JTAR

JTAR

Journal of Teacher Action Research
Volume 8, Issue 1, 2021

JTAR

About the Journal

Founded in 2013, the Journal of Teacher Action Research (ISSN: 2332-2233) is a peer-reviewed online journal indexed with EBSCO that seeks practical research that can be implemented in Pre-Kindergarten through Post-Secondary classrooms. The primary function of this journal is to provide classroom teachers and researchers a means for sharing classroom practices.

The journal accepts articles for peer-review that describe classroom practice which positively impacts student learning. We define teacher action research as teachers (at all levels) studying their practice and/or their students' learning in a methodical way in order to inform classroom practice. Articles submitted to the journal should demonstrate an action research focus with intent to improve the author's practice.

Editorial Team

REFRESHING READING LESSONS WITH A STRATEGY: STRUCTURED NOTE-TAKING WITH GRAPHIC ORGANIZERS

Bahar Cemre Karaağaçlı
TOBB University of Economics and Technology

Abstract Reading and comprehending a text from various dimensions have always required attentiveness and interest. Structured note-taking strategies with graphic organizers can engage students as active learners interested in the class material (Robinson, 2018). This action research study was designed to integrate structured note-taking strategies with graphic organizers into reading lessons to understand students' perceptions towards using such strategies. The strategies used were Cornell Notes, Split-Page, Fishbone Diagram, Highlighting/Underlining-Summary. The data was collected through pre- and post-reflections, focus group interviews with university students, the examination on students' worksheets, and supplementary tests to measure their reading comprehension. As pre-reflection shaped the further cycles of this action research, the data analysis with open and axial coding revealed several themes out of the post-reflections. These university students perceived these four strategies as both advantageous and disadvantageous. However, post-reflections demonstrated that positive views were higher than negative ones. The worksheets also revealed that Cornell Notes was the most preferred strategy, followed by Highlighting/Underlining-Summary.

Introduction

Many texts to read, comprehend, and analyze bear some difficulties for students and instructors in reading-related lessons. We, instructors, always want our students to exercise the most out of the text. However, as the primary participants in this desire, students can quickly lose their interest in the text and experience comprehension problems, which become a hot topic to overcome during our class hours. Comprehension in reading texts can be scaffolded with note-taking strategies (Rahmani & Sadeghi, 2011). However, note-taking strategies are mostly associated with listening and lecture notes (Sakta, 1992). Despite such a widespread conception, structured note-taking accompanied with graphic organizers can support the reading-based lessons. Students can benefit from the note-taking process with the help of graphic organizers while reading a particular reading text (Robinson, 2018). By utilizing structured note-taking strategies accompanied with graphic organizers, it is hoped

that university students' engagement and comprehension can be stimulated in reading lessons. The following research questions led the study:

    a. What are the students' perceptions towards structured note-taking strategies with the accompanying graphic organizers in reading lessons?

    b. How do the students perceive the benefits of structured note-taking with the accompanying graphic organizers for reading comprehension?

Literature Review

Theoretical Framework. Note-taking promotes enhanced attention, more sophisticated understanding, and stronger information storage (Kiewra, 1989). Note-taking has also been found to serve two functions as encoding and storage (Di Vesta & Gray, 1972; Kiewra, 1989). For the encoding function, note-taking has been associated with the encoding specificity theory (Kiewra, 1987). In this theory, the principle is "only that can be retrieved that has been stored and how it can be retrieved depends on how it is stored" (Tulving & Thomson, 1973, p. 359). In my study, the students stored knowledge from a reading passage with the help of structured note-taking strategies and graphic organizers so that they could retrieve it for the comprehension questions. As the theory holds, the way the knowledge is stored determines its retrieval. Therefore, it was anticipated that they would retrieve the knowledge as the cues written on these graphic organizers that they have filled out.

Reading Comprehension and Vocabulary. As an interactive mental process, reading comprehension is perceived to be the interplay of linguistic knowledge, background knowledge, and content knowledge of a student (Rahmani & Sadeghi, 2011). The roles of these knowledge types vary in reading comprehension. For instance, background knowledge can facilitate reading comprehension in a way that students can activate their prior knowledge in relation to the class material (Nunan, 2003). Vocabulary also bears importance for reading comprehension because it has been regarded as one of the most crucial components of the language learning process as generating the basis for language-related skills (Richard & Rodgers, 2001). Also, as foreign language input, vocabulary knowledge in English has been found to be impactful on reading comprehension (Chavangklang et al., 2019; Kameli & Baki, 2013; Manihuruk, 2020; Rahman & Iqbal, 2019). As Sternberg (1987) emphasizes, "one's level of vocabulary is highly predictive, if not deterministic, of one's level of reading comprehension" (p. 90). With all these intertwined aspects of reading comprehension, students might feel disoriented and unable to process a text strategically in a foreign language. In other words, they could struggle with the reading text instead of applying an appropriate strategy to ease comprehension. Even in some cases where they possess a strategy, as Gersten et al. (2001) mentions, they might be still unaware of the time to utilize it.

