HOW DO ELEMENTARY STUDENTS READ POETRY TO-GETHER? ELEMENTARY STUDENTS' READING PRACTICES USING DIGITAL ANNOTATIONS

MIJI SONG, HYELIN LEE & JEONGHEE KO

Seoul National University

Abstract

This study explores the experience of elementary students reading poetry using digital annotations and its usefulness as social constructivist reading. We conducted a case study of an out-of-school literature class that used digital annotations and collected data through participatory observation, activity materials, and interviews with 16 participating students. We analyzed the data by coding and categorizing common themes in two processes—annotation generating and sharing. We found that the digital annotations facilitated students' comprehension of challenging texts. They shared their thoughts and reflected on each other's opinions while generating and sharing annotations and socially constructing their appreciation. Digital annotations are significant in that they facilitate aesthetic reading, reveal students' cooperative reading processes transparently, and allow social annotations in literature classes according to elementary students' interests and needs.

Keywords: Social annotation, digital annotation, cooperative reading, aesthetic reading, poetry education

A central issue in post-COVID-19 education is students returning to face-to-face classes. The COVID-19 pandemic forcibly changed face-to-face classes into online classes, thereby precipitating numerous problems, including lack of interaction, decreased concentration, and declined academic ability (Park et al., 2021). Despite these drawbacks, online classes provide the advantage of web-based lectures and possibility of accessing various materials without time and space limitations (Relan & Gillani, 1997). Furthermore, online classes encourage active learning, thereby improving students' confidence and autonomy (Choe & Lee, 2010). Therefore, resources that can potentially improve teaching and learning quality in post-COVID education must be considered for enhancing students' learning experience.

During the COVID-19 era, many online platforms such as Zoom, Microsoft Teams Meeting, and Google Meet were used in numerous schools. Among them, Zoom is the most widely used online classroom platform in Korea (Moon, 2021). Zoom enables multi-person video conversations in real time, providing digital annotation which allows participants to leave a simple response on the shared screen. Over the past two years, students have become accustomed to using it; however, they are currently facing the challenge of reverse adaptation. This concern is even more crucial for elementary students due to their high proportion of online experience.

While conducting literature classes through Zoom, we observed that some students voluntarily left annotations on the poetry text. Zoom's digital annotations consist of electronic pens, text inputs, and stamps, which learners can easily use. This type of annotation is similar to traditional ones such as highlighting and leaving notes in the margins; however, it differs in that readers write annotations simultaneously with their counterparts in an online learning environment.

Therefore, we reviewed previous studies and confirmed that annotations have traditionally been used as a tool to understand and interpret literary texts and responses while communicating with the text. We thought that they could be a good tool for teaching poetry to learners in a new classroom environment that crosses online and offline learning. We designed and implemented a collaborative poetry reading class through digital annotation, and focused on examining how learners constructed the texts' meaning.

1.   RESEARCH PURPOSE AND QUESTIONS

Research on poetry reading education follows two traditions: close reading and learner's experiences (Kahkola & Rattya, 2021). Annotations have been noted in close reading as they are tools that support reading text analytically. However, they can also be documents that record the reader's response to the text. Therefore, we perceived that annotations can bridge close reading and reader responses.

In a digital environment, annotations could become social activity through multiple people accumulating them in a shared space. Social annotation is suitable for a constructivist learning model because learners build interpretations through social

interactions rather than accepting external interpretations. In particular, poetry is short but has challenging text which requires deep thinking by students due to their implicit language and difficult vocabularies (Fisher & Frey, 2014a, 2014b). It is good material to utilize the social advantages of digital annotation because the cumulative responses left by students can be displayed on a single screen, due to its short length.

We applied digital annotations on Zoom to poetry reading classes using the social constructivism model and attempted to confirm the process by which students collaboratively read and understood the texts using these annotations. In Zoom, users can leave annotations such as pictures and highlights in addition to text annotations. Therefore, Zoom annotations are similar to "telegraphic annotations" that seem cryptic to others because individuals personally leave their underlines and pictures (Marshall, 1997). As some annotation functions in Zoom have unique meanings and symbols, students must develop and deepen their understanding by discussing cryptic annotations for social-constructivist poetry classes. Therefore, we designed two separate stages of activity. In the first stage, students read poetry using annotations in an online environment in small groups. In the second stage, they shared annotations and discuss poetry based on them in offline classrooms.

We used 11 Korean short poems in the class, which were unfamiliar and sufficiently challenging to think about, for students to annotate on a single screen. Additionally, these works were composed of sensuous language rather than conceptual poetry. Therefore, they were expected to be good to use various annotation tools such as pictures. Brief information on the poetry works is presented in Table 1.

Table 1. Poetry Works of Designed Class

Lesson	Works	Poet	The period of creation
1	Orientation		
2	Oh Mother and Sister (*Eommaya Nunaya*)	Kim So-wol	early 20th century
	Though the Great Mountain is High (*Taesan-I nopdahadoe*)	Yang Sa-eon	16th century
	The Touch-Me-Nots (*Bongseonhwa*)	Kim Sang-ok	early 20th century
3	Nostalgia (*Hyangsu*)	Jung Ji-yong	early 20th century
	As Night Fell on the Autumn River (*Chugange bami deuni*)	Prince Wolsan	15th century
4	The New Road (*Saeloun gil*)	Yoon Dong-ju	early 20th century
	Ten Years of Await and Endeavor (*Simnyeo-neul gyeongyeonghayeo*)	Song Soon	16th century
5	Until the Peonie're Blooming (*Morani pigik-kajineun*)	Kim young-rang	early 20th century
	Heard My Beloved is Coming (*Nimi oma hageoneul*)	Unknown	18th century
6	Song of Fisherman's Four Seasons: Spring 1 (*Eobusasisa chunsa 1*)	Yoon Seon-do	17th century
	Song of Fisherman's Four Seasons: Spring 4 (*Eobusasisa chunsa 4*)	Yoon Seon-do	17th century

The online classes were taken 2–5 days prior to the face-to-face classes. In the online class, students read the text and made annotations. They could make pauses on text, leave questions, highlight important words, and draw words or poetic scenes. The teacher did not intervene in the students' activities but only explained the meaning of the vocabulary marked "?" by the students. These classes were conducted with 2–5 individuals at a time to ensure efficiency and convenience. The face-to-face classes—attended by all students—provided an open platform to introspect about the various meanings of the text while talking with others about the annotations created. Table 2 elucidates the pertinent details of the experimental class.

Table 2. Composition of the Experimental Poetry Class

Place	Online (Zoom)	Offline
Time	30 mins (5 times)	2 hours (6 times, including orientation class)
Activity	Reading texts and making annotations	Conversations related to the created annotations

This class was created for elementary school students from grades 4 to 6. The study was conducted only for those who wanted to participate in the extracurricular program. They voluntarily applied for the program and all classes were conducted free of charge so any student from appropriate grades could attend freely. Some students had a special interest in literature, but most were ordinary students who had various interests. All students were Korean native speakers.

We collected data from the participants of two semesters from March to June, 2022, to determine digital annotations' usefulness in elementary students' social constructivism reading process. Our research questions were as follows:

1) What do students experience in the process of creating digital annotations?
2) How is poetry appreciation socially constructed in the process of sharing digital annotations?
3) What are the implications of students' experience of digital annotation for the educational use of social annotations?

2.   THEORETICAL FRAMEWORK

Students' annotations were regarded as a product of visualization of the reader's response, and we believed that this response was the basis for the social composition of interpretation and appreciation related to poetry. We based our theoretical discussion on Rosenblatt (1994)'s reader response theory.

