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Zayıf Okuyucuların Çevrimiçi Anlama Süreci Hakkında Bir Eylem Araştırması[*]

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Makale Bilgisi	ÖZET
Geliş Tarihi: 12.03.2020 *Kabul Tarihi*: 04.12.2020 *Erken Görünüm Tarihi*: 08.12.2020 *Basım Tarihi*: 31.01.2022	Bu araştırmanın amacı; zayıf okuyucuların çevrimiçi anlama süreçlerini ortaya koymaktır. Bu kapsamda Amerika Birleşik Devletleri'ndeki öğretmenlerin zayıf okuyucuların çevrimiçi anlaması konusunda ortaya koyduğu görüşler doğrultusunda bir eylem planı hazırlanmış ve hazırlanan eylem planı Türkiye'de uygulanarak zayıf okuyucuların çevrimiçi anlama becerileri betimlenmiştir. Araştırma, nitel araştırma yaklaşımı içerisinde eylem araştırması olarak desenlenmiştir. Araştırmaya dâhil edilmesi planlanan öğretmenlerin, zayıf okuyucuların çevrimiçi anlamaları konusunda bilgi ve tecrübe sahibi olması ölçütü esas alınmıştır. Bu konuda görüşme yapmak için 2019 yılında Amerika Birleşik Devletleri'nde görev yapan 8 öğretmen seçilmiştir. Daha sonra Türkiye'de bu konuda örnek uygulamalar yapılıp beraber çalışılan 8 öğretmenden görüş alınmıştır. Veriler, çalışma grubuyla yapılan görüşmeler yoluyla toplanmıştır. Görüşme sorularının yanıtları Türkçe'ye çevrilmiş ve Türkiye'deki öğretmenlerle yapılan görüşmelerle birleştirilip yazılı doküman hâline getirilmiştir. Verilerin analizinde içerik analizi tekniği kullanılmıştır. Ortaya çıkan tema kod ve kategorilerden yola çıkarak çevrimiçi anlama çalışmalarının zayıf okuyucuların okuma motivasyonunu artırdığı sonucuna ulaşılmıştır. Araştırmanın diğer önemli bir bulgusu ise ABD'de uygulanan okuma koçluğu sisteminin Türkiye'