Online poetry writing at school – comparing lower secondary students' experiences between individual and collaborative poetry writing

Arja. I. Kangasharju*, Liisa Ilomäki and Auli Toom

Faculty of Educational Sciences, University of Helsinki, Helsinki, Finland

Introduction: This study investigates how seventh-grade students experience online collaborative writing, its support in writing poems, and how collaboratively and individually written poems differ.

Methods: The educational design research method was used in this mixed-methods study, which was conducted in natural classroom settings to investigate students' individual and collaborative poetry writing.

Results: The quantitative analysis of questionnaires and qualitative thematic analysis of postexperimental interviews show that the students enjoyed collaborative writing more and found it more accessible than individual writing. They experienced that it supported them in writing better poems and increased their writing confidence. They also appreciated the support of teamwork, although individual writing gave them more liberty to explore various aspects of poetry and express their feelings.

Discussion: From a pedagogical point of view, the students need to be provided with opportunities for collaborative poetry writing to make the writing process easier and more enjoyable. Online collaborative writing supports the process of poetry writing.

KEYWORDS

digital tool, technology in education, online poetry writing, collaborative writing, students' perceptions of poems

1 Introduction

The status of poetry in education has become weaker, and writing poems at school is perceived as challenging (Weaven and Clark, 2013; Creely, 2019; Kovalik and Curwood, 2019). The students find it elitist, dull and difficult (Guise and Friend, 2017; Kangasharju et al., 2021), and teachers may think that they do not have enough time to teach poetry because of the full curriculum (Weaven and Clark, 2013) or that it is not even worth using time to practice it at school (Xerri, 2013). Teaching poetry is challenging because teachers are unsure how to stimulate students' interest in poetry (Sigvardsson, 2019), which may be perceived as old-fashioned. However, poetry still has its place in society and people's lives: as Creely (2019) points out, it is part of our everyday life in text types that are familiar to students, such as song lyrics, social media, gaming sites, picture books and rap text, although students may not have perceived them as poetry. Therefore, Creely suggests that such text types, experience-based writing, and student-centred practices need to be used to arouse students' interest in poetry and poetry writing. The new types of poems, like song lyrics and rap text, bring literature and

poetry to new audiences to whom traditional literature is unfamiliar, such as immigrant and marginalised students (Skerrett and Omogun, 2020). In particular, marginalised students may find moving from one social context to another challenging. However, Wilson and Dymoke (2017) argue that these students should precisely mediate these different contexts by learning to write poetry unfamiliar to them more fluently. Poetry writing offers all students a vital opportunity to express themselves and their experiences and improve their linguistic skills and creativity (Myhill and Wilson, 2013).

Young people have also started to distance themselves from reading and writing, not just poetry, especially out of school [European Commission (EC), 2018; FNAE, 2021]. Furthermore, even those students who somewhat enjoy reading and writing say they do not read or write poetry (Kangasharju et al., 2021). Reading and writing develop in interaction: writing positively affects reading and vice versa (Graham et al., 2013; FNAE, 2021). Although writing is a great way to influence others (Graham et al., 2013), students often avoid writing in their out-of-school literacy outputs because they do not consider it to be enjoyable (Skaar, 2020). On the other hand, some students are used to sharing their multimodal creative works and working collaboratively to produce them online during their free time (OECD, 2015; Kovalik and Curwood, 2019). Their interest and skills in making them and sharing various outcomes should be integrated into the learning of writing at school. Another argument for using collaborative and multimodal writing as new forms of digital literacy is that they are necessary competencies to be learnt for future studying (Kimber and Wyatt-Smith, 2010; Ilomäki et al., 2023), and as Hutchison and Reinking (2011) say, the new digital forms of communication offer remarkable affordances for developing literacy skills.

Studies have shown significant qualitative differences between collaboratively composed and self-composed creative texts (Vass et al., 2008). Collaborative writing allows group brainstorming, during which students can compare their ideas and improve their productivity and creativity (Michinov and Primois, 2005). Writing develops in social interaction and is tied to students' social identities (Schultz and Fecho, 2010). Wilson and Dymoke (2017) indicate that the traditional image of a poet writing alone does not encourage students to write poems, and they have developed a model in which writing a poem is a social process in which teamwork and collaborative writing are connected to the development of individual poetry writing.

Previous studies concerning online collaborative writing have mainly focused on the composition of essays or digital storytelling (Brodahl and Hansen, 2014; Krishnan et al., 2018; Nykopp et al., 2019). Aituganova et al. (2023) found in their study that university students' attitudes towards poetry reading were more positive in online learning than when poetry was taught face-to-face, but those students did not write poems during the experiment. Some studies have examined students' individually written poems which have been published and discussed in collaborative platforms, such as Wiki space, Instagram, and Google Classroom (Dredger et al., 2017; Guise and Friend, 2017; Kovalik and Curwood, 2019). The study by Kovalik and Curwood was conducted outside school among young people who had previously written poems on Instagram. In the study by Dredger et al. (2017), the ninth graders wrote poems in an online Wiki space, and collaboration took place between an individual student and a mentor; each student wrote the poems alone. In the study of Guise and Friend (2017), the seventh-graders wrote individual poems, discussed them in Google Classroom, and reimagined

classmates' poems multimodally. In these studies, the students did not write poems collaboratively in groups.

In previous studies (Weaven and Clark, 2013; Kangasharju et al., 2021), students have reported that they dislike poetry and think they cannot write it. Pike (2000) argues that especially male students have antipathy to poetry, but they could benefit from discussion and paired work which have not been used enough in teaching poetry at school. In the experiment of our previous study (Kangasharju et al., 2021), lower secondary students perceived poetry writing with artificial intelligence (AI)-based application as enjoyable and easy, and male students found it even more enjoyable than female students. The students wrote alone, and most of them followed the affordances of the poetic features and structures of the AI-based application's draft poems. However, creative thinking is social and requires collaboration (Clifton, 2022). The current study investigates how lower secondary students experience the support of collaborative writing for their poetry writing in an online environment and how the poetry writing process with the support of other students influences poetic features and structures compared to their use in individually written poems. To summarise, the purpose of this study is to find out ways to support lower secondary students in the challenging task of poetry writing at school and to offer new pedagogical solutions to arouse students' interest and enjoyment in poetry writing. The key contribution of this research is that it has been conducted in an authentic classroom context and poetry writing has been investigated with the support of digital tools for real. There is a need for this kind of study in which the research environment is natural for the participating students and teachers. Thus, other teachers can apply the results of the research directly to their own teaching.