Rosenblatt (1994) focused on the reader who meets the text and the reading process that occurs in this encounter. She focused on the memos left by readers during reading a four-line poem, and extracted their active reading process as follows: 1) draw out their past experiences from linguistic symbols; 2) select the appropriate one from among the various alternative indications, 3) find a circumstance in which the target of instruction could have been connected within it. From these, the

reader focused not only on the indicative meaning of the word, but also imagery, emotions, attitudes, and associations which were instructed by words reproduced in them. Additionally, rather than sequentially following the order of the text, they read through a self-modifying process to analyze various associations sporadically and consistently. It is the role of the text that elicits the reader's response and correction.

Furthermore, she distinguished between efficient and aesthetic reading to reveal the characteristics of poetry reading. In efficient reading, readers focus on the results they will achieve after reading, and read the text to quickly obtain information. However, in aesthetic reading, they focus on the associations that words evoke in the mind, and the reading process rather than results. Poetry reading is the most prominent reading of the aesthetic interaction between the reader and the text.

We thought that reading poetry occurred through a process of association and synthesis, as Rosenblatt noted. Furthermore, we believed that digital annotation could show this process well. Students transparently showed the process of constructing interpretation by expressing the impression they felt in the text through annotating. Digital annotation is also appropriate as a means of educating aesthetic reading as Rosenblatt noted. Annotation allows students to focus on the text slowly, thereby focusing on the reading process, catching associations that can pass by inadvertently, and developing them from a free divergence state to text-based interpretation.

However, Rosenblatt is criticized for overlooking the attributes of "social" readers (Kang, 2020). Another reader-response theorist, Stanley Fish, also noted this social aspect of reading and stated that personal interpretation of text is created in a community of interpretive minds composed of participants sharing specific reading and interpretation strategies (Kang, 2020). The meaning of the text is constructed by interactive strategies at the social and customary community levels. The reader is a member of the community, not an independent being. As such, it is necessary to approach the social aspect of interaction.

Educational discussions on social interaction have been actively conducted by researchers based on Vygotsky's (1978) development theory. Vygotsky emphasized that children are social beings influenced by peers, and the human mind is a result of social learning. Thus, learning is a process of internalizing socially contextualized knowledge. The social constructivist model, based on Vygotsky's developmental theory, posits that knowledge composition is achieved through social interaction. Therefore, teachers guide students to exchange opinions in social groups and achieve effective social interpretation through interaction (Suh & Seo, 2007). In this context, literary education studies that incorporate a reader-response approach to the social constructivism perspective have been conducted (Iskhak et al., 2020).

Social annotation helps students combine interpretations by sharing other's response in real time. We aimed for a conversational classroom of social constructivist perspectives and aesthetic responses expressed through annotations. Students' aesthetic responses could be constructed and moved toward a common interpretation

of the poetry text. Social annotation is noteworthy as a tool that can combine reader response and social composition.

3.   LITERATURE REVIEW

Zoom provides visual digital annotating tools that facilitate online communication through a single shared screen. By reviewing the literature on annotations to justify the application of Zoom as a social annotating tool, we establish our analysis framework. First, we reviewed the studies on the forms, functions, and applications of traditional hand-written annotations, such as manuscripts and printed copies. Subsequently, we examined the studies related to social annotations in online environments.

3.1 Traditional annotation for reading

For reading and learning, readers have actively used annotations for generations. They include exegesis and marks, such as summaries, question marks, underlines, highlights, and asterisks (Nielsen, 1986; Simpson & Nist, 1990; Marshall, 1997; Porter-O'Donnell, 2004). Significantly, Marshall (1997) divided the annotations written on textbooks based on their location and discernibility and reported that annotations help students follow, reread, and interpret texts. Porter-O'Donnell (2004) highlighted that annotation strategies help teach reading, change comprehension through connections, slow down reading, and encourage readers to read and write.

   Furthermore, annotations have implications for reading literary texts. Jansohn (1999), Wolfe and Neuwirth (2001), and Brown (2007) conducted early studies that focused on annotations of literary texts. Jansohn (1999) explored the contribution of expert readers' annotations in creating literary canons. Annotations highlight that previous readers existed and incorporate the annotator's hermeneutic views into the current academic discussion. Annotations' ability to visualize the reader's interpretation corresponds to "the ability to identify insights from other readers" among the four main functions of annotations classified by Wolfe and Neuwirth (2001, p. 337). They suggested that medieval annotations in the manuscript era demonstrated the accumulation of continuous reader interpretations, thereby indicating that annotations are a type of social dialogue that occurs on paper. Brown (2007), applying this function of annotation, proposed annotating to connect literary texts with students' lives in high school literature class. He regarded annotating as directly engaging texts and encouraged students to deepen their reading by exchanging annotations and providing feedback to each other.

   Thus, annotations help in reading diverse texts including literary texts and materializing readers' interpretive views. Additionally, despite being initially private, when socially shared through manuscripts, used books, or feedback, an annotation becomes a medium for sharing interpretations from various readers (Jansohn, 1999; Wolfe & Neuwirth, 2001; Brown, 2007).

Thereafter, annotations were also used in the educational realm as assisting strategy for close reading (Dalton, 2013; Fisher & Frey, 2014a, 2014b, 2014c; Pennell, 2014; Strong et al., 2018). These studies commonly reported that annotations could make students focus on reading and that they visualized which part of texts students experienced difficulty with and had an interest in. In this respect, annotations could also stimulate conversation between students. Among these studies, the findings of Fisher and Frey (2014a, 2014b) are noteworthy—they used Langston Hughes and Robert Frost's poems for close reading materials because poetry is a short yet complex text that requires meticulous thinking (Fisher & Frey, 2012). Their studies suggest that annotating can help learners read and contemplate the language of poetry closely. However, although these studies partially used annotations to promote conversation in classrooms, they fundamentally viewed them as a personal product, not social. They also have limitations in using annotations to support analytical rather than aesthetic reading.

3.2 Social annotation in an online environment

The function of annotation, which allows readers to share their interpretive perspectives, combined with the online environment has encouraged research related to social annotation. Social annotation and the digital environment are closely related.

Studies have been conducted to demonstrate online social annotation's educational effect. Hwang et al. (2011) revealed that students actively and voluntarily participated in mathematics classes through annotations, resulting in higher grades. Miller et al. (2016) confirmed that students who actively used annotations as an online discussion tool acquired better conceptual understanding in physics classes. Thus, online annotations positively affect knowledge acquisition. Considerable online reading research has examined the positive effects of social annotation on reading and learning from various angles (Razon et al., 2012; Mohd Nor et al., 2013; Gao, 2013; Horne et al., 2016; Palilonis, 2017; Di Iorio & Rossi, 2018; Miller et al., 2018; Azmuddin et al., 2020; Kalir, 2020). Although these studies reviewed different platforms—SURF, Diigo, Hypothes.is, eTextReader, and iREAD—they commonly indicated that social annotations help connect learners to each other and enrich semantic composition through interaction.

Furthermore, several online reading studies have revealed that social annotations are also effective in reading literary texts. Kennedy (2016) used annotations for college students to easily access the challenging Victorian proses. University-level French learners effectively learned French song lyrics from a multiliteracy perspective using social annotations (Law et al. 2020). Clapp et al. (2020) associated the aesthetic reading of literary works with social annotations. Based on Rosenblatt's (1994) transactional theory, this discussion was significant as it revealed how students read aesthetic text with social annotations linked to constructivist reading models. It showed that social annotations allowed students to examine the text in detail, thus leading to other valid perspectives while placing the text at the center of learning.

By simultaneously reading a single text wherein every student's response appears, their reading behavior expands and deepens.

