arrives. You can draw it if you like.**

**Figure 1. Examples for the creative writing tasks of the test. Notes:** *Task 1* is a retelling of Aesop's famous fable – summarized by Author 1. *Task 2* is based on the cartoon story by Mira Faßbender with the title "*Bildergeschichte: Paddelspaß/Picture story: paddling fun*". The image has been reproduced with permission of the publisher from: https://www.persen.de/media/wysiwyg/Zusatzmaterial/23538DA3_Bildergeschichte_Paddelspass.pdf. *Task 3* is a worksheet with the figure of a skydiver (created by the Hungarian artist Áron Szabó) to complete and includes a drawing activity. The image has been applied with permission of the artist. Most of the students (N=56) completed the images and compiled a story as well.

**Exemplary solutions for Task 2:**

*Two boys were paddling on the lake. They had fun and the boat turned over. They were really wet, but they found it funny.*

*Mark and Dominik were paddling together because they wanted to get to China. But as Dominik said a terrible joke, Mark laughed so hard, that they fell into the water.*

*Two boys wanted to go fishing. When they were far enough, they realized, that there was a gun in the boot. They saw a duck which they wanted to shoot. But Marcus was so scared, that he fell into the water. The other guy wanted to save him, so he jumped after him.*

Task 3.

**Imagine and write down where the parachutist arrives. You can draw it if you like.**

Assessment rubrics were used to evaluate creative writing. Assessment criteria for Tasks 1–3 are outlined below (Table 1).

**Exemplary solutions for Task 3:**

*The skydiver lands next to a forest. He is afraid, and he wants to flee but he has to stay there. / The man lands on a field and saw a horse with brown hair. He rides away. /The skydiver ends up at the bus stop. / The skydiver lands in the stomach of a shark. / There were many clouds in the sky and the man could not see well. He landed in a garden. There were animals: two dogs and three cats. He had no idea what to do. /The man lands in a country, where everything is different: there are chocolate trees, houses built from gingerbread, flowers made of gummy bears. There are also cookies hanging from the trees and the sky is made of marzipan. Everywhere are funny dwarfs and fairies.*

## Description of the test measuring creative thinking skills in GLC

For assessing creative thinking skills, the Test for Creative Thinking/Drawing Development (TCT-DP) by Klaus Urban and Hans Jellen (1996) was used, which is a valid, reliable and internationally utilised instrument. The TCT test files were provided by the Visual Culture Research Group of the Corvinus University of Budapest with copyright license. The test sheet contains six figural elements (Figure 2), which are offered for completion, repetition, modification, inclusion and

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**Table 1. Examples for the assessment of creative writing items with evaluation scores.**

**Task 1:**
**Fluency:** 0 = no answer, 1 = gives a correct answer to the task
**Flexibility:** 0 = no answer, 1 = writes one own solution, does not repeat the story, 2 = writes several own solutions, does not repeat the story
**Originality:** 0 = typical answers, 1 = one atypical answer (less than 5 students write), 2 = several atypical answers (less than 5 students write)

**Task 2:**
**Fluency:** 0 = no answer, 1 = student writes about one picture, 2 = student writes about two pictures, 3 = student writes related to all three pictures
**Flexibility:** 0 = student simply describes the pictures, 1 = new item related to any one picture (*e.g.* names, attributes etc.), 2 = two different new items related to the pictures, 3 = several new items related to any one picture but only on descriptive level of detail
**Originality:** 0 = simple, descriptive response (student describes the pictures without any narratives) 1 = student contextualises the response in at least one way (*e.g.* details about the setting, actions with causality, character's thoughts, use of dialogue etc.) 2 = student contextualises the response in at least two ways 3 = student contextualises the response in several ways