2 Literature review

2.1 Students' collaborative writing

Collaborative writing refers to literacy practices in which more than one person produces a shared document to have a common goal, and they are equally responsible for the process of writing, decision-making and the final document (Brodahl and Hansen, 2014; Howell, 2018). Several studies on collaborative writing (e.g., Shehadeh, 2011; Thomas, 2014; Howell, 2018) have shown its benefits: most students feel that collaborative writing supports them in writing better texts compared to individual writing and enables them to generate ideas, discuss and plan their text together, and to provide each other with feedback in a positive social atmosphere. Furthermore, collaborative writing may reduce individual students' anxiety because responsibility for the output is shared (Würffel, 2008). However, the success of collaborative teamwork depends on its members and their motivation for collaboration. In her study, Abrams (2019) found that in collaboratively oriented groups, students' engagement in their joint tasks encouraged them to write more meaning-making content with better coherence than in less collaborative groups. Collaborative writing has mainly been applied to writing prose, although the technological affordances of collaborative writing also offer new ways to write poetry (Wilson and Dymoke, 2017).

Online collaborative writing platforms offer technological and social opportunities for single users to create and share text and for multiple writers to edit the document. Students can develop their digital writing in groups in which they collaborate when revising

texts by communicating with others and getting inspiration and support from them about the direction and goals of writing (Brodahl and Hansen, 2014; Krishnan et al., 2021). The competencies of other students and the simple options for giving and receiving feedback serve as affordances of online writing (Elola and Oskoz, 2017). In Brodahl and Hansen's study (2014), the students emphasised the importance of collaborative brainstorming: the final text develops in collaboration because others have ideas that the other student does not have. They also appreciated the opportunity to work synchronously on the same document so that everyone could contribute and improve the result. Krishnan et al. (2018) suggest that online collaborative writing produced more effective writing among middle school students whose writing skills were developed by learning from others in collaboration and simultaneously offering opportunities to develop collaboration skills that are also important for working life. Critical thinking is essential in creative writing (Clifton, 2022) and teamwork. The students learn critical thinking and creative solutions, considering group dynamics (Krishnan et al., 2021).

2.2 Students' poetry writing

It is essential that students not only read poems but also write them to understand the construction of poems and to express themselves (Wilson, 2007; Xerri, 2013). Poetry writing can improve creative thinking and linguistic skills, such as phonological and phonemic awareness, vocabulary, and learning to play with language (Vass et al., 2008; Myhill and Wilson, 2013). Wang et al. (2019) recognised that, in many cases, students like to write about their personal perceptions, living environment and thinking. The writing contexts (e.g., the social, local, historical, and institutional contexts) affect students' poetry writing (Wilson and Dymoke, 2017). Students also need time and opportunities to plan, draft, revise, and edit their texts and write often to improve their writing skills, even when writing collaboratively (Graham et al., 2013). Certo (2015) and Wilson (2007) emphasise the role of model poems in teaching poetry writing at school because model poems can support beginner writers in understanding the structure and style of poetry, offer opportunities to practice them, and thus make writing easier. Wilson (2007) has pointed out that later students no longer need literary models because they should have learned to be confident in writing poems and using poetic language.

2.3 Poetic language

The unique nature of poetry as a genre can be explained by its structural features (Jakobson, 1987; Phelan, 2007; Wilson, 2007; Certo, 2015). Parallelism in the form of repetition is one of the effective properties of poetic language. For example, repetition in meter gives rhythm to poetic language by using patterns of measured sound units that recur regularly (Jakobson, 1987). In addition, the repetition can be analysed in phonological features of rhymes, alliteration, assonances, free mimetic repetition, and repetition in sentence structures. This study analyses the above-mentioned features of repetition, meter, metaphor, and similes in the students' poems. Furthermore, the speaker of a poem and the number of stanzas are considered. This study uses Phelan's (2007) concept of a "speaker",

which is more appropriate for poetry than the concept of a character and can be either a narrator speaker or a speaker in a monologue role of 'me'. Poetic structures have been classified into retrospective-prospective, descriptive-meditative, ironic, meta-lyric, narrative, and nonsense structures, according to Certo (2015), Müller-Zettelmann (2000), and Theune (2007). Also considered is whether the poem was a metered-form poem or a free-verse poem.

2.3.1 Aim and research questions

The aim of this study was to compare students' poetry writing experiences between writing collaboratively and writing individually with a digital tool to determine if online collaborative writing supports lower secondary students' poetry writing at school. Another aim of this study was to explore differences in using poetic features and structures in students' collaborative and individual poetry writing. The research questions are as follows:

1. How do lower secondary students experience collaborative writing and its support for their poetry writing in an online environment?
2. How does the collaborative poetry writing process influence poetic features and structures compared to using them in individually written poems?

3 Methods and design

This study follows the educational design research method (McKenney and Reeves, 2018; Design-based research collective, 2021), which combines theoretical research and educational practice. This method was chosen because it allows teachers and researchers to develop pedagogical solutions together in a new type of a writing assignment. In this way, it helps teachers in teaching and produces usable information for teaching. The method was particularly suitable for the research, where the students participated in the research in an authentic context. The research was conducted in collaboration between the researchers and four teachers. First, the problem of students' practising writing poems at school was identified by the participating teachers and the researchers, and noted in previous studies (e.g., Weaven and Clark, 2013; Creely, 2019; Kangasharju et al., 2021, 2022). The participating teachers stated that teaching poetry is quite challenging because students are often not familiar with the poems. According to the teachers, teaching poetry as a subject often comes last because of its challenges, and then it is possible to blame the lack of time. The lessons are preferably used for more practical writing exercises on the types of writing familiar to students.