Thus, social annotations exhibit the same effect as traditional annotations that reveal readers' interpretations. Additionally, social annotations deepen reading by promoting communication between readers. The contribution of social annotation claimed in Clapp et al. (2020) to aesthetic reading is in line with our argument. The deepening of reading and emphasis on reader responses shown by social annotations can be used as an appropriate methodology in educating the aesthetic reading of poetry. However, most selected studies evaluated higher-level learners (Razon et al., 2012; Mohd Nor et al. 2013; Gao, 2013; Horne et al., 2016; Hukill et al., 2017; Palilonis, 2017; Di Iorio & Rossi, 2018; Miller et al., 2018; Azmuddin et al., 2020; Kalir, 2020; Clapp et al., 2021). Seemingly, there is a premise that annotation activities must be undertaken by a skillful learner who can interpret and "languageize" the content. However, annotations include verbalized text, highlights, underscores, asterisks, and pictures, and assists readers to read texts efficiently throughout the reading process (Wolfe & Neuwirth, 2001). In other words, annotation is a result of the reading activity and can simultaneously be an intermediate medium to derive an understanding through expressive acts. Furthermore, unlike the previous close reading studies, which used traditional analogic annotations as an effective strategy, more poetry reading research is required in social annotation-related studies. Assuming that the interpretation and appreciation of literary works are also socially constructed, social annotations need to be actively used in the aesthetic reading of poetry which is a sufficiently cohesive and complex literary form to observe aesthetic interactions between readers.

In this processive manner, annotations can enable elementary-level students to be the subject of poetry interpretation. Therefore, this study focuses on annotations to help read and examine the intermediate process of detailed text interpretation through text understanding and communication through annotations.

4. METHOD

We regarded class activities in which elementary-level students participated in poetry reading and used their Zoom annotations as a single case. We conducted a case study to obtain an in-depth understanding of the process by which learners generate annotations for poetry texts and communicate through annotations.

A case study is a method that helps investigate individual and specific issues in the real world (Yin, 2018). The specificity and individuality of this case are remarkable because we target elementary-level students and their literary poetry reading experience using digital annotations. Additionally, examining this case can be a meaningful contribution to the social constructivist learning model using digital social annotation.

A case study's key characteristic is that if several similar cases are accumulated or the readers justify how the study develops its logic for explaining the case through

interpretation, there is room for generalization. We aimed at deeply understanding the case of using Zoom annotations and providing insight into the social constructivist cooperative reading with social annotations. Therefore, this is an intrinsic case study with instrumental qualities based on the classification by Stake (2000, pp. 136–138).

4.1 Students as research participants

We targeted elementary school students from grades 4–6 due to two main aspects. First, as Cheong (1977) highlighted, children's literary ability develops significantly during the elementary school period, which he defined as a turning point for the same and claimed that children proceed to the subsequent stage when this transition period is well-implemented. Second, we consider a time-related issue; in the current situation, wherein COVID-19 is becoming endemic and daily life is recovering, these children have spent more than one-third of their six-year elementary school course in either online or online–offline blended classes; that is, they are familiar with online learning tools, and consequently, they fit the experimental class as participants.

We recruited 16 participants who were L1-Korean students for the spring and summer semesters. The spring and summer semesters were organized for six weeks each—from March 25 to April 29, 2022, and from May 6 to June 10, 2022, respectively. We collected data from six and ten students in the spring and summer semesters, respectively. These students agreed to participate in the study and exhibited high classroom engagement.

We only present participants' minimum personal identification information, such as age and grade. We collected such information with the consent of the study participants and guardians in advance. We interviewed participants at the end of each semester, posing background questions to understand their experience in language art and online classes. We found that most participants positively recognized the language arts class and 15 had online class experience using the Zoom platform. Table 3 summarizes the students' general characteristics.

4.2 Researchers

Two of the three co-researchers not only participated in the class as instructors but also actively contributed to data collection and interpretation—both as the class's participants and observers. Both participating researchers were experienced instructors who had conducted out-of-school literature education programs 66 times (132 hours) together from 2019–2022. To avoid any biases or errors in data analysis, during the data collection period, they conducted in-depth discussions at least once a week and constantly exchanged opinions to analyze the collected data. Additionally, to secure the results' validity and reliability and minimize any bias in the analysis, the

co-researcher who was not present in the class reviewed the analysis data and results.

Table 3. Basic information of study participants - students

Semester	Student Identification Code	Age in years (grade)
Spring (March–May 2022)	A	12 (5)
	B	12 (5)
	C	11 (4)
	D	11 (4)
	E	13 (6)
	F	11 (4)
Summer (May–June 2022)	G	11 (4)
	H	11 (4)
	I	12 (5)
	J	12 (5)
	K	12 (5)
	L	11 (4)
	M	12 (5)
	N	12 (5)
	O	11 (4)
	P	11 (4)

Note. Each student's age is presented in the Korean age notation¬—considers the time of birth to be one year old and adds one year on New Year's Day; The name of each semester is provided based on the season when the semester ends.

4.3 Data collection

For data collection, the authors diversified the types of data to ensure the interpretation's legitimacy and enhance the results' validity through triangulation (Creswell, 2009). We collected three types of research data—participatory observation data, student activity materials, and student interviews.

First, we conducted a participatory observation to understand students' activity patterns and reactions specifically and realistically in an educational setting. Two researchers—one as the primary instructor and another as an observer providing a third-party perspective without directly becoming involved in the class—entered the classroom simultaneously. When students having conversations in class, we recorded the classes and transcribed the recordings. Second, we collected student activity materials to observe their responses to physical materials, such as screens (screen captures and recordings), papers, drawings, memos, and artworks. Finally, we conducted one-on-one interviews of 10–20 mins each and obtained subjective perception data from the students. All the interviews were recorded. The students were interviewed after each semester. The interview questions—aimed at addressing the research objective—were prepared in advance; nevertheless, the authors used semi-structured questions to deeply understand students' experience. Additionally, they posed background questions regarding students' previous online class

experiences and their perceptions about using digital annotations for communicating in classes and text understanding. The following are examples of the interview questions used in the study:

- Which annotation—text, drawing, stamp, or highlight—did you usually use in the classes? Why do you like using it?
- How did you decide the annotation's color, shape, and location?
- Was reading poetry, using annotations, different from reading poetry without annotating? If yes, how did it differ?
- Do you think a difference exists between a poem that is best read alone or in a group? If yes, why?

4.4 Data analysis

We analyzed the data following the social constructivist model, which ensures that the meaning is composed through social communication. Cooperative reading was analyzed under two processes—annotation generating (in the online classes) and annotation sharing (in the offline classes).

We repeatedly reviewed the collected data and attempted to capture prominent phenomena in students' annotating practices. To prevent any biases, we constantly shared mutual opinions. We also checked student interviews, which contained students' subjective perceptions, to support the analyzed data. We conducted the specific analysis process in the following steps:

1) Read all the material.
2) Coded interview transcriptions—in vivo coding and axial coding.
3) Extracted common phenomena by reading class transcriptions and student materials.
4) Compared interview data and learners' data (triangulation).
5) Compared each researcher's derived analysis (triangulation).
6) Categorized common themes from the data.

5. RESULTS

In this section, we describe students' experiences by dividing them into the processes of "making annotations" (the online activity) and "sharing annotations" (the offline activity).

5.1 Poetry reading in the process of making digital annotations

Students formed the first response by creating annotations for the poetry. We presented students' annotation results, writing order, and related interview comments to describe this process. The analysis focused on: 1) how students approach unfamiliar text through annotations, 2) which annotations are frequently used by students, and 3) how students interact with each other.

5.1.1 Using digital annotations as a text approach

Students began to interact with the poetry by grasping the rhythm or focusing on the meaning of words and the poem's image. These actions are important as they allow students to see what attempts they have made to read poetry as aesthetic rather than efficient reading, and shows what role digital annotations play in actual poetry reading.