**Task 3:**
**Fluency:** 0 = no answer, 1 = minimal answer with one or two sentences (each sentence refers one thought unit/ idea), 2 = several sentences with at least three thought units/ideas
**Flexibility:** 0 = student adds no new content element to the picture, 1 = short description with link between sentences (two or three coherent thought units/ideas) 2 = complex description with link between sentences (more than three coherent thought units/ideas)
**Originality:** 0 = typical responses (more than 5 students write), 1 = atypical answer (less than 5 students write), 2 = atypical answer (less than 5 students write), which tells an exciting story, includes fictional elements or humour
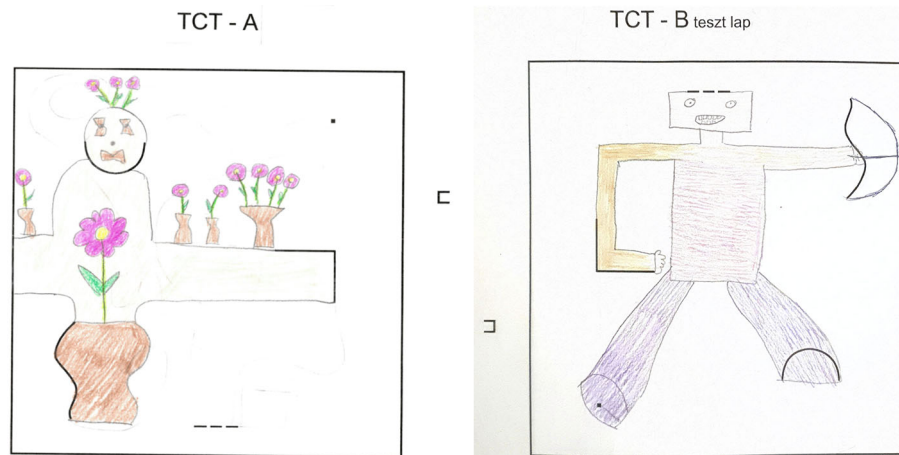
**Figure 2. Test sheets completed by the same student.** Notes: Test sheets A and B of The Test for Creative Thinking/ Drawing Development (TCT-DP) created by Klaus Urban and Hans Jellen (1996) contains six figurative elements (semicircle, dot, large corner, serpentine line, dashed line, small horizontal U shape outside the frame). The elements inspire both figurative and abstract solutions.

composition (Kárpáti & Gyebnár, 2013). The TCT-DP attempts to capture the qualitative nature of a creative product. It is like a screening instrument for a person's creative activity (Harecker, 2000) and it also represents a sophisticated, multifaceted construct instead of the limited creativity concept of conventional tests that only consider quantitative criteria of divergent thinking (Urban, 2011).

The TCT-DP can be used with children aged six and above. According to Urban (2011), teachers can use it to objectify, supplement and, if necessary, correct their observations, impressions and conclusions about the creative behaviour of their students.

### Learning materials and experimental procedure

During the educational intervention, students of the experimental group received creative writing tasks (Table 2) which included visual stimuli for drawing or handicrafts. They were adapted from a German story writing and drawing book (Rüger & Bauermeister, 1998). Based on the task instruction, the beginning of the storyline was provided along with the drawing stimuli. Students were encouraged to complete the image and they also had to write a short story with 100 words for each task. Due to COVID-19 regulations, the task was administered online.

When the creative writing tasks were introduced, the task developer (the first author of this paper) was present and clarified the tasks and the intervention frame. Students could choose from different writing opportunities, and they were asked to work on the stories at home. Before and after the intervention, pre- and post-tests were used, which were scheduled for school hours. The German creative writing test took approximately 45 minutes (the duration of one lesson