Second, the project was designed with the teachers and the first author. The researchers prepared the teaching material (instructions for the students and teachers, model poems, questionnaires, and platforms for writing alone and together), and the teachers participated in meetings while developing the teaching material, giving feedback on ideas and preliminary versions. Two participating teachers had participated in a previous study on writing poems (Kangasharju et al., 2021). Their experiences could be used in the design of this study, e.g., it was decided to use three lessons in Finnish language and literature in one week for the research (the course is explained in the section on the pedagogical design of the lessons).

In the previous study, only student questionnaires were used. In this study, it was decided furthermore to conduct small group interviews, following the recommendations of the studies by Brodahl and Hansen (2014), Mayne (2012), and Shehadeh (2011), and the experiences from the previous study (Kangasharju et al., 2021). The implementation of the interviews was planned together with the teachers and the researchers. The first author and her students conducted a pilot study to evaluate the materials before the investigation.

The data (poems by seventh graders) were analysed quantitatively and qualitatively. These mixed methods allowed the convergence of quantitative and qualitative results to have a broader understanding of the data so that the results could lead to more accurate conclusions than would be obtained with the two types of results alone (Teddlie and Tashakkori, 2009; Creswell and Plano Clark, 2018). In order to investigate how students experienced collaborative writing and its support for their poetry writing in an online environment, qualitative student interviews and analyses were used, whilst quantitative methods were needed for the analysis of students' perceptions regarding poetry writing collaboratively and alone from the questionnaires. The statistical analysis of students' perceptions before and after the poetry writing experience made it possible to examine the possible change in students' perceptions, and it also provided backgrounding information to understand more thoroughly the practical knowledge that was presented during the post-experimental interviews. The poetic features and structures from the dataset of the students' poems were investigated with qualitative content analysis and quantitatively using statistical analysis methods based on frequency distributions to be able to compare them between individually and collaboratively written poems.

3.1 Context and participants

The study was conducted as a part of the basic curriculum in natural classroom settings of a Finnish language and literature course in April 2021. The sample of 97 Finnish students (51 males, 46 females) comprised seventh graders (mean age 13.3 years) from two schools with similar socio-economic characteristics in the same city. The majority (89.7%, $n = 87$) spoke Finnish as their first language, and 10.3% ($n = 10$) spoke another first language. The students had used digital technologies before the course and studied online because of the COVID-19 pandemic from March to May 2020 and March 2021. Most of them (96%) reported that they had previously created files for themselves for writing with Google Docs or Microsoft Word, and 52% had created them six times or more during the seventh grade. Most (89%) had also shared a file for written work with other students, and 12% had created a shared file six times or more during the seventh grade. The students had good grades in Finnish language and literature ($M = 8.4$).

Students' parents were informed about the purpose of the study and data collection procedures, and permission to participate was obtained from them. Data were collected anonymously. Participation in the research was voluntary.

The four teachers of the participating classes from the two schools were aged from 29 to 56 years. Two were novices and had worked as teachers for one to four years, while the others had worked for 20 to 30 years. As teachers of Finnish language and literature, they had good knowledge of writing didactics and poetry as a genre, although teaching poetry was not emphasised in teacher training. They had attended various training courses related to teaching poetry. They reported that it is challenging to leave enough time for poetry in their teaching, although as a subject, it is nice and easy to teach because they have collected a range of materials for teaching poetry. All the teachers said that they like poetry very much, but only one reported reading poetry in her spare time and sometimes writing poems. All of them were committed to using digital technology in their teaching. They were also used to teaching online and had already extensively used digital technology with their students before the investigation.

3.2 Pedagogical design of the lessons

The teachers and the first author planned the three 45-min lessons for the study. The earlier experiences and results of studies concerning writing poems with an artificial intelligence-based application (Kangasharju et al., 2021) were considered in planning, such as selecting the model poems.

The first author collected the model poems for inspiration, and the teachers and the other authors provided feedback on the choices. The first criterion was that the poems were suitable for the seventh graders, and some poems were changed for that reason. These 16 poems dealt with topics such as the feelings, life and living environment of young people, animals, nature, and poetry writing. The second criterion was that they were original Finnish poems. The third criterion was that there were both form and free-verse poems. In the previous study, the AI-based application produced only free-verse poems (Kangasharju et al., 2021, 2022), and students followed these affordances. This time, we wanted to give more verse models. However, some nonsense poems were chosen to inspire students into joyful play with language in their poems, which was found to be helpful in our previous studies. Using model poems was based on earlier investigations, which suggested that models demonstrate well-crafted examples and invite exploration and creativity (Wilson, 2007).

The study was conducted in one week per each student group. Poetry was not taught in the seventh grade as a discrete genre before the research, but the students had at least heard or read poems at primary school before. The instructional syllabus was the same for all groups. During the investigation, students had equivalent class time (i.e., three 45-min lessons) to complete the pre- and post-questionnaires, write poems independently, and then collaboratively with a classroom laptop computer.

For both poetry writing tasks, the students used the Google Docs online writing platform, which allows writers to collaborate on web-based documents and enables simultaneous composing and editing of shared documents. All the material for the study (instructions for working, questionnaires, model poems, Google Docs for writing alone and Google Docs for collaborative writing) was in Google Classroom, an online sharing platform and learning environment for creating a permanently archived tutorial of the class content. It was familiar to the students because the teachers had used it for many years.