Note-Taking and Graphic Organizers. Note-taking has been accepted as one of the most relevant cognitive strategies utilized by language learners (White, 1996). Note-taking strategies have been studied in relation to various aspects such as achievement, development, or perception (Açıkgöz & Çetingöz, 2009; Yang & Lin, 2015; Haghverdi et al., 2010). Açıkgöz & Çetingöz (2009) indicated in their experimental design study that note-

taking strategies influence subject achievement and retention. On literacy development in English, Yang & Lin (2015) found online collaborative note-taking strategies facilitative. By collecting data through questionnaires, Haghverdi et al. (2010) demonstrated positive perspectives towards note-taking strategies among professors and university students. According to Castelló & Monereo (2005), note-taking has been studied as a research area in terms of its impacts on cognitive variables, on learning which changes with the quality of the notes, and on the classroom during the note-taking instruction. The research on the classroom defined as the way to report the functions and sense attributed to notes reveals the perspectives of teachers and students about note-taking.

The literature also provides studies concerning note-taking strategies and listening comprehension (Khavazi et al., 2018), note-taking strategy training, and listening test scores (Kim, 2019), graphic note-taking and learning (Robinson et al., 2006). For instance, Robinson et al. (2006) conducted a study designed with three quasi- and one real experiment to investigate the influence of teaching graphic note-taking. Partial graphic organizers which enable students to fill out some missing information through a computer were found to be effective in learning course content. Besides, in Dunkel's (1988) study where the lecture notes of L1 and L2 students were analyzed with stepwise multiple regression, the organizational devices were accentuated as components leading students to take efficient notes.

As mentioned in the theoretical framework and the studies above, note-taking grabs attention and assist the encoding process of a reading passage. In this encoding process, note-taking strategies can be structured with the help of graphic organizers. As Robinson & Kiewra's (1995) study indicated, graphic organizers help college students comprehend more "hierarchical and coordinate relations," and these students were found to be more accomplished in the application of this knowledge (p. 455). Graphic organizers also help the reader to clarify the knowledge, reinforce the learning, and integrate the new knowledge into old schemata (Ciascai, 2009). Besides, research studies with graphic organizers for reading comprehension can be found in various age groups and purposes (Agnello et al., 1998; Lopez & Campoverde, 2018; Pang, 2013; Olson, 2014).

In this action research, note-taking strategies structured with graphic organizers were utilized to promote reading comprehension since note-taking strategies can assist learners to "skim, scan, recognize relevant information, identify and select main ideas and supporting details, summarize, paraphrase, cite sources, extract information, evaluate information and results" (Kay Logan, 2003, p. 45). In contrast to the studies which were carried out in experimental conditions, this action research study basically aimed to reveal what kind of functions and sense the students attribute to these strategies which are Cornell Method, Split-Page, Fishbone Diagram, and Highlighting/Underlining-Summary.

Cornell Notes. Cornell Notes method was created by Walter Pauk at Cornell University. In this method, there are three significant parts. Keywords and questions are written in the left column as cues, while main notes, drawings, and other insights are put in the right column. A summary part, which is 2-3 sentences long, is written underneath. This strategy is

regarded as "a great way for students to learn actively, access higher-order thinking skills, and systematically review notes" (Robinson, 2018, p. 24).

Split-page. Split-page is a simple graphic organizer that enables students to see information on two columns or more in sequential order. A line is drawn on a piece of paper nearly 2 to 3 cm from the left margin. One column is reserved for keywords, main ideas, names etc. while the other is kept for supporting details.

Fishbone Diagram. Fishbone Diagram was first designed by Kaoru Ishikawa to illustrate cause and effect relationship in industrial expansion and quality control (Ishikawa, 1985). Since then, this organizer has been preferred for quality assurance purposes and as a problem-solving tool. The fish's head represents the effect, whereas the bones on its skeleton represent the causes.

Highlighting/Underlining-Summary. As a subtype of note-taking, White (1996) defines highlighting or underlining as a procedure utilized to "select information or parts of the target language in relation to comprehension monitoring" (p. 96). It also possesses an encoding function; students can use this strategy to concentrate on the parts of a reading passage or point out the crucial details in that respect (White, 1996). This strategy is supplemented by a summary because it can increase long-term recall as a higher-level strategy for comprehension (Khavazi et al., 2018).

Methodology

Research Context. This action research study took place in an English classroom of the English preparatory program at TOBB University of Economics and Technology in Ankara, Turkey. In this preparatory program, English is taught to students to be successful at the university departments. At these departments, 30% of the courses are covered in English. For the departments except three, students are required to show their English proficiency in their first year of the university. The first step is the English level identifying exam. This exam consists of grammar-vocabulary (60 questions), reading comprehension (40 questions), and listening comprehension (25 questions). When students pass it successfully, they take the TOEFL ITP proficiency exam (Listening Comprehension-50 questions, Grammar, and Vocabulary- 40 questions, Reading comprehension- 50 questions). The lowest point that should be received is 500 out of 677. Below the point 500, students cannot start their departmental courses. In the preparatory program, there are four levels, which are AF (beginner), A (elementary), B (pre-intermediate), C (intermediate). After an unsuccessful semester, a student can be in a repeat class as well (A repeat, B repeat, and C repeat). There are three semesters: fall, spring, and summer. In every level, three types of lessons are conducted: Main Course, Reading & Writing, Listening & Speaking. Besides two specific skills lessons, Main Course includes four skills with an emphasis on grammar instruction and vocabulary acquisition. Each semester, course levels end with TOEFL ITP. However, for students to enter TOEFL ITP at the end of the semester, some benchmark points must be collected out of portfolios, classroom performance grades, and semester-

long exams such as listening, speaking, and writing quizzes, reader exams, and three midterms.