**Table 2. Brief description of creative writing tasks.**

| |
|---|
| **Task 1:** Sonja is a Sunday child, therefore she has good luck. Write a short story about Sonja using the words sunflower beach, umbrella and Sunday walk! |
| **Task 2:** Fritz Fischer is an enthusiastic angler. He goes to a lake every Friday. Last time something happened that changed his life: he caught a fish that promised to fulfil any seven wishes for him in exchange for freedom. There was only one requirement, all wishes had to start with the letters F, R, E, I, T, A, G. What is Fritz Fischer going to do? Continue the story! |
| **Task 3:** For over 100 years, the Eiffel Tower has been standing in the centre of Paris. One day it collapsed. Cut out the parts and let's help reconstruct it. If you are ready, write a short story with dialogues that take place at the tower. |
| **Task 4:** Do you have any memorable April Fools' Day experience? You can write about it or create a short story about an April Fool prank. |
| **Task 5:** One day some children find a bottle on the seaside. They open it and see that there is a treasure map in the bottle, with a picture of a pirate captain. What should the children do? Write their story. |

hour). Students were working in class, where dictionaries were provided. They were also allowed to ask the German teacher, who was walking through the classroom and answering the questions about the necessary vocabulary and phrases. Creative thinking skills were measured by the Test for Creative Thinking/Drawing Development (TCT-DP) by Urban and Jellen (1996), which seemed to be an appropriate measurement tool for 11–12 years old students because it can be solved in a wide variety of drawing styles, and title and text can be added for explanation. The measurement took 15 minutes and most of the students enjoyed drawing very much. Assessment was performed by two experts. The evaluation of the test measuring creative writing skills in GLC was carried out by the same person with professional experience in German language teaching. The evaluation of the TCT−DP tests was carried out by an art teacher. Neither the language teacher nor the art educator is members of the school staff. In the post-test, we used the equivalent versions of the tests and added some questions about the student's experiences of taking part in the study. For quantitative data analysis, the SPSS statistical software (Version 25) was used. Paired sample t-test and independent sample t-test were used for analysing quantitative variables. Correlation between the variables (creative writing, TCT-DP test results and language background data) was measured by Pearson correlation coefficient. Listwise deletion (complete-case analysis) technique was used to handling missing data.

## Results

Due to absences on the testing days, the complete data set after post-testing had a total of $N \geq 65$ students. Based on results of the adapted SSMMQ (Józsa, 2014), there was no significant difference between the motivation of the experimental and the control group. To compare performances across the two measures (creative writing in German and creative thinking), students' raw score on each test was converted to a percentage score (Szabó-Szettele, 2023). There was no significant difference in the creative writing performance between the pre- and post-test of the experimental group. The performance of the experimental group did not decrease significantly, unlike the control group. The TCT-DP test showed no significant difference between the two groups. Results are summarised in Tables 3 and 4.

There are several difficulties in the measurement of creativity which will not be discussed in this paper, but it can be said that results strengthen the opinion that creative thinking skills are potential-like, which means they are relatively constant, and their educational development is time-consuming. It can be concluded that the three month time interval of the experiment was short to enhance creative thinking skills, because assessment results do not reflect any changes in the field. Based on pre- and post-test results, the pilot study shows that there is significant correlation between creative writing and creative thinking skills measured by Pearson correlation coefficient. Correlation is significant at the 0.01 level, which are summarised in Table 5. Language background data was analysed with data about the language knowledge and skills of students' parents. Pearson product-moment correlation coefficient shows that there is average correlation between the number of years spent on learning the language and the language proficiency level of students'

**Table 3. Creative writing test results.**

|  | Grade | N | Pre-test | | Post-test | | r | t | p |
|---|---|---|---|---|---|---|---|---|---|
|  |  |  | M | SD | M | SD |  |  |  |
| Experimental group | 5–6 | 28 | 45.0 | 16.4 | 47.1 | 15.1 | 0.73 | -0.96 | 0.34 |
| Control group | 5–6 | 37 | 47.2 | 15.3 | 40.4 | 16.7 | 0.64 | 3.05 | 0.00 |
| t (p) | 5–6 | 65 | t = -0.55; p = 0.58 | | t = 1.70 p = 0.09 | |  |  |  |

Abbreviations: N = Total sample size, M = Mean, SD = Standard deviation, r = Pearson product–moment correlation coefficient, t = t-value of t-test, p = Probability.