Students were requested to use annotations from 11 poetry texts during class. In these attempts, they generally appeared to prepare for aesthetic reading by first generating annotations in a familiar way with whatever text was provided, rather than trying different approaches depending on the text. The most frequently used method as the first annotation in all poetries was "slash/" to distinguish the feet of the poem, followed by questions about the meaning of words and expressing the poem's image in pictures. As such, annotations as a mark were used more frequently in the initial stage, and "sentence" forms accompanied by their own interpretation occurred in the latter stage of poetry reading.

We would like to explain the practical example in which each annotation was used by presenting a class example of "Song of Fisherman's Four Seasons" used in the sixth session. This text used in the last session, is a suitable example of the skillful annotation activities of students who are already familiar with them. In addition, this is a classic text that has received educational focus in Korea, and as a formal poem created in the 17th century, using rich sensory images, it is an appropriate poem to effectively use various annotations.

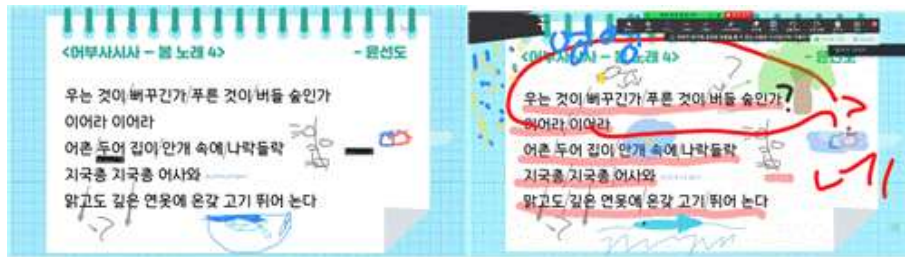*Figure 1. Screenshot of digital annotations by students A, B, E, and F*

Figure 1 presents the annotations written by the students for the "Song of Fisherman's Four Seasons." The left image shows the students starting to make annotations, and the right image presents completed annotations. The text's English translation is as follows (Maeng et al., 2019):

> Is that the cuckoo's cry?
>
> Is that the verdant willow forest?
>
> Sail on! Sail on!

A cluster of houses buried in the mist

Flicker in and out of view.

Ji-go-dok, ji-go-dok, oh-sa-wa.

All kinds of fish

Darting, leaping, piercing the crystal depths.

The "Song of Fisherman's Four Seasons" forms a foot based on the number of syllables, and each line has four feet homogeneously. As shown in Figure 1, students make pauses on the poem using a slash. Many students first visually marked the rhythm of the poem by leaving a slash and read unfamiliar poetry rhythmically. This activity is to prepare for deeper participation in the poem.

Students responded that when they divided the poem into feet, they understood the pauses and found it convenient to read. Student O said, "When I read while annotating, I feel it has a pause." Student I said, "When I annotate, it seems easier to read because it is decided. I could mark something with a line and cut it off unless it was more uncomfortable because everyone read it differently."

Another common strategy was using pictures to visualize poetic images. Students tried to sensibly accept the scene represented by poetry before conceptualizing the impression of poetry in a specific language. In Figure 1, Student F drew a picture in response to the word "fish", and Student B expressed "A cluster of houses buried in the mist." Students showed a primary response to "cuckoo," "cry," "fish," and "depths," and expressed them in pictures.

Furthermore, they mentioned that understanding the text was easier when it had annotations, such as pictures and slashes. Student C said, "When writing annotations, understanding how to read it was easier through pictures and emoticons." Student L said, "Before adding annotations, the text was an empty place, but if it was annotated, the pictures, spaces, and questions helped me understand it."

Some students read the poem by requesting the literal meaning of words. For example, Student E drew an arrow on "Ji-go-dok" and added a question mark, as shown in Figure 1. "Ji-go-dok" is an expression of the sound made when a paddle and ship collide and is unfamiliar vocabulary because it differs from the modern word. Most students used the question mark to request for the meanings of words that they did not know.

A remarkable aspect of the text approach was that their reading resulted from different parts, often non-linearly. When reading poetry in the classroom, reading linearly is normal. However, the actual reading might begin with a specific word that catches the student's attention, irrespective of order, from the "cuckoo" in the first line to the "depths" in the last. Student A attempted to cut and read from the beginning, whereas Student B focused on the third line (A cluster of houses), Student E focused on the fourth line (Ji-go-dok), and Student F focused on the last line (fish). This observation concurs with Rosenblatt's (1994) analysis that readers cannot interpret the text in an ordered way, but read it again to analyze it in an integrated and

consistent manner. Students do not mechanically analyze poetry through annotations, but voluntarily establish a base for reading, and actively interact with it.

5.1.2   Active use of pictorial annotations

Considering the overall use of annotations, students showed an overwhelming preference for pictorial annotations. Digital annotations have often been understood as communication through languages, but students tended to choose pictures over languages for poetry understanding and communication. This preference was expressed in words such as "free expression," "easy," "comfortable," and "fun" in the student' interview. Student D said, "Texts and arrows possess a fixed shape, but pens can help me draw any shape that I want." Student P said, "Pictorial annotation is more interesting because I can draw something using various colors." Thus, the pictorial annotation's free expression evoked their interest.

Pictorial annotations were most widely used to describe the appearance of nouns. Students focused on the individual poetic words and expressed the objects in pictures. Student D said, "For example, if I describe the word "flower" as a picture, the petals could be pink and thick, and the stems could be green and thin." Student L said, "When I drew an ox in Zoom, I used yellow for the body and black for the horns because the ox, I remembered, was of that color."

However, their expressions were not limited to object nouns. Poetic words that are difficult to express in shapes, such as verbs and adjectives, were explained through arrows or scene descriptions.

Figure 2. Pictorial annotations: "Send" by student I

Figure 2 explains the word "send" from the phrase, "Let us write down a detailed story and send it to my sister." This phrase has no words such as "letter" or "mailbox." However, Student I imagined and expressed a situation using an arrow to explain the word "send." Figure 3 describes "cold" and displays cold water coming out of a faucet. The word was used with "stream." However, the student used a different object to express the adjective. Pictorial annotations were actively used in poems that seemed difficult to express in pictures, thus helping the students to visualize the poem's scene.

Figure 3. Pictorial annotations: "Cold" by student N

Additionally, students visualized the entire phrases' meaning. To evoke an image is a feature of poetry. Student A said, "The scene that comes to mind after reading the poem appeared in my head, and I drew it." That is, pictorial annotations contributed to the free expression of the image evoked by the poem. Here, pictorial annotation serves as a channel for students to show their appreciation of the poem.

5.1.3   Interaction through digital annotations

As annotations were created in a small group, students could observe each other's annotations. Thus, they were influenced by their peer's work or supplemented each other's annotations. We described the examples through "Song of the Fisherman's Four Seasons" again.