During this study, as a Main Course teacher of a B (intermediate) level class, I was supposed to teach English grammar and skills with a textbook's help, *Pathways 2*. In the textbook, we were supposed to cover two reading texts with some comprehension questions every week. Reading sections are very crucial for students to improve their English knowledge and obtain sufficient grades for midterms and TOEFL ITP. However, in the lessons, I realized their unwillingness and loss of concentration. To stimulate reading lessons and enable them to improve themselves more, I integrated structured note-taking strategies with graphic organizers into five reading classes.

Participants. The participants were seventeen university students attending my English as a foreign language class which focused on grammar and language skills such as reading. There were eight female and nine male students. These 18-19-year-old students were selected with convenient sampling. The class demographics were very homogenous, as all of the students were Turkish. Students were told about the study and gave their consent to be involved. The study started in the middle of the semester and lasted until the end, in total for six weeks.

Research Design. This action research study utilized a reflective inquiry method with a pre/post design, and it lasted for six weeks in a university classroom. Two types of qualitative and one type of quantitative data were collected from university students. The first one was the written pre-and post- reflective inquiries on strategies. In pre-reflection, three questions were asked to the students: "What is difficult for you in reading?", "Do you have any strategies?" "How do you think you can improve your reading in English?". These questions were asked to realize what strategies have been actively employed by my students. After pre-reflection, the stage of explaining four structured note-taking strategies with graphic organizers began as one of the main objectives in this action research was to teach students some strategies to apply for reading a text in English.

As a first strategy, Cornell Notes were explained with the help of two videos (Learning Strategies Center Cornell, 2019), (Mometrix Test Preparation, 2015). After the results of pre-reflection, I added an option to write unknown vocabulary into the section on the left side *(Figure 1)*. Before seventeen students studied in groups on the reading texts about famous business icons, *Figure 1* was drawn on the board, and each part was explained.

Name, Topic, Date etc.	
Unknown Vocabulary, Keywords (Cues)	Main Notes, Sketches

Summary

Figure 1: Cornell Notes

The second strategy, Split-page, was modified with a horizontal split instead of a vertical one to accommodate enough space for three texts at the same time. Reading texts on three superstructures were assigned to groups, and the graphic organizer in *Figure 2* was drawn on the board for Transatlantic Tunnel, Sahara Solar Farm, and the Belo Monte Dam. The part for supporting ideas was modified as a comment part. For the Comments part, two guiding questions were given to the students: "How did you find the constructions?" "Are there any problem areas?".

The Most Important Points	The Most Important Points	The Most Important Points
Comments	Comments	Comments

Figure 2: Split-page

Thirdly, Fishbone Diagram was taught with an argumentative text which is about the payment done for music and the arguments of an Artist, a Producer, and a Downloader. In pairs, students were supposed to write on two bones why each person thought in this way. The effect was interpreted by the pairs and written on the head of the fish. The Alberta Teachers' Association's (2006) Fishbone Diagram was used in my lesson with some edition *(Figure 3)*.
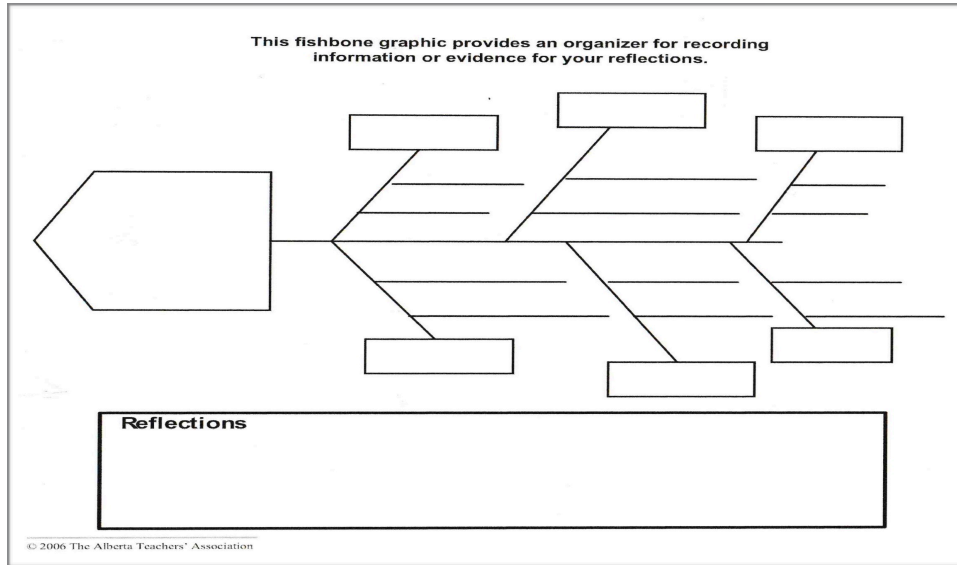
This fishbone graphic provides an organizer for recording information or evidence for your reflections.