At the beginning of the first lesson, the teachers introduced the task and instructed the students on how to work. Each teacher had the exact instructions based on the joint discussions. The first author called every teacher before the study lessons to ensure the instructions

and technical implementation were followed. The teachers reported that the instructions were easy to follow. First, the students responded to the pre-questionnaire. Second, they were asked to read the mentor poems for inspiration and examples. Then, they were asked to write at least one poem independently. In the second lesson, they wrote poems collaboratively in groups of three. The teachers and the first author decided to use a group size of three, which was recommended in the study by Brodahl and Hansen (2014) when using a collaborative writing tool. There were 40 small groups in total. As Mayne (2012) has suggested, each group should have a person suitable for leading a small group for successful teamwork. To guarantee this, the teachers decided which students should be in each mixed group. In the last lesson, the students were asked to revise their collaboratively written poems and answer the post-questionnaire. While writing poetry, the students were instructed on how to use mentor poems. The students decided on the topics of their poems by themselves.

3.3 Data collection

3.3.1 Pre- and post-questionnaires about poetry writing self-perceptions

The questionnaires were based on the questionnaires used in the previous study by the Kangasharju et al. (2021), which investigated how the digital AI-based tool supported students' poetry writing. Compared to those questionnaires, the statements concerning collaborative writing and Google Docs were added to this study.

The pre-questionnaire was designed to determine students' perceptions of literacy before writing poems. It consisted of three major sections: In the first section, students' perceptions of their reading and writing abilities and enjoyment were assessed using a 5-point Likert scale of how well the eight statements described them as a reader or writer. There was also one question about the kinds of text they read during their free time. In section two, using a 4-point Likert scale, the students were asked how much they agreed or disagreed with each of the 13 statements about students' perceptions of poetry and their abilities concerning poetry. A 4-point scale was chosen for these statements to avoid students selecting a neutral alternative. There was one statement with alternatives relating to each student's relationship to poetry and one open-ended question asking what kind of poems they enjoyed. Section three was concerned with some demographic questions (age, gender, grade in the Finnish language and literature subject, enjoyment of the subject, and their perceived skills concerning the use of Google Docs) to describe the participants in the study and to assist in conducting the individual difference investigations. The statements about perceptions of literacy were based on the study by Hamilton et al. (2013) and the statements about the enjoyment of reading, writing, and poems in the study by Wang (2012). The statements concerning collaborative writing were based on studies by Shehadeh (2011) and Thomas (2014). The rest of the statements about students' writing abilities and difficulties were based on the first author's experiences as a teacher and our previous study (Kangasharju et al., 2021).

The post-questionnaire was designed to determine students' perceptions of writing poems after they had written poems during the lessons in the study. It consisted of three major sections. In the first section, students' perceptions of the support of digital tools and collaborative writing were assessed using a 5-point Likert scale. There

were also two open-ended questions concerning collaborative writing during the study lessons. In section two, the students were asked on a 4-point Likert scale how much they agreed or disagreed with each of the 11 statements about students' perceptions of poems and their poetry writing experiences during the study. There were also two statements with alternatives about each student's relationship to the poetry and perceptions of the effect of the writing experiment during the study. Section three concerned demographic questions similar to those in the pre-questionnaire. The questionnaire responses were collected using electronic surveys via Google forms.

3.3.2 Post-experimental interviews about collaborative writing

The post-experimental interview data were collected using the stimulated recall method to get more in-depth information about students' experiences in the collaborative poetry writing process (Vesterinen et al., 2010). These interviews allowed the participants to voice their opinions and viewpoints on their experiences in a socially shared situation. The interviews were conducted in ten small groups (two groups of three students from every class) and recorded using the Google Meet application. The teachers selected the students for the group interviews from among the volunteers. The interviews consisted of a brief description of the purpose of the study and its topic and six questions (see Appendix A). Finally, the four teachers were interviewed after the last lesson to ensure that everything went according to plan. These interviews were not recorded.

3.3.3 Poems

One dataset was the 226 poems the students wrote alone or collaboratively using an online platform. They were analysed qualitatively and quantitatively to determine how the collaborative poetry writing process influenced poetic features and structures compared to using them in individually written poems.

3.4 Data analysis

The questionnaire data were analysed quantitatively using SPSS 28.0 software. An independent-samples *t*-test was conducted to compare the answers from male and female participants, and a paired-samples t-test was conducted to compare the students' perceptions of poetry writing before and after poetry writing.

The thematic analysis method of Braun et al. (2019) was applied to the post-experimental student interviews to get descriptive summaries of the interview data: after the transcription of the interviews and familiarisation with the data, the coding was done inductively. The codes were developed into candidate themes, which were then revised and defined. The three key themes relating to collaborative writing were: 1. *Good teamwork* (sub-themes: equal roles in the groups, trust in the other members, fast and easy writing, and deep thinking), 2. *Creating ideas* (sub-themes: impact of feedback, cooperation, and everyone creating ideas), and 3. *Perceptions of difficulties* (sub-themes: the theme, poetic features, and nothing).

The poems were examined qualitatively using the analysis model and coding methods developed and tested by the researchers in the previous study to compare the features and structures of the poems (Kangasharju et al., 2022). The model is based on studies by Certo (2015), Jakobson (1987, Phelan (2007), Müller-Zettelmann (2000),

and Theune (2007). The coding was also analysed quantitatively using statistical analysis methods based on frequency distributions and t-tests. Atlas.ti 9.1.5 software was used for the qualitative content analysis, and SPSS 28.0 software for the quantitative analysis. The coding was checked for intercoder reliability to check for reliability (Whitley and Kite, 2013). The test coder was a Finnish language and literature teacher, and she analysed 10% ($N = 23$) of the students' poems using the classification schema. There was one difference in the coding of assonance, which was discussed but left as it was. The summary of our analytical codes and descriptions of the concepts in the analysis model are depicted in Tables 1, 2.

4 Results

The students wrote 226 poems during the study. One hundred fifty-six were written alone, and 70 poems were written collaboratively. The students wrote from 1 to 5 poems alone; the mean was 1.6 per student. In the groups, the students wrote from 1 to 7 poems, and the mean was 2.18 poems per group.