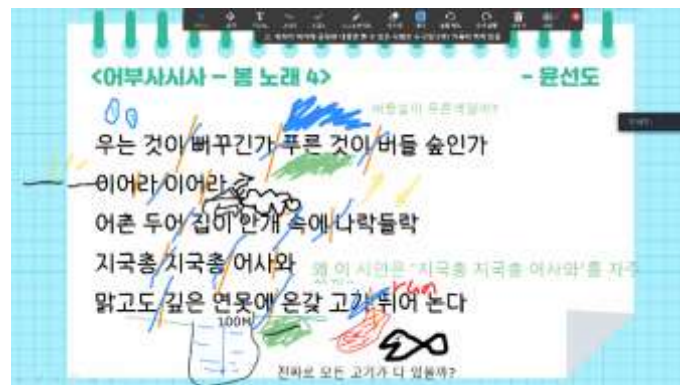*Figure 4. Screenshot of digital annotations by student G, I, J, and K*

Figure 4 and Table 4 present a cooperative interpretation of the "verdant willow forest" (Nos. 8, 10, and 11). In Korean, "blue" is the modifier for willow forest—used to refer to both blue and green, especially in old Korean. Student P thought that "verdant" means blue, and thus, painted blue above the word. Student M saw this and

annotated the question, "Is the willow forest blue?" This is because, for Student M, the color "blue" did not match a willow tree. Observing these annotations, Student N recalled another meaning of blue and colored green below the word. Although the verbal communication between them was minimal, they exchanged questions and answers through annotations and constructed the poetic scene describing the verdant willow forest.

Table 4. Partial timeline of digital annotations in Figure 9

No.	Students	Type	Text	Comment
8	P	Pictorial	Verdant	Blue painting
9	P	Pictorial	Darting, leaping, piercing	Black fish
10	M	Question	The verdant willow forest	Is the willow forest blue?
11	N	Pictorial	Verdant	Green painting
12	N	Pictorial	Sail on	Connection of black lines
13	O	Question	All kinds of fish	Are there truly all kinds of fish?
14	N	Pictorial	In and out	Two yellow arrows
15	N	Pictorial	Houses	Black house
16	O	Pictorial	Houses buried in the mist	Black mist around the house drawing
17	N	Pictorial	Houses buried in the mist	Draw mist together; add an arrow

Note. The colored sections indicate interaction between students. The yellow part is about "verdant willow forest" and the green "houses buried in the mist."

Figure 4 and Table 4 reveal that Students N and O completed the picture together (Nos. 15, 16, and 17). When Student N expressed "house," Student O added, "the mist" in the phrase's context. Recognizing this drawing, Student N completed the description by drawing an arrow. Hence, the students accepted and used annotations as common resources that could be used in collaborative reading rather than accepting them as their creations.

In the interview, Student M compared the classroom presentation with the annotation and said that the presentation was made to the teacher alone, whereas the annotation gave "the feeling of informing others of my thoughts"; therefore, a clear difference existed. The co-writing experience made them more aware of others' existence and thoughts than in offline classes. Numerous students recognized others' thoughts through annotations and were interested in the different viewpoints. Student D said, "even if we read the same poem, our thoughts differ," and Student N said, "it was interesting to read the same text and interpret it differently."

The interviews revealed that students perceived annotation as a common outcome. Student C cited the strength of annotation as "looking at other's questions first and avoiding redundant one." Student K said that when looking at others' annotations, they thought, "why did they draw this? That looks well done. I am going to draw it here." The above cases confirm that they tried understanding others' annotations and adjusting their opinions.

5.2 Poetry reading in the process of sharing digital annotations

In offline classes, instructors extracted all annotations students had made and rearranged them on one large screen. This enabled students to easily view them at a glance. Thereafter, the primary instructor highlighted each annotation and provided questions to students to promote in-class conversation.

The three most prominent response patterns students showed during the annotation-sharing process were as follows. First, they clarified each annotation's meaning. Second, they focused on different thoughts arising from the conversation. Third, in-class discussions were not confined to the annotations; students expanded their conversations and connected their existing knowledge and experiences.

5.2.1   Changes of comprehension and sharing different perspectives in the process of explaining annotations

By explaining each annotation by themselves, student viewpoints varied in the classroom conversation and made them aware of and admit the different ideas or adjust their own understanding of the poems. Although students could cooperatively read poems while producing annotations, the subsequent conversation about the detailed meaning of the annotations made more active social coordination regarding poetry reading.

Most annotations generated in the online classes were easy to understand; however, a few pictorial annotations were too symbolic or unclear. Furthermore, some annotations contained students' misreading of the poem. However, instead of choosing the "correct" annotations and presenting them as the best practices or criteria for interpretation, the instructor asked students what they had wished to express and why they had created the annotation—highlighting all their annotations without judging any as good or bad. We believe that, through the conversation, the students could adjust their understanding of the text without a direct explanation from the instructor. Students could approach the overall meaning and context of the poems by explaining the detailed meaning of the annotations and suggesting the reason for writing such annotations.

For example, when we were teaching the poem, "Song of Fisherman's Four Seasons" in the spring semester, there were students who left annotations that had the meaning of crying or sadness on the phrase, "Is that the cuckoo's cry?" "Cry" is a multi-meaning word that means the "sound of a bird, insect, wind, or animal" and "to shed tears because of feelings such as joy, sadness, pain." (National Institute of Korean Language, nd). However, they considered it in the latter sense (the primary meaning) rather than the poetic context. This poem depicts the enjoyment of feeling the changing scenery on a boat on a fast-flowing river to sing a cheerful and joyful optimistic life. Therefore, their annotations were the results of misreading and did not fit the poem's context. However, the instructor did not correct their responses and requested for further explanations or other opinions of their annotations—an

active discussion followed. A student mimicked the sound of a cuckoo. The conversation changed the cooperative interpretation of the phrase from sadness and evoked an auditory image.

This same process was applied in the summer semester. In particular, student E responded that he most liked the phrase, "Is that the cuckoo's cry?" Initially, students misread the phrase with a sad meaning. Subsequent to the in-class conversation, he came to accept that as a sensory phrase, and from that, they showed a subsequent emotional response of *good*. In other words, corrections of misreading and subsequent emotional responses came from the conversation on previously made annotations.

It is essential to acknowledge that there are many different views and read the work abundantly from various perspectives. Confirming other student's thoughts did not necessarily appear only in modifying the individual's understanding but also accepting the various perspectives. This phenomenon occurred sporadically throughout the class, and we present a representative case below (Figure 5).

Figure 5. A text annotation: 'The mountain behind the bathed in sunlight." (Summer semester, sixth session)

"Why does the sun shine on the mountain behind, but not on the front one?" (Student N)
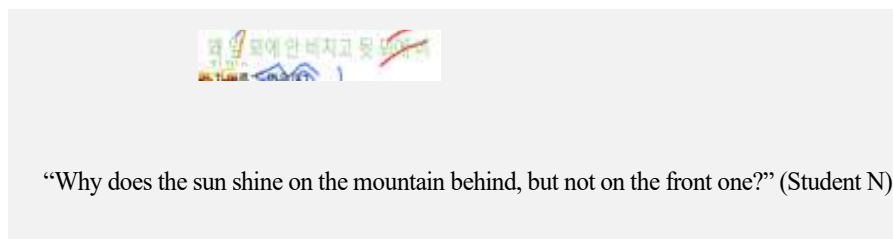
In the sixth session of the summer semester, Student N left a question on the screen, "Why does the sun shine on the mountain behind, but not on the front one?" regarding the phrases, "The mountain behind bathed in sunlight." The following is the English translation of the poem that we used (Maeng et al., 2019):

Song of Fisherman's Four Seasons —Spring Song 1

Facing the brook as the fog clears;

The mountain behind bathed in sunlight.

Launch the boat! Launch the boat!

The night's tide recedes,

The days' tide advances.

Ji-go-dok, ji-go-dok, oh-sa-wa.

The flora of the river village

Is better seen by oneself from afar.

Here, the person on the boat does not walk or move, but the flowing water allows the speaker to look around the far and close landscape. Student N's question is simple, but it requires interpretation of various poetic qualities, such as the poetic situation and gaze of the lyrical self. In the offline class, we discussed N's annotation and different views were shared.