Reflections

© 2006 The Alberta Teachers' Association

Figure 3: Fishbone Diagram
Source: The Alberta Teachers' Association (2006)

In the first interview, students suggested another strategy that is underlining. I combined highlighting/underlining with summarizing and gave them a choice about underlining, in which they can use highlighting as well. Despite the other structured note-taking strategies, this strategy was handled without any graphic organizer. As a first step, they studied summarizing. Three texts about famous recluses such as J. D. Salinger were assigned to groups. With six guiding questions, they outlined the text. As a second step, highlighting/underlining was explained as selecting keywords, phrases, vocabulary, and ideas central to understanding the reading text. Some instructions were written on the board, such as "read through the section," "reread and begin to highlight main ideas," "highlight or underline only the key vocabulary," "with the underlined parts, summarize what you read in 10-15 sentences". Afterwards, the strategy of Highlighting/Underlining-Summary was applied for the reading text about a foreign correspondent's life.

After the strategies introduced, I collected post-reflections from students. Strategies were drawn on the board as a reminder. In the post-reflection part, three questions were asked to the students: "Which method/strategy did you like most?", "Why did you like it most?" "How do you think it has helped your reading?". On a piece of paper having all four strategies with graphic organizers, they were also asked to select one strategy that they favored the most. Each student preferred one of them and filled out the organizer after reading the text about a cash depot's raid in Sweden.

The second data collection tool was three focus group interviews made to reveal students' specific thoughts on each strategy. Focus group interviews provide participants with opportunities for reflection (Denscombe, 2010; Dilshad & Latif, 2013); therefore, three focus

group interviews were conducted with students who attended to my office hour. These same five questions were asked in the interviews: "What are your thoughts about the strategy?" (Warm-up question); "What are the advantages of this method?"; "What kind of disadvantages does this method have?"; "Can this method be helpful in reading?" (Main questions). While all four strategies with graphic organizers were being discussed, questions were asked in the native tongue for them to express themselves more freely.

Lastly, supplementary quantitative data was collected from pre-and post-tests to examine my students' development in reading comprehension. TOEFL type reading comprehension tests with six questions were carried out with two academical reading passages of *Pathways 2* book: "Young Chimp Outscores College Students in Memory Test" and "Aquatic Invasive Species". The pre-test was applied in the first week while my students took the post-test in the last week of action research.

Data Analysis. The qualitative data were analyzed using open and axial coding (Creswell, 2013). Reflections and focus group interviews were separately coded. These comments were grouped together to obtain themes. In addition to coding, negative and positive comments were combined to demonstrate two sides of the students' reflections. As pre-reflections were given in paragraphs, post-reflections were turned into a table with all the answers to show the composite picture. The quantitative data were analyzed with SPSS Statistics 25.

Results

Pre-reflection Data. The answers to the three questions were examined to determine if these university students knew why reading was difficult for them, if they recognized using any reading strategies to help them in reading, and if they were willing to improve their reading in English.
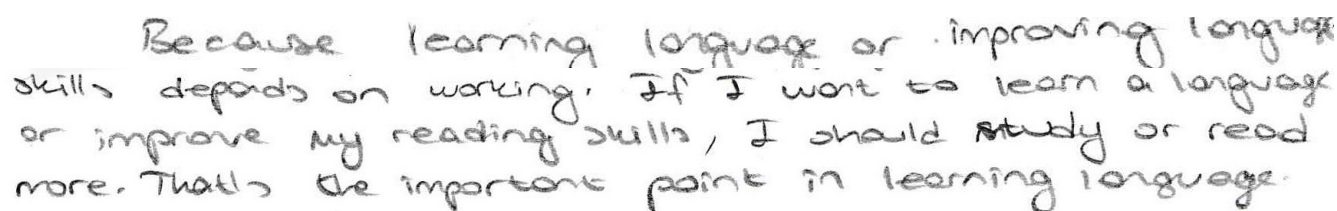
The most frequent difficulty they faced was about vocabulary. In their answers to the first question, they complained about unknown words and their inadequate vocabulary knowledge. Several comments from my students were as follows:
  • "I can't guess the unknown words' meaning from the sentences."
  • "I can't understand the context."
  • "I can't understand the complex sentences."
  • "I can't translate the whole paragraph."
  • "I get upset when the number of words I don't know is high."

For the question two, the students were asked to list the strategies they used while reading. The students listed six strategies: reading the first sentence, using keywords, making a prediction, scanning, skimming, and reading the whole for the main idea. However, surprisingly ten students did not list any strategies.

The last question revealed their own tendencies to improve their reading skill. Reading news in English, memorizing new words, reading more intriguing topics in English, reading articles

on the internet, or reading English books were some. With this question, it was anticipated that students could realize the initial steps to improve their reading skill. One student's reflection below indicates such realization *(Figure 4).*

Because learning language or improving language skills depends on working. If I want to learn a language or improve my reading skills, I should study or read more. That's the important point in learning language.

Figure 4: A Student Response for the Ways to Improve Herself

Focus Group Interviews. Three focus group interviews generated three themes about structured note-taking strategies with graphic organizers: the advantages, the disadvantages, the time wasted.