To answer the first question, we investigated how lower secondary students experienced collaborative writing and its support for their poetry writing in an online environment. The first set of analyses examined students' perceptions before the writing experiment. To analyse students' experiences concerning poetry writing individually and collaboratively, we analysed both the answers in the post-questionnaire and the group interviews.

4.1 Students' perceptions of poems before the writing experiment

The students reported in the pre-questionnaire that they somewhat enjoyed reading ($M = 3.0$) and writing ($M = 3.1$). However, they enjoyed reading poems less ($M = 2.1$), and most did not read or write poems ($M = 1.4$). They did not consider writing a poem to be easy ($M = 2.0$) or enjoyable ($M = 1.9$) or that they could express themselves by writing poems ($M = 1.9$). Table 3 presents all the means and standard deviations of students' responses regarding perceptions of enjoyment of reading, writing and poetry before the experiment.

The results of the independent-samples t-test revealed a statistically significant mean difference (MD) between the answers from male and female participants to the statement "I think it is more enjoyable to write together than to write alone" *(MD 0.7, t(95) = −3.5; p < 0.001)*. Male participants considered collaborative writing more enjoyable than female participants did. There were no other differences between the perceptions of male and female participants.

4.2 Students' perceptions of poems and individual and collaborative writing after the writing experiment

The students appreciated that editing their poems easily with a digital tool ($M = 4.0$) was possible. When asked about the differences between individual and collaborative poetry writing, they said they enjoyed writing poems collaboratively ($M = 3.7$). They also thought their participation supported their group in co-writing ($M = 3.9$).

TABLE 1 Analysis scheme of poetic features.

	Poetic feature	Description
Speaker	Narrator speaker	Outsider aspect in speaking and representing a poem
	Speaker in a role	Monologue poem in the role of "me"
Number of stanzas	Stanza	Combination of two or more lines
Repetition	Rhyme	Phonetic repetition at the end of two or more lines
	Alliteration	Phonetic repetition at the beginning of two or more lines
	Assonance	Half, slant or imperfect rhyme
	Mimetic repetition	Phonetic repetition without a special place
	Repetition of sentence structure	Repetition of the same sentence
	Word repetition	Repetition of the same word
Semantic tropes	Metaphor	Comparing things without comparative words
	Simile	Comparing things with comparative words

TABLE 2 Analysis scheme of poetic structures.

Poetic structure	Description
Retrospective-prospective	The poem turns from the past to the present or future
Descriptive-meditative	The poem turns from a description of a scene to a meditation
Ironic	The poem turns from set-up to punchline, allowing playful tension
Meta-lyric	Poem that refers to the process of creating a poem
Narrative	Poem which tells a story or contains one or more characters, a setting, and a series of events
Nonsense	Unlogic and absurd poetry
Form poem	It has a meter that gives rhythm to a poem by patterns of measured sound units that recur in regular ways

Teamwork worked well in small groups because the students perceived that each group member was actively involved in composing the poem when writing together ($M = 3.8$). The means and standard deviations of students' evaluation responses are depicted in Table 4.

In the pre-questionnaire, the students perceived that their ability to write poems alone was relatively weak ($M = 2.3$). In the post-questionnaire, they perceived their poems were better when they wrote together ($M = 3.5$). There was a significant average difference

TABLE 3 Means, and standard deviations of students' evaluation responses regarding perceptions of enjoyment of reading, writing and poetry.

Statement	M	SD
1. I enjoy reading	3.0	1.1
2. I enjoy writing	3.1	0.9
3. I enjoy poetry	2.1	1.0
4. I write my own poems	1.4	0.6
5. I can understand poetry	0.9	1.0
6. I read poems during my free time	0.7	0.8
7. I can write poems	2.3	0.9
8. I can express myself by writing poems	1.9	0.9
9. It is fun to write poems	1.9	0.9

The scale regarding the statements 1–6: 1 = not at all, 2 = little, 3 = somewhat, 4 = much, 5 = a great deal. The scale regarding the statements 7–9: 1 = completely disagree, 2 = slightly disagree, 3 = slightly agree, 4 = completely agree. The numbers of statements are the same as in the pre-questionnaire.

TABLE 4 Means and standard deviations of students' evaluation responses regarding perceptions of digital and collaborative poetry writing.

Statement	M	SD
Statements of digital writing		
1. The ability to edit a poem with the computer supported me in writing.	4.0	0.9
2. I prefer writing poems by hand than writing by computer.	2.1	1.3
Statements of collaborative writing		
3. Writing with others supported me in composing a poem.	3.6	1.2
4. I would like to continue writing in collaboration with other students.	3.0	1.2
5. The poem became better when written together.	3.5	1.2
6. I enjoyed writing with others on this project.	3.7	1.2
7. My participation in co-writing helped my group.	3.9	1.0
8. I was able to express myself better by writing a poem together than alone.	3.1	1.2
9. When writing together, each member of our group was actively involved in composing the poem.	3.8	1.2

1 = not at all; 2 = little; 3 = somewhat; 4 = much; 5 = a great deal.

between the perceived ability to write poems collaboratively and alone (t86 = 7.332, p < 0.001). The average difference was 1.2 scores (95% CI [0.9, 1.5]). According to the paired-samples t-test, the students'

answers to these statements were significantly correlated (r = 0.004, p < 0.001).

In the same way, in the post-questionnaire, the students thought that writing with others supported them in composing a poem (M = 3.6). In the paired-samples t-test, there was a significant average difference between the estimated ability to write poems alone (M = 2.3) and the support of others in composing a poem (t86 = 8.446, p < 0.001). On average, the difference was 1.3 (95% CI [1.0, 1.6]). The students' perceptions were significantly correlated (r = 0.128, p < 0.001). There was also a significant average difference between the answers to the statements "I can write poems" and "My participation in co-writing helped my group" (t86 = 11.279, p < 0.001). On average, the difference was 1.6 (95% CI [1.3, 1.9]). The estimations correlated significantly (r = 0.002, p < 0.001).