Student M explained the direction of the light, saying, "The light did not come from the front but from the back." They supposed that the speaker was looking in front and the light was coming from the back and lit his back. Meanwhile, Student L said it was because the setting sun was near, behind the mountain, and the coming sun was near, in front of the mountain. They assumed the mountain's location, associating it with the temporal background—morning. Student L's interpretation is highly related to the subsequent phrases, "the night's tide" and "the day's tide." In other words, in response to N's question, M presented a response centered on the speaker's gaze, while L's opinion focused on the poetic situation. The conversation in the classroom did not converge on either side. N's question created a hub for discussion where different interpretations were encountered.

Moreover, through student interviews, we could confirm that students actively and positively participated in the classroom conversation by sharing and explaining the meaning of each annotation. Particularly in Student N's case, they cited a specific annotation in the third session, explaining that he felt a sense of efficacy in conveying his opinion as his annotation became the subject of the discussion.

Digital annotations visualize responses that occur in the process where students read poetry. The in-class conversation explaining their detailed meaning makes students reflect on their interpretations or accept others' opinions. In other words, the annotation anchored the various poetic discussions.

5.2.2   Reflections through paying attention to different annotations

In the annotation sharing process, students particularly focused on the various annotations generated for the same poetic phrases. In the offline classes, we discussed what annotation is more suitable for the phrase. The focus on the different annotations led to a deeper understanding and appreciation of the poetry. In the annotation sharing process, students particularly focused on the various annotations generated for the same poetic phrases and discussed what annotation is more suitable. The focus on the different annotations led to a deeper understanding and appreciation of the poetry.

Previously, we observed that students were likely to use pictorial annotations most to reflect their understanding and experiences in drawings. Different pictorial annotations showed that students evoked different visual images of the exact phrase. Various drawings appeared simultaneously such as the "fog" as black or blue, "wide field" as a lawn or farmland, "the night sky" as early evening or midnight, and "the moon" as a crescent or full moon.

We will present the representative discussion of the third session. In the third session, students read a poem from the 15th century that sang about the non-possessive life borrowing the image of a fisherman on the autumn river at night. This poem uses a poetic expression method that has been widely used in traditional Korean poetry. Poets implicitly conveyed their inner spiritual values through a landscape of nature. Therefore, imagining the night sky is essential in understanding and appreciating this poem. As shown in Figure 6, Some students imagined the relatively bright blue early night sky, whereas others drew a very dark blackish sky. Some drew crescent moons, and others full moons.

Figure 6. Pictorial annotations representing "Night"

Recognizing that each one drew different night skies in their pictorial annotations, students attempted to persuade their annotations with their grounds. For instance, based on the poem's phrase, "carrying the moonlight," Student M suggested that there must be much moonlight to carry, therefore it should be a full moon with much moonlight. Student F also suggested that a bright full moon is suitable for the poem based on their fishing experience. Students M and F felt profusion and abundance from the poem. However, Students E and D said that a crescent is more consistent with the poetic flow because the crescent moon is more aesthetic than a full moon. They imagined more calm beauty than abundance in the poem. This case showed that pictorial annotations led to reflection and concretization of students' interpretations through classroom conversation.

Furthermore, the interviews revealed that the students were interested in others' thoughts, which differed from their own. When we asked each student about their experience of considering someone else's annotation, Student G said, "I thought they had that idea. /…/ If someone else drew a picture opposite of mine, I recognized what they thought about it…." This indicated that they were interested in different annotations about the same phrases in the poem. Student L responded, "We annotated the same thing, but all in different ways." These interview responses showed that students participated in the conversations with interest regarding different text responses. Different pictorial annotations served as a channel for

visualizing different perspectives and scaffolding for developing understanding and appreciation.

5.2.3   Expansion of conversations based on annotations

The last pattern observed during the annotation sharing was that the annotations brought new themes related to the poem by stimulating students' association. Reading poetry with annotations did not occur in the direction of internalizing poetry content but also broadening students' appreciation by using their background knowledge or previous experience. In this process, the annotations became the connecting links.

The following conversation demonstrates Student F expressing doubt regarding the instructor's question while clarifying the meaning of the annotation for the phrase, "Is that the verdant willow forest?" Student F reflected on the prejudice toward the "fisherman"—stated explicitly in the poem's title—and questioned the poet. This directed the class to discuss who the real poet was.

> Instructor: There are some blue dots here and there. I do not know what these are. They (students) said they represent the willow forest. /…/ I do not know what you guys are imagining, but would the fisherman really write this if he was not watching this (the willow forest)?
>
> Student F: Can a fisherman write such a good poem?
>
> Student E: I do not think so.
>
> /…/
>
> Student F: I do not think fishermen would be good at writing poetry. They are ignorant.
>
> Instructor: Ah, do you not think it is written by a fisherman?
>
> Student F: No.
>
> Student E: This is actually written by Yoon Seon-do.
>
> Instructor: That is right. I saw you found that in the book.
>
> Student B: Maybe he infused his spirit into the fisherman and wrote the poem.
>
> /…/
>
> Student E: He is a fish lover. He liked fish so much because fish is delicious, and he also liked fishing.
>
> Student B: Then, why did he write the poem? He can just go out and hook fish.
>
> Student E: Maybe he had two jobs.
>
> Student F: How can a person have two jobs?
>
> Student E: He can. He is a fisherman and a poet at the same time.
>
> Instructor: Right. You can be a poet and a fisherman at the same time.
>
> Student F: But a fisherman is ignorant. How can he be a poet?

Student E: Fishermen are not ignorant.

(Spring Semester, Sixth Session)

In response to Student F's opinion that an "ignorant" fisherman could not write such a good poem, Student E provided additional information about the real author of the poem, Yoon Seon-do. Through these, the conversation shifted from clarifying the actual author to the question, "Was the real author a fisherman?" and "Why did he write such a poem if he was not a fisherman?" In response, Student B suggested that Yoon Seon-do, who is not a fisherman, wrote the poem as if he was a fisherman. Student E supposed that Yoon Seon-do might have had two jobs—that of a fisherman and a poet. He refuted Student F's opinion that fishermen cannot write good poetry owing to their ignorance. This debate did not conclude; however, it reflected an essential aspect of the poem's aesthetics.

Yoon Seon-do, the poet, belonged to an aristocratic class called "Sa-dae-bu." In such poems, which elucidated a fisherman's life, poets presented "fake" fishermen as the speaker and depicted a life of leisure and entertainment amidst nature. "Fake" here means that the fishermen in the poems did not fish for survival but were recreated figures to depict people who board a boat and enjoy its leisurely floating. Therefore, fishing for one's livelihood or the resultant exhaustion did not appear in these works.

Although Student F's question reflected the prejudice against fishermen, seemingly, they felt a gap in the appearance of a fisherman who works for a living and the one in the poem. In the process of sharing questions, the new opinions by Students B and E indicated that the students understood the literary recreation of a fake fisherman, whereas students who did not possess any background knowledge regarding such aesthetics expanded their understanding through the discussion rooted in the annotations.

Furthermore, students grasped the poem's meaning by discovering answers to pertinent questions and contributing each other's knowledge and experiences to the conversation.

Figure 7. Text annotation on "Ji-go-dok, ji-go-dok, oh-sa-wa": "Why did the poet use this phrase again?" (student D)

In Figure 7, Student D asked, "why did the poet use this phrase again?" Other students provided the following explanations: "Because the poet was too lazy to think of other phrases" (Student F); "Because he did the same thing every day," "Because the poet liked the squeaking sound," and "Because he heard that (squeaking) sound too much" (Student E). In the process of finding the phrase's use, the students recalled listening to the chorus of the folk song, "Arirang," and the national anthem. This indicates that without direct explanations related to "ji-go-dok," they could arrive at an understanding that it had similar characteristics to the repetitive parts of other songs.