The Advantages: Strategies can benefit students in various ways. In the focus group interview about Cornell Notes, its being systematic and in order was perceived to be advantageous. It was mentioned that three parts on the organizer could demonstrate the information neatly. A graphic organizer can also provide a visual to see all the information at the same time. One of my students commented that "because everything is on the same paper, we can glimpse very easily." Focusing on the text to make notes can be another advantage. One of my students said in the interview that "to make notes, we focused and read more carefully." Instead of reading superficially, some students absorbed more from the reading texts.

Interestingly students in the second focus group interview have diverse views on Split-page and Fishbone Diagram. Some of them commented that both are useful, while some thought one is better than the other. The students who found both functional were not sure about the superior one: "So both would be useful. I don't know which one is more useful." For reviewing purposes, both were seen as useful to comprehend deeply. One student commented by saying, "when we go back, these two would help better for us to comprehend."

For Highlighting/Underlining - Summary, the best advantage was said to be the summary part. As a pervasive note-taking strategy, summary enables students to comprehend the text in-depth and make an explanatory shorter version of the original text. The reflection done by one of my students can illustrate the same: "We wrote down the best points in the summary, which was good." The advantages were regarded as being systematic, focusing on the text and in-depth comprehension, being functional for reviewing.

The Disadvantages: In Cornell Notes, every detail might not be integrated into the organizer. "There is no detail" was one of the comments given. Besides, some students were very into fulfilling the organizer. They complained by saying the following: "While thinking over its making, we forget about the text." When I introduced the strategies with organizers, they commented that it is not a high-level one. Some found it useful only when they were

supposed to make notes of the essential points. For some students, reading comprehension was not associated with the strategy.

My students were aiming to pass TOEFL as soon as possible. For that reason, they always made a connection between the materials/strategies and the TOEFL test. About Split-Page, one student commented that "during the exams, we probably cannot do such things. Because it wastes our time." The disadvantages were regarded as fewer details, too much concentration on the making, irrelevance to exam preparation.

The Time Wasted: For each strategy with graphic organizers, a common complaint was made: "It is kind of wasting our time." My students were mostly concerned with the TOEFL test. Fishbone Diagram, Cornell Notes, Split-page were seen as strategies wasting the time of the students. Underlining, which was integrated after their suggestion, was seen more positive in this regard: "Today's was better. We underlined etc. The loss of time was less."

Post-Reflection Data: In post-reflection, two views got apparent: positive versus negative. The reflections gathered with the questions about improvement and likes/dislikes were arranged with a table. The symbols of + (positive), — (negative), +/— (unsure) in this table indicate these views extracted from post-reflections *(Table 1).* What my students liked differed. For Cornell Notes, tidiness, simplicity; for Split-page, easiness; for Fishbone Diagram, being visual; for Highlighting/Underlining-Summary, saving time were some points liked*.*

In a worksheet with four strategies, students were given a chance to choose one strategy with a reading text. Most of them chose Cornell Notes out of the four structured note-taking strategies with graphic organizers; therefore, Cornell Notes was evidently the most preferred one. The second one which was chosen the most was Highlighting/Underlining-Summary. Some example worksheets can be found in *Appendix A*.

Table 1: Post-Reflection - Responses

Strategies	What they liked	What improved
Cornell Notes	Main ideas and vocabularies making summarizing easy	"It helped. It made me see things better in a text." (**+**)
	Tidiness on a paper	"It is a classic method. Sometimes it is useless, sometimes useful." (**+/—**)
	Simplicity	"It didn't help me." (**—**)
	Being regulatory and explanatory	"It is not necessary." (**—**)
	Detailed than others	"It could be helpful, but we should practice." (**+**)

	Good for mastering the subject	"I haven't used it yet". (—)
Split-page	Being easier than others	"Yes, it helped me." (+)
	Its being basic	"It didn't improve, no use for texts we see, maybe we will use in the future." (—)
	Easiness	"I don't use."
		"It didn't improve." (—)
Fishbone Diagram	Showing only main words Being easier than others No unnecessary sentences	—No comment was given for this part
	Being visual	"It helps me to read, but it is a long method." (+)
	Less effort to apply Focusing more on the text Useful to summarize the text Highlighting important points more	"It absolutely helped me to improve my reading skill." (+)
Highlighting/Underlining - Summary	Summarizing the text with our words and sentences Understanding the text best	"This strategy helped my reading skill." (+)
	The most practical method Summarizing in a short time	"I don't know." (+/—)
	No need to write again Not a waste of time	"It helps my reading skill." (+)
	Saving time Being useful	—No comment was given for this part
	Better for the texts given to be read in a short time	—No comment was given for this part

Supplementary Quantitative Data. Students were given two TOEFL like tests as pre-and post-tests. A pair sampled T-test revealed that there was a significant difference between pre-test (M=2.00, SD=1.27) and post-test (M=4.06, SD=1.08), t(16)= -8.78, p<.001. The scores increased significantly between two times of testing. Even if the result wasn't influenced only by the strategies, it demonstrated me to trust steady improvement and to continue to study with them over reading skills.

Discussion

In this action research, it was learned that it is essential to collect reflections from students as these reflections give the students a voice and a way to talk about their thoughts. I learned about their problems, their strategies, or those who haven't possessed any strategies as pre-reflection illustrated. In the first place, most of the students were not aware of any strategies to be used, as Gersten et al. (2001) stated. With pre-reflection, students also thought over the possible ways to improve themselves by reflecting on their own tendencies. The last point that pre-reflection contributed to my understanding was my students' problems with unknown words. I revised one section of Cornell Notes accordingly, which could help reading comprehension. Besides, the data from the focus group interviews allowed me to hear the students' suggestions. With respect to their suggestion, a new strategy called Highlighting/Underlining-Summary was added. Five students favored this strategy. Providing variety also increased familiarity with different options.