4.3 Students' experiences of individual and collaborative poetry writing in the writing experiment

In the thematic analysis of students' interviews in ten small groups, three key themes emerged relating to collaborative writing: *good teamwork*, *creating ideas*, and *perceptions of difficulties*. The themes are described below. Questions of the interviews are depicted in Appendix A.

4.3.1 Good teamwork

All ten interview groups reported that collaborative writing went well in their small groups: "It went well. We did not have any problems. Our team was good. Writing collaboratively and developing ideas together was much easier and faster." They also described their thinking: "It is not easy to think deeply in this age, but we noticed that we could do that together whilst writing a poem." Trust in other team members and their support was essential to good teamwork: "You could trust that other students can improve your ideas. If someone did not develop ideas, the other one supplemented, and the writing process continued." Collaborative writing required critical thinking because the students had to evaluate each other's ideas, thinking about what would be the best solution in terms of developing the poem. The students described their teamwork in the following way: "First, one came up with a topic, and then the others came up with ideas regarding the topic, which were immediately written in a shared file. If someone felt an idea was not good, the others developed it. Writing alone, we would have dismissed such ideas." They thought that teamwork with collaborative discussion and negotiating boosted their self-confidence. They emphasised the meaning of equality in the groups. Only one group said that their roles were unequal, although their evaluation was that collaborative writing went well.

4.3.2 Creating ideas

Creating ideas for the joint poem was related to the impact of feedback and teamwork. The students reported telling each other if someone created a promising idea. They also thought it was easier to find ideas for the poem together. They appreciated the opportunity to negotiate the ideas while composing. Nine groups described the process similarly as in the example: "We took ideas from everyone in our group. Division of labour was equal. None wrote more than

others." Only one of the ten small groups said that one group member found more ideas for their poems than others.

4.3.3 Difficulties

Difficulties in producing content made the writing process slower in six interview groups: "It was challenging to decide the theme and keep within it.;" "Maybe next time we could each invent more different rhymes instead of thinking the same rhyme altogether." Four groups said that they had no difficulties.

4.4 Poetic features and structures in the poems

To answer the second research question, we investigated the poetic features and structures used in the individually and collaboratively written poems and compared their use.

4.4.1 Poetic features and structures in the individually written poems

The students wrote 156 poems individually. Most poems ($n = 131$, 84%) had only one stanza. The assonances ($n = 143$, in 49% of the poems) and rhymes ($n = 128$, in 45% of the poems) were the most used poetic features, whilst alliterations ($n = 3$), similes ($n = 26$) or metaphors ($n = 27$) were not as common (see Figure 1 at the end of this section). The rhymes seemed to be carefully considered, such as "*pieni kukka kullannuppu, avautuu sun vihreä huppu*" (*small flower*

*gold bud, opens to the green hoo*d). The assonances often carried the plot of narrative poems forward, such as "*Lapsi eksynyt metsään, kotia hän lähti etsimään; Lapsi huomaa puun, niin synkkä kuin musta kuu*" (*the child got lost in the woods, he went to look for a home; the child notices a tree, as gloomy as a black moon*). In individually written poems, the narrative speaker ($n = 89$, 57%) and the speaker in the role of me ($n = 67$, 43%) were used a lot.

From the structural point of view, the individually written poems were primarily free-verse poems ($n = 142$, 90%). About half of the poems were descriptive ($n = 81$, 51%). The narrative structure was also typical ($n = 42$, 27%). There were only a few nonsense ($n = 6$), ironic ($n = 5$) and meta-lyric ($n = 4$) poems. The topics of the individually written poems often dealt with animals, nature, and the seasons ($n = 52$, 33%), as well as describing feelings and life ($n = 29$, 18.5%), such as the following descriptive example poem, entitled Summer Evening (the first author has translated all the example poems from Finnish.)

| Kesäilta (in Finnish)	Summer evening
Ilta hämärtää/taivas tummenee/järvi tyyni edessä häämöttää/ilta on kaunis, niin kuin sinäkin/pienen suukon tunnen poskellain/ei tämän kauniimpaa hetkeä ole/elämääni mietiskelen/ hiljakseni vaivun uneen.	The evening blurs/the sky is darkening/the lake calm in front looms/the evening is beautiful, just like you/I feel a small kiss on my cheek/there is no more beautiful moment than this/I meditate on my life/quietly, I fall asleep.
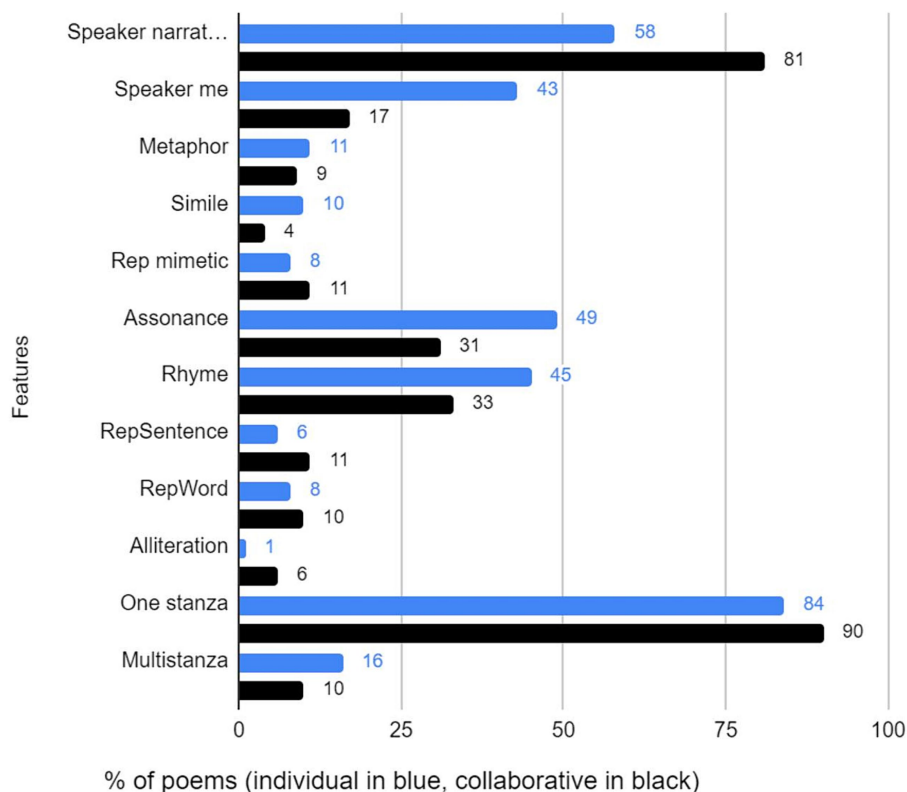
FIGURE 1
Percentages of poems with poetic features in the individually written poems ($N = 156$) and the collaboratively written poems ($N = 70$).