**Table 4. TCT-DP test results.**

|  | Grade | N | Pre-test | | Post-test | | r | t | p |
|---|---|---|---|---|---|---|---|---|---|
|  |  |  | M | SD | M | SD |  |  |  |
| Experimental group | 5-6 | 28 | 29.4 | 9.4 | 29.6 | 13.0 | 0,20 | -0.07 | 0.94 |
| Control group | 5-6 | 37 | 28.4 | 9.4 | 29.3 | 9.7 | 0,27 | -0.45 | 0.65 |
| t (p) | 5-6 | 65 | t = 0.42; p = 0.67 | | t = 0.11; p = 0.90 | |  |  |  |

Abbreviations: N = Total sample size, M = Mean, SD = Standard deviation, r = Pearson product–moment correlation coefficient, t = t-value of t-test, p = Probability.

**Table 5. Correlation between creative writing and TCT-DP test results.**

| | Creative writing test | | | | | |
| | Pre-test | | | Post-test | | |
| | N | r | p | N | r | p |
|---|---|---|---|---|---|---|
| TCT-DP test | 85 | 0.31 | 0.00 | 70 | 0.36 | 0.00 |

Abbreviations: N = Total sample size, r = Pearson product–moment correlation coefficient, p = Probability.

parents (r = 0.462, p = 0.000). Although some of the students started to learn German as a second language earlier, there was no correlation between the years they spent on learning the language and their FL performance.

## Conclusion

Using creative writing tasks is not typical in foreign language education, and the participants of the study were not familiar with creative writing, which is not promoted by the FL school book they used. Although several benefits of the teaching and learning method are explained in this study, it is not easy to motivate neither the students, nor the teacher to do creative writing tasks. The correction of such open-ended tasks requires considerable effort, and an open-ended task is considered more complex and thus more difficult. However, students appeared to be interested the first time the author met them and became excited as they saw the tasks with visual stimuli.

The main focus of this study was developing a creative writing test in GFL, which was carried out successfully. According to our results which show significant correlation (r=0.34 in pre-test, r=0.36 in post-test) measured by Pearson correlation coefficient, the instrument proved to be suitable for measuring creative thinking skills through writing tasks in foreign language education. The creative writing test was developed along of components of creative thinking and some creative writing qualities and also included visual stimuli. The main aspects of the tasks referred to fluency (collecting ideas), flexibility (adding new different elements) and originality (contextualisation, using causality, creating a story with exciting elements and specific narrative). For the adequate evaluation analytical rubrics were used developed specifically for the test described in this study.

To summarise, our test contributes to the enhancement of creativity through language learning with may concrete recommendations and a valid and reliable assessment instrument which can give teachers feedback on creative language use development and enrich their evaluation practice.

### Limitations

Switching to online teaching because of COVID-19 situation during the implementation time, was a strong limitation that made the intervention less effective. The author created virtual groups for each class and had contact with the students with the support of the German teacher. Although sending materials regularly, students showed less motivation, and some did not do the tasks appropriately or not at all. Through face-to-face instruction, teaching presence, students became more motivated to complete the tasks.

## Data availability
### Underlying data
Figshare: Creative thinking and writing project in FLL. https://doi.org/10.6084/m9.figshare.23553666 (Szabó-Szettele, 2023).

The project contains the following underlying data:

- Dataset_Creative thinking and writing project_2021.xlsx (Students' raw score, participants' language back-ground and language proficiency of the parents.)

### Extended data
Figshare: Creative thinking and writing project in FLL. https://doi.org/10.6084/m9.figshare.23553666 (Szabó-Szettele, 2023).

This project contains the following extended data:

- Language Proficiency Test for Creative Writing Skills_by Katinka Szabó-Szettele.pdf

- SSMMQ_Hungarian_adapted by Katinka Szabó-Szettele.pdf

- SSMMQ_English_adapted by Katinka Szabó-Szettele.pdf

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## Acknowledgments

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