The research questions were investigated with focus group interviews and written post-reflections. The students' perceptions towards structured note-taking strategies with the accompanying graphic organizers had two directions: positive and negative. After the introduction of all these strategies and organizers, different views appeared for each strategy. For instance, some students found Cornell Notes systematic, whereas some students criticized it for fewer details. I observed the same in post-reflections. One student said that his favorite strategy helped him to improve his reading skill. On the other hand, another student found the strategy unnecessary. In line with Castelló & Monereo's (2005) classification, this research about classroom provided me with senses and functions my students attached to notes. Their perceptions varied; therefore, I believe instructors should not limit the number of strategies they teach. All students do not prefer the same strategies. After our instructions, they can pick the strategies that work best for them. The students willing to integrate these strategies with reading texts can be competent if we teach them the strategies with an activity-based approach.

The benefits of structured note-taking with the accompanying graphic organizers for reading comprehension were assessed in relation to their TOEFL exam, which they must take to start their departmental courses. Some students regarded these strategies as irrelevant to their TOEFL exam. Students' perception of exams and their constant search for relevance in every activity is a serious problem for teaching. In this way, the students miss the core values of learning. I care about the activities aimed outside the exams' realm even if students' reactions sometimes are not very cooperative. Because as instructors, we know what benefits more for now and for the future. In post-reflection, one of my students

commented that she didn't see any use for the texts we have covered now, but these strategies could be used in the future. I believe my students can use these strategies in their departmental courses easily. For some students who find it irrelevant, this irrelevance can turn into relevance in their departmental courses. I believe teaching is not about the moment only. If we can influence the future, that's a learning outcome as well.

As the last data set, pre-and post-test results revealed that the rate of their correct answers in a test measuring reading comprehension increased. It was the result of their enhanced reading comprehension skill. However, I should acknowledge that the strategies could not be the only factor for such a result. It is highly possible that there are various confounding factors in this measurement. Nevertheless, the improvement in their reading comprehension skill was a crucial outcome.

Implications

This same research design can be adopted beyond my teaching context. In the university/college context, there are many departmental courses. In these departmental courses, students are assigned to various college-level readings such as articles. Instructors can introduce Cornell Notes to take notes not only in lectures by listening but also at home over reading materials. Technical terms, unknown terminology, confusing sentences can be written in one section to be asked in the following lecture whereas the main ideas obtained from the material can be written down in the other. A concise summary can be done in students' own words as a step for the comprehension of the reading material. In addition to university/college students, high school students can also apply these strategies in their literature lessons.

Conclusion

Structured note-taking strategies accompanied by graphic organizers stimulated my reading lessons. However, students' perceptions varied for the four strategies: Cornell Notes, Split-page, Fishbone Diagram, and Highlighting/Underlining-Summary. While some students used the strategies and organizers effectively, some found them unnecessary and a waste of time. Despite the variations in views, positive reflections were higher compared to negative ones.

Introducing such strategies that have graphic organizers helped these university students realize the possible ways to improve their reading comprehension skill in a foreign language. Not only in postsecondary education but at all levels, they could be introduced and taught. Students could also be trained with how to use numerous types of note-taking strategies, and graphic organizers as not all fit different learning styles or modes of learning. Introducing structured note-taking strategies with graphic organizers can keep attention and curiosity alive in our reading lessons.

About the Author

Bahar Cemre Karaağaçlı is an English language instructor who has worked from primary to tertiary level. She earned her Bachelor's degree in Foreign Language Education from Boğaziçi University in Istanbul, Turkey and has pursued her Master of Arts degree in English Language Teaching from Middle East Technical University in Ankara, Turkey. In tertiary level, she has taught English to university students at TOBB University of Economics and Technology in Ankara, Turkey and has given English language courses on skills and academic writing. Her research interests include teacher education, action research, comparative education, education policy, critical pedagogy, and teacher cognition. Email: bkaraagacli@etu.edu.tr, baharcemrekaraagacli@gmail.com

References

Açıkgöz, K., & Çetingöz, D. (2009). The effects of note-taking strategy on history achievement and retention. *Educational Administration: Theory and Practice, 15*(60), 577-600. https://www.pegem.net/Akademi/3-100819-The-Effects-of-Note-taking-Strategy-onHistor y-Achievement-and-Retention.aspx

Agnello, C., Jockl, P., Pearson, I., & Velasco, D. (1998). *Improving student reading comprehension in the content areas through the use of visual organizers* (ED420853). [M.A. Action Research Project, Saint Xavier University]. ERIC. https://files.eric.ed.gov/fulltext/ED420853.pdf

Castelló, M., & Monereo, C. (2005). Students' note-taking as a knowledge-construction tool. *L1-Educational Studies in Language and Literature*, *5*(3), 265-285. https://doi.org/10.1007/s10674-005-8557-4

Chavangklang, T., Chavangklang, P., Thiamhuanok, S., & Sathitdetkunchorn, P. (2019). Development of EFL University Students' Vocabulary Size and Reading Comprehension Using Online Multimedia-based Extensive Reading. *Advances in Language and Literary Studies*, *10*(5), 146-151. https://dx.doi.org/10.7575/aiac.alls.v.10n.5p.146

Ciascai, L. (2009). Using graphic organizers in intercultural education. *Acta Didactica Napocensia*, *2*(1), 9-18. https://files.eric.ed.gov/fulltext/EJ1052273.pdf

Creswell, J. W. (2013). *Qualitative inquiry & research design: Choosing among the five approaches.* (3rd ed.) Sage Publications.