> Student B: Do people not emphasize the song's title (in lyrics) like that?
>
> Instructor: Right. People emphasize the song's title. By doing so, we make the piece more fun to listen to. Do you think it would be more fun to listen to because the lyrics are repeated?
>
> Student E: Many songs repeat some part of the lyrics.
>
> Student F: Like "Arirang."
>
> Instructor: That is right—something like "Arirang."
>
> Student E: "Ari-ari-rang, seuri-seuri, arari-yo."
>
> /…/
>
> Student A: You know, the national anthem is also like that.
>
> Instructor: Yes, the national anthem also has lyrics repeated in the song.
>
> *(Spring Semester, Sixth Session)*

Moreover, the students enriched the topics of the in-class conversation by recalling previous experiences and annotation-related knowledge—for example, going camping and hearing the cuckoo sound (Student F), seeing fish popping out of the water (Student A), and the knowledge that the willow grows by the river (Student B). Thus, we confirmed that sharing annotations helped students understand the text's meaning and served as a channel to connect existing knowledge and experiences with the text, thereby enabling divergent thinking.

6.   DISCUSSION AND CONCLUSION

We categorized the following three prominent patterns of students' experiences in generating digital annotations: First, students were likely to easily read poetry when there were abundant visual materials and marks instead of plain text. This result concurs with that of formal annotation studies. In our study, students had to read unfamiliar poems; annotating when they first encountered challenging poems relieved their resistance to the texts. The result implies that annotating has significant potential in learner-centered poetry reading. Furthermore, students read poems non-linearly, focusing on attracting words and phrases. Annotations accumulatively

visualized their non-linear responses on the single screen and supported active reading, based on Rosenblatt's viewpoint.

Second, students actively used and preferred pictorial annotations because drawing is a comfortable and liberating way to express thoughts as well as imageries, movement of objects, and mental scenes. Pictorial annotation has received relatively scant attention in previous studies. However, for elementary students, it is an essential medium that promotes positive reading reactions, including creating connections with the text and exercising poetic imagination. Therefore, pictorial annotations are an essential step in socially annotating activities in literary classes, especially for elementary-level learners.

Third, students recognized other individual's annotations when creating annotations together and used them as an interaction medium. Although verbal and non-verbal communication was limited in Zoom, students exhibited a sense of communication when facing peers' annotations on the screen. They understood that peers are helpers who jointly reach text comprehension and appreciation through diverse responses and the cooperative and collaborative process of reconstructing the phrase's meaning.

In sharing digital annotations, students socially constructed their appreciation by discussing their understanding, reflecting, and proceeding toward new topics. In the offline class, which allowed the verbal exchange of ideas, annotations served as a foundation for learner–learner and learner–instructor communication, which helped coordinate and deepen textual understanding. Students experienced a sense of efficacy in communication and were interested in interpreting different meanings while clarifying pre-written annotations' meaning. Furthermore, their understanding of the text was adjusted and deepened based on the annotations. In other words, by discussing the annotations, the students approached in-depth meanings, could imagine poetic situations not presented in the poem, and understand the poems' context. This indicates that Zoom annotation is helpful as a reading aid and may catalyze deeper comprehension and appreciation of the text.

Additionally, their understanding of the text was adjusted and deepened based on the annotations. Students understood the meaning of poetry more accurately through conversations based on annotations and generated additional responses. Furthermore, pictorial annotations were initial aesthetic responses that students freely produced concerning texts. Students reflected and adjusted their interpretations by sharing various pictorial annotations containing others' perspectives. This suggests that digital annotations are helpful for more than efferent reading. They also can help aesthetic reading by visualizing students' aesthetic responses and facilitating subsequent literary conversations about them.

Based on this study's results, digital annotations exhibit several implications in educational applications of social annotations in poetry reading. Digital annotations that provide digital pens to draw or mark make students freely express their responses on the screen. Therefore, elementary-level students who are not fully experienced in writing lengthy text annotations could utilize social annotations in

cooperative reading. They can voluntarily and interestedly use pictorial annotations as a scaffold to naturally reach Rosenblatt (1994)'s aesthetic appreciation by applying their experiences and focusing on the associations that occur in their minds.

Moreover, the text reading experience with digital annotation worked differently in the generating and sharing processes, whereby, maximal positive effects were expected when both processes were performed. Without the annotation generating process, the students would lose the anchor for modifying and expanding previous thoughts in offline classes; without the sharing process, the opportunity to socially correct misreading and reflect on their thoughts would be limited. Specifically, in digital annotations, merely generating annotations does not deepen textual understanding; therefore, classes should be designed with group-level annotating linked to secondary conversations in classrooms.

Digital annotations provide students with experiences that encourage them to focus on the text. They carefully read the text while constructing scaffolding, suggesting that closely reading poems from the social constructivist view is possible without the neo-criticism method. Additionally, social annotations are significant because they allow instructors to observe the entire reading process through visible data, thereby indicating the possibility of using social annotations as a learner-led tool to meet students' needs.

This study has limitations. We conducted our study on a small group of students. Therefore, the generalization of research might be difficult due to the small sample size. In addition, small numbers made it possible to proceed the online pre-class efficiently and express their opinions equally in classroom conversation. It is necessary to modify the class design to apply digital annotations to the classroom with more students. Furthermore, this study focused in detail on describing the process of poetry reading practices using digital annotations to suggest the possibility of its use. Follow-up studies from various perspectives is required to acquire more knowledge on areas such as learners' confidence, efficacy, interest, and conditions of poetry text in reading poetry using digital annotations.

REFERENCES

Adler, M. (1966). *How to Read a Book: a guide to reading the great books.* Simon and Schuster.

Azmuddin, R. A., Mohd, N. F., & Hamat, A. (2020). Facilitating online reading comprehension in enhanced learning environment using digital annotation tools. *IAFOR Journal of Education*, 8(2), 7-27. https://doi.org/10.22492/ije.8.2.01

Brown, M. D. (2007). I'll have mine annotated, please: Helping students make connections with texts. *English Journal*, *96*(4), 73–78. https://doi.org/10.2307/30047169

Cheong, D. (1977). A study in the development of interest in reading: stages of development. *The Education of Korean Language*, *30*, 69–120.

Choe, I. & Lee, A. (2010). Effects of blended-Learning on self-efficacy and attitude in elementary physical education classes. *Korean Association of Sport Pedagogy, 17,* 95–114. https://doi.org/10.14697/jkase.2015.35.1.0027

Clapp, J., DeCoursey, M., Lee, S.W.S., & Li, K. (2020). Something fruitful for all of us": Social annotation as a signature pedagogy for literature education. *Arts and Humanities in Higher Education, 20*(3), 295–319. https://doi.org/10.1177/1474022220915128

Creswell, J. W. (2009). *Research design: Qualitative, quantitative, and mixed methods approaches* (Third). Sage.