4.4.2 Poetic features and structures in the collaboratively written poems

The students wrote 70 poems collaboratively, most of which ($n = 63$, 90%) had only one stanza. As in poems written alone, assonances ($n = 101$, in 32% of the poems) and rhymes ($n = 103$, in 33% of the poems) were the most used poetic features, whilst alliterations ($n = 4$), similes ($n = 8$) or metaphors ($n = 14$) were not as common (see Figure 1 at the end of this section). The rhymes and assonances were often descriptive, such as rhymes in "*Kesän lämmössä kelpaa köllötellä/Ei tarvitse kenellekään möllötellä/Talvella maa valkoisena hohtaa/Valot kirkkaat kuusessa johtaa*" (*It's good to bathe in the heat of summer/You do not have to mess with anyone/In winter, the land in white glows/Lights of bright Christmas tree lead*). In collaboratively written poems, the students favoured the narrator speaker (81%, $n = 57$).

From the structural point of view, the collaboratively written poems were primarily free-verse poems (87%, $n = 61$). The descriptive and narrative structures were used as much (41%, $n = 29$). There were also six nonsense poems (8.7%), but no other poetic structures were used. A third of the collaboratively written poems dealt with nature or the seasons (33%, $n = 23$), but only 10% ($n = 7$) dealt with feelings or life. About one-third were story poems (34%, $n = 24$). Many of the poems dealt with harrowing life stories, such as in the example of a narrative poem entitled Divorce.

Ero (in Finnish)	Divorce
Riidat mua vaivaa/ja ero alkaa painaa./Mun kanssa riitelet/itseäsi samalla viiltelet/talossa huuto kaikuu/ja poliisiauton sireenit raikuu/mä oon ihan mustelmilla/kun ahdistelet mua suudelmilla./Poliisit ovea hakkaa/ja samalla pahoinpitely lakkaa/äiti mun laukut pakkasi/ja vihdoinkin tää paska lakkasi.	You quarrel with me/and the divorce begins to weigh./You quarrel with me/you are slashing yourself/the shout in the house echoes/and the police car sirens crackle/I'm bruised/when you harass me with kisses./The police hack the door/and simultaneously, the attack ceases/mom packed my bags/and finally, this shit ceased.

4.4.3 Comparison of poetic features and structures in individually and collaboratively written poems

Percentages of poems, including the various features in the individually and collaboratively written poems, are depicted and visually compared in Figure 1. One of the more significant differences between individually and collaboratively written poems was using a speaker. In the collaboratively written poems, the students favoured the narrator speaker (81%), whilst in the individually written poems, they used both the speaker in the role of me (42%) and the narrator speaker (58%). Using rhymes and assonances was more common in individually written poems (nearly half of the poems) than in collaboratively written poems (about one-third). However, these features were the most used poetic features both when written alone and together, and the students said that they spent considerable time thinking about them while writing together. The number of alliterations and repetition of words and sentences was slightly higher in the poems written together, but overall, they were used sparingly in all poems. Except for the poem's speaker, the students mainly preferred the same features when writing alone and together.

The poems written alone and together were mainly free verse in structure. In the poems written alone, the students used different structures in a more versatile way, while in the poems written together, there were no ironic or meta-lyric poems. In addition, in the poems written together, the students used an equal amount of narrative and descriptive structure (41%), while slightly more than half of the poems written alone were descriptive. A third of the collaboratively written poems dealt with the seasons; the other one-third were narrative poems. On the other hand, in the poems written alone, the topics were animals, nature, seasons, feelings, and life. The affordances of animal themes in the model poems may have influenced their use in the students' poems. Also, the structures of the model poems had been followed for some of the students' poetry experiments, e.g., several haikus.

5 Discussion and conclusions

5.1 Theoretical implications

Getting to know a diverse literary tradition and improving their creative thinking and linguistic skills, students need to read and write poems at school, although they might first dislike poetry (e.g., Wilson, 2007; Xerri, 2013; Kangasharju et al., 2021). Male students have been argued to have especially antipathy to poetry (Pike, 2000), but the results of our study reveal that male participants considered collaborative poetry writing even more enjoyable than female participants did. This is in line with Pike's argument that male students benefit from discussion and working with other students. This study enriches our understanding of the significance of collaborative writing to encourage students to write poetry at school. It suggests that learning to write poems is easier if it starts students engaging in collaborative writing using digital tools. Collaborative writing is one of the new critical digital literacy competencies that students need to learn (Kimber and Wyatt-Smith, 2010; Ilomäki et al., 2023). The social context is as essential for creative writing and critical thinking as the individual activity is Clifton (2022). Therefore, collaborative writing can support students' creative writing, which may increase their enthusiasm for poetry writing and even wider self-expression.