Denscombe, M. (2010). *The good research guide for small-scale social research projects.* (4th ed.). McGraw-Hill.

Dilshad, R. M., & Latif, M. I. (2013). Focus Group Interview as a Tool for Qualitative Research: An Analysis. *Pakistan Journal of Social Sciences (PJSS)*, *33*(1). 191-198. http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.704.3482&rep=rep1&type=pdf

Di Vesta, F. J., & Gray, G. S. (1972). Listening and note taking. *Journal of Educational Psychology*, *63*(1), 8-14. https://doi.org/10.1037/h0032243

Dunkel, P. (1988). The content of L1 and L2 students' lecture notes and its relation to test performance. *TESOL Quarterly, 22*(2), 259-281. https://doi.org/10.2307/3586936

Gersten, R., Williams, J., Fuchs, L., & Baker, S. (2001). Improving reading comprehension for children with disabilities: A review of research. *Review of Educational Research, 71*(2), 279-320. https://doi.org/10.3102/00346543071002279

Haghverdi, H., Biria, R., & Karimi, L. (2010). Note-taking strategies and academic achievement. *Journal of Language and Linguistic Studies, 6*(1), 75-109. https://www.jlls.org/index.php/jlls/article/view/91

Ishikawa, K. (1985). *What is total quality control? The Japanese way*. Prentice Hall.

Kameli, S., & Baki, R. B. (2013). The impact of vocabulary knowledge level on EFL reading comprehension. *International Journal of Applied Linguistics and English Literature*, *2*(1), 85-89. http://dx.doi.org/10.7575/ijalel.v.2n.1p.85

Kay Logan, D. (2003). Take note, Scaffolding Note-taking. *Knowledge Quest, 32*(1), 45.

Khavazi, M., Yousefi, M., & Kharaghan, N. (2018). The effect of note taking vs. summarizing strategy on Iranian EFL learners' listening comprehension. *International Journal of Applied Linguistics and English Literature*, *7*(2), 42-51. http://dx.doi.org/10.7575/aiac.ijalel.v.7n.2p.42

Kiewra, K. A. (1987). Notetaking and review: The research and its implications. *Instructional Science*, *16*(3), 233-249. https://doi.org/10.1007/BF00120252

Kiewra, K. A. (1989). A review of note-taking: The encoding-storage paradigm and beyond. *Educational Psychology Review*, *1*(2), 147-172. https://doi.org/10.1007/BF01326640

Kim, J. (2019). The Effects of note-taking strategy training on students' notes during academic English listening test. *English Teaching*, *74*(1), 25-48. https://files.eric.ed.gov/fulltext/EJ1293066.pdf

Learning Strategies Center Cornell. (2019, December 10). What are Cornell Notes? [Video]. YouTube. https://www.youtube.com/watch?v=HEsBd_Rgzfs

Lopez, J., & Campoverde, J. (2018). Development of reading comprehension with graphic organizers for students with dyslexia. *Journal of Technology and Science Education*, *8*(2), 105-114. http://dx.doi.org/10.3926/jotse.414

Manihuruk, D. H. (2020). The Correlation between EFL Students' Vocabulary Knowledge and Reading Comprehension. *JET (Journal of English Teaching)*, *6*(1), 86-95. https://files.eric.ed.gov/fulltext/EJ1266046.pdf

Mometrix Test Preparation. (2015, July 20). H*ow To Take Cornell Notes Properly* [Video]. YouTube. https://www.youtube.com/watch?v=ErSjc1PEGKE

Nunan, D. (2003). *Practical English language teaching*. McGraw-Hill.

Olson, S. (2014). *Using graphic organizers to improve reading comprehension in adult english language learners* (Order No. 3636056). [Doctoral dissertation, Missouri Baptist University]. ProQuest Dissertations & Theses Global. (1615853073). https://www.proquest.com/dissertations-theses/using-graphic-organizersimprove reading/docview/1615853073/se-2?accountid=13014

Pang, Y. (2013). Graphic organizers and other visual strategies to improve young ELLs' reading comprehension. *New England Reading Association Journal*, *48*(2), 52-58. http://sgarciaellsummer.weebly.com/uploads/5/4/5/0/54501133/ellgraphicorgainersr.asp.pdf