Dalton, B. (2013). Love that book: Multimodal response to literature, *Reading Teacher*, 67(3), 220-225. https://doi.org/10.1002/TRTR.1206

Di Iorio, A., & Rossi, D. (2018). Capturing and managing knowledge using social software and Semantic Web Technologies. *Information Sciences*, *432*, 1–21. https://doi.org/10.1016/j.ins.2017.12.009

Fisher, D., & Frey, N. (2012). Close reading in elementary schools. *Reading Teacher*, 66(3), 179–188. https://doi.org/10.1002/trtr.01117

Fisher, D., & Frey, N. (2014a). Close reading as an intervention for struggling middle school readers. *Journal of Adolescent & Adult Literacy, 57*(5), 367–376. https://doi.org/10.1002/jaal.266

Fisher, D., & Frey, N. (2014b), Student and teacher perspectives on a close reading protocol, *Literacy Research and Instruction*, 53(1), 25-49, https://doi.org/10.1080/19388071.2013.818175

Fisher, D., & Frey, N. (2014c). Contingency teaching during close reading, *Reading Teacher, 68*(3), 222-227, https://doi.org/10.1002/trtr.1317

Gao, F. (2013). A case study of using a social annotation tool to support collaboratively learning. *Internet and Higher Education, 17*(1), 76-83. http://doi.org/10.1016/j.iheduc.2012.11.002

Horne, S.V., Russell, J. E., & Schuh, K.L. (2016). The adoption of mark-up tools in an interactive e-textbook reader. *Journal of Victorian Culture*, *21*(4), 550–558. https://doi.org/10.1080/13555502.2016.1233905

Hukill, G. S., Arnold, J. M., & Klein, J. T. (2017). Reading in the digital age: A case study in faculty and librarian collaboration. *College and Undergraduate Libraries, 24*, 574–594. https://doi.org/10.1080/10691316.2017.1336143

Hwang, W. et al. (2011). Effects of reviewing annotations and homework solutions on math learning achievement. *British Journal of Educational Technology, 42*(6), 1016–1028. https://doi.org/10.1111/j.1467-8535.2010.01126.x

Iskhak, Mujiyanto, J., & Hartono, R. (2020), A review on reader response approach to teaching literature at EFL contexts, *English Language Teaching*, *13*(7), https://doi.org/10.5539/elt.v13n7p118

Jansohn, C. (1999). Annotation as Cultural Activity or Re-constructing the Past for the Present. In C. Jansohn (Ed.) *Problems of Editing* (Ser. Beihefte Zu Editio, pp. 211–223). Essay, Niemeyer.

Kahkola, S. & Rattya, K. (2021). Experimenting with the languaging approach in teaching poetry. *L1-Educational Studies in Language and Literature, 21*(2), 1-20. http://doi.org/10.17239/L1ESLL-2021.21.02.08

Kalir, J. H. (2020). Social annotation enabling collaboration for open learning. *Distance education, 41*(2), 245–260. https://doi.org/10.1080/01587919.2020.1757413

Kang, M. (2020). Whereabouts and directions of reader-response theory in the research of literature education—focusing on the research in Korea since 1985—. *Korean Literature Education Research*, 66, https://doi.org/10.37192/KLER.66.2

Kennedy, M. (2016). Open annotation and close reading the Victorian text: Using Hypothes.is with students. *Journal of Victorian Culture, 21*(4), 550–558. https://doi.org/10.1080/13555502.2016.1233905

Law, J., Barny, D., & Poulin, R. (2020), Patterns of peer interaction in multimodal L2 digital social reading, *Language Learning and Technology, 24*(2), 70-85. http://hdl.handle.net/10125/44726

Maeng, S., Park, H., Lee, H., Lee, H., Jeong, C., Shin, H., Yun, S., Shin, G., Lee, H., Hwang, J., & Kim, C. (2019). *Encounters with the Korean Lyrical Spirit: An Anthology of Sijo.* Translated by Ko, J. & Byron-Davies, J.M. ASIA Publishers.

Marshall, C. C. (1997). Annotation: From paper books to the digital library. In *Proceedings of the Second ACM International Conference on Digital Libraries* (DL '97). Association for Computing Machinery, New York, NY, USA, 131–140. https://doi.org/10.1145/263690.263806

Miller, K., Lukoff, B., King, G., & Mazur, E. (2018). Use of a Social Annotation Platform for Pre-Class Reading Assignments in a Flipped introductory Physics Class. *Frontiers in Education, 3*(8). https://doi.org/10.3389/feduc.2018.00008

Miller, K., Zyto, S., Karger, D., Yoo, J. & Mazur, E. (2016). Analysis of student engagement in an online annotation system in the context of a flipped introductory physics class. *Physics Education Research, 12*(2), 020143. https://doi.org/10.1103/PhysRevPhysEducRes.12.020143

Mohd Nor, N. F., Azman, H., & Hamat, A. (2013). Investigating students' use of online annotation tool in an online reading environment. *3L: Language, Linguistics, Literature, 19*(3), 87–101. https://ejournal.ukm.my/3l/article/view/3655

Moon, H. (2021, July 14). 70% of elementary school students still use "Zoom" instead of the government platform that cost 6 billion won. *The Joongang.* https://www.joongang.co.kr/article/24105416#home.

National Institute of Korean Language. (nd). Cry. *Standard Korean Dictionary of the National Institute of Korean Language*, 2023.02.06. https://stdict.korean.go.kr/search/searchView.do?word_no= 465180 & searchKeywordTo=3

Nielsen, J. (1986). Online documentation and reader annotation. *Proceedings of the International Conference on Work with Display Units*, 526–529.

Palilonis, J. (2017). Active reading on tablet textbooks: Comparative assessment of two systems. *International Journal of the Book, 15*(2), 13-28. https://doi.org/10.18848/1447-9516/CGP/v15i02/13-28

Park, W., Park, J., & Lim, Y. (2021). A qualitative study on the online class experience conducted with COVID-19. *The Journal of Learner-Centered Curriculum and Instruction, 21*(12), 702–728. https://doi.org/10.22251/jlcci.2021.21.12.707

Pennell, C. (2014). In the age of analytic reading: Understanding readers' engagement with text. *Reading Teacher, 68*(4), 251-260. http://doi.org/10.1002/trtr.1292

Porter-O'Donnell, C. (2004). Beyond the yellow highlighter: Teaching annotation skills to improve reading comprehension. *The English Journal*, *93*(5), 82–89. https://doi.org/10.2307/4128941

Razon, S., Turner, J., Johnson, T. E., Arsal, G. & Tenenbaum, G. (2012). Effects of a collaborative annotation method on students' learning and learning-related motivation and effect. *Computers in human behavior, 28*(2), 350–359. https://doi.org/10.1016/j.chb.2011.10.004

Relan, A., & Gillani, B. B. (1997). Web-based instruction and the traditional classroom: similarities and differences. In B. Khan (Ed.), *Web-based instruction* (pp. 25–37). Essay, Educational Technology Publications.

Rosenblatt, L. (1994). *The Reader, the Text, the Poem: The Transactional Theory of the Literary Work.* Southern Illinois University Press.

Seoul metropolitan office of education. (2021, March 22). Results of the 2021 Online Class Operation Survey. https://enews.sen.go.kr/news/view.do?bbsSn=170903&step1=3&step2=1.

Simpson, M. L., & Nist, S. L. (1990). Textbook annotation: An effective and efficient study strategy for college students. *Journal of Reading*, *34*(2), 122–129. https://www.jstor.org/stable/40032053

Stake, R. E. (2000). Case Studies. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of Qualitative Research* (Second, pp. 134–164). essay, Sage Publications, Inc.

Strong, J. Z., Amendum, S. J., & Smith, K. S. (2018). supporting elementary students' reading of difficult texts. *Reading Teacher, 72*(2), 201-212. http://doi.org/10.1002/trtr.1702

Suh, H. & Seo, S. (2007). Constructivism and teaching-learning methods in reading education. *Journal of reading research, 18,* 27–70. http://uci.or.kr/G704-001476.2007..18.011

Vygotsky, L. S. (1978). *Mind in Society: The Development of Higher Psychological Processes*. (M. Cole, Ed.). Harvard University Press.

Wolfe, J. L., & Neuwirth, C. M. (2001). From the margins to the center: the future of annotation. *Journal of Business and Technical Communication*, *15*(3), 333–371. https://doi.org/10.1177/105065190101500304

Yin, R. K. (2018). *Case study research and applications: design and methods*. Sage.