In this study, the students, especially the male participants, considered collaborative poetry writing and teamwork to be enjoyable. The results indicated a significant preference for collaborative poetry writing over writing poems alone: the students thought that collaborative composing supported them in finding ideas more easily, creating better ideas, writing better poems, and thinking deeper than with individual writing. Furthermore, the results indicated that the students appreciated the support of a collaborative online tool, which is consistent with the results of our previous study with another digital tool (Kangasharju et al., 2021). Second, this study enriches our knowledge of how the poetry writing process, with the support of other students, influences the use of poetic features and structures compared to using them in individually written poems. In the design of this study, a conscious decision was made not to teach poetic language before the writing experiment. The teachers helped overcome technical problems, but otherwise, the students got support from the model poems and other students. It may have affected the use of the poetic features. For example, poems did not use alliteration, similes, or metaphors much. However, in individual writing, the students used many rhymes familiar from pre-elementary and elementary school.

Together, they took courage to give up rhymes more. In practice, the teacher's guidance in poetry is needed to help the students to use several poetic features.

The results indicated that in collaborative writing, students' descriptions were general, and they wrote story poems instead of describing their sensitive feelings as in poems written alone. On the other hand, the poems written together often had stories about harsh topics, e.g., divorce. However, the students compromised when writing together and chose an outsider's less intimate narrative structure and a narrator speaker more often than in the individually written poems in which they used ironic and meta-lyric poetic structures and used the speaker in the role of me. To sum up, the results indicate that the students enjoyed more collaborative writing and found it easier, but individual writing gave them more liberty to explore various poetic structures and to express their feelings.

5.2 Practical implications

New pedagogical methods are essential to get adolescents interested in poetry writing. Our pedagogical decision was to conduct the collaborative poetry writing task in authentic classroom settings in which students could work in small teams with their classmates during their normal lessons. This offers models to teachers to apply the results of the research more easily and directly in their own teaching in the future. Another pedagogical decision was that all the students wrote alone and in small groups. The results of the students' experiences may have been different if only half of them had written alone and half of them collaboratively. Now, they could all compare their experiences in both settings. The knowledge generated can be applied directly to educational practice. The results show that by discussing and planning the poems together with other students using digital tools, the poetry writing becomes easier and more enjoyable for students.

The approach adopted in this study, attempting to integrate the students' poetry writing in an online platform and collaborative writing to support learning, enriches the view and opportunities for teaching poetry writing. From a pedagogical point of view, this study suggests that collaborative writing can arouse students' interest in poetry writing at school. The interview results showed that teamwork with equal roles supports students and increases their writing confidence. Online collaborative writing can promote students' teamwork skills: In this study, the students perceived that they assisted their groups in which they could share their ideas and experiences, negotiate their poems together, and provide each other with feedback in a positive social atmosphere. To ensure the success of teamwork, the teacher needs to decide the members of the writing groups.

The analysis of poems showed how important it is for teenagers to have an opportunity to recognise and express their feelings through writing poetry safely at school. Poems are also suitable for collaborative reflection. Collaborative writing and model poems are a way to start poetry writing, but students also need opportunities to express themselves individually and get more advice from teachers for using various poetic features and structures in the poems.

Furthermore, a pedagogical implication is using collaborative online tools for poetry writing. Revising and writing together is easier when the students can look at earlier text versions in the shared online document. The ability to write together with a well-established and easy-to-use collaborative writing tool (such as Google Docs or Windows Office 365) supports the poetry writing

experience. It connects text production outside the school with writing at school. Online collaborative writing can support the process of practising poetry writing and other collaborative processes. This study suggests that students need to be given more opportunities for collaborative (poetry) writing with digital tools, and these competencies, among other digital literacies, need to be considered in the basic curriculum.

The teachers who participated in this study said that the experiment inspired them to continue teaching poetry writing with online tools. When writing poems is a pleasant and straightforward experience for students, the teacher can increase the number of lessons spent on this and give space for creativity and linguistic development.

5.2.1 Methodological considerations

The data from student questionnaires and interviews supported us in determining how the students experienced the online collaborative poetry writing process compared to individual writing. A higher degree of measurement validity was ensured through qualitative thematic analysis of the students' post-experimental interviews and the quantitative data from the questionnaires. The qualitative content analysis and the statistical analysis of the students' poems supported us in determining how the poetic features and structures differ in individually and collaboratively written poems. The educational design research method offered an authentic setting and supported the teachers to be involved in the investigation and understand its purpose. As teachers, their expertise was sufficient, and the cooperation with researchers was fluent.

5.3 Limitations and future research

A limitation of our study was that although the Google platform should have been familiar to the students, one teacher had to advise her students about using it more than had been thought before the study. Thus, from the pedagogical point of view, online tools should have been practised to ensure the effect of working with them (cf. Brodahl and Hansen, 2014). However, the technical problems did not affect the task outcome or the students' experiences according to their perceptions in the post-questionnaire and interviews. Furthermore, the teachers said that the experiment inspired them to continue teaching poetry writing with online tools. Another limitation was that this study did not have a control group, so it is impossible to say exactly what the experiment's effect was. Future research could expand investigations more to multimodal poetry writing and use of increasingly developing artificial intelligence -based applications to support students' poetry writing.

Data availability statement

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

Ethics statement

Ethical approval was not required for the study involving human participants in accordance with the local legislation and institutional requirements. Written informed consent was obtained from the

minor(s)' legal guardians/next of kin for participation in the study and for the publication of any potentially identifiable images or data included in this article.

Author contributions

AK: Conceptualization, Investigation, Data curation, Formal analysis, Methodology, Writing- Original Draft. LI: Conceptualization, Methodology, Supervision, Writing – review & editing. AT: Conceptualization, Methodology, Supervision, Writing – review & editing.

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The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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Appendix A

Questions of the students' interviews in small groups.

1. How was your experience with the collaborative process of digital poetry writing?
2. What difficulties did you encounter while writing together? (For instance, how was the brainstorming process? What were your experiences with giving feedback on others' ideas?)
3. What aspects made writing together easier compared to writing individually?
4. If you were to rewrite together, what changes or approaches would you consider?
5. How was the division of labour managed? Did certain members contribute more, and if so, what was the reason behind it?
6. Do you have any questions regarding the study or additional thoughts you would like to share?