Rahman, Z. U., & Iqbal, Z. (2019). Relationship of Breadth and Depth of Vocabulary Knowledge and Reading Comprehension in Learning English. *Bulletin of Education and Research*, *41*(3), 89-100. https://files.eric.ed.gov/fulltext/EJ1244647.pdf
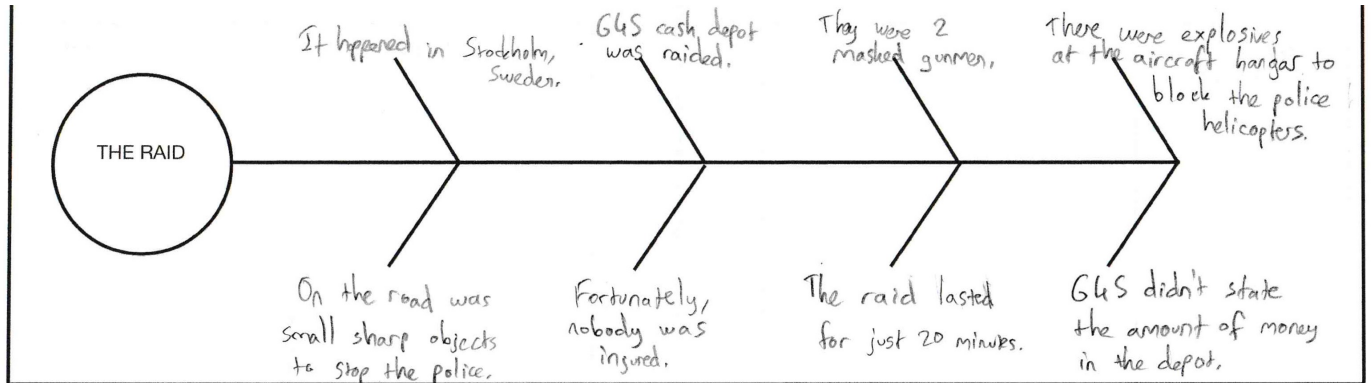
Rahmani, M., & Sadeghi, K. (2011). Effects of note-taking training on reading comprehension and recall. *Reading Matrix*, *11*(2), 116-128. http://www.readingmatrix.com/articles/april_2011/rahmani_sadeghi.pdf

Richard, J.C., & Rodgers, T.S. (2001). *Approaches and methods in language teaching*. Cambridge University Press. https://doi.org/10.1017/CBO9780511667305

Robinson, C. (2018). Note-taking strategies in the science classroom. *Science Scope, 41*(6), 22-25. https://www.jstor.org/stable/26553394

Robinson, D. H., Katayama, A. D., Odom, S., Beth, A., Hsieh, Y. P., & Vanderveen, A. (2006). Increasing text comprehension and graphic note-taking using a partial graphic organizer task. *Journal of Educational Research, 100*, 103-111. https://doi.org/10.3200/JOER.100.2.103-111

Robinson, D. H., & Kiewra, K. A. (1995). Visual argument: Graphic organizers are superior to outlines in improving learning from text. *Journal of educational psychology*, *87*(3), 455-467. https://doi.org/10.1037/0022-0663.87.3.455

Sakta, C. G. (1992). The graphic organizer: A blueprint for taking lecture notes. *Journal of Reading*, *35*(6), 482-484. https://www.jstor.org/stable/40007564

Sternberg, R.J. (1987). Most vocabulary is learned from context. In M.G. McKeown & M.E. Curtis (Eds.), *The nature of vocabulary acquisition* (pp. 89-105). Lawrence Erlbaum.

Tarver-Chase, B., & Johannsen, K., L. (2012). *Pathways 2: Listening, Speaking, & Critical Thinking.* Heinle-Cengage ELT Publication.

The Alberta Teachers' Association. (2006). Fishbone diagram. [Graphic Organizer]. http://www.dexform.com/download/concept-map-template/page-2

Tulving, E., & Thomson, D. M. (1973). Encoding specificity and retrieval processes in episodic memory. *Psychological review*, *80*(5), 352-373. https://alicekim.ca/9.ESP73.pdf

White, C. J. (1996). Note-taking strategies and traces of cognition in language learning. *RELC journal*, *27*(1), 89-102. https://doi.org/10.1177/003368829602700105

Yang, Y. F., & Lin, Y. Y. (2015). Online collaborative note-taking strategies to foster EFL beginners' literacy development. *System, 52*, 127-138. https://doi.org/10.1016/j.system.2015.05.006

Appendix A: Final Worksheets

Cornell Notes

IMPORTANT VOCABULARY	MAIN IDEAS
robberies gunmen bang witness stole cash helicoplers depot	There was a robbery in Sweden. They stole a lot of money. They raided the depot. G4S didn't state the amount of money in the depot and. They couldn't call police helicopter because they put explosives in the bag
	SUMMARY 5 thieves or gunmen to rob a good plan

Fishbone Diagram

It happened in Stockholm, Sweden.

G4S cash depot was raided.

They were 2 masked gunmen.

There were explosives at the aircraft hangar to block the police helicopters.

THE RAID

On the road was small sharp objects to stop the police.

Fortunately, nobody was injured.

The raid lasted for just 20 minutes.

G4S didn't state the amount of money in the depot.

Highlighting/Underlining - Summary

Please write the summary of the text.

A gang landed from a helicopter on the roof of cash depot. He wore mask. He broke the windows. Witnesses heard sounds. One witness said two men went down from the helicopter on a rope. He/she saw them when they stole the money. The police found live bomb. The police said he had never experienced anything like it. Staff weren't injured in the robbery. Helicopter was found near a lake. Media believe that several million krona was stolen. G4S which is cash depot offered a reward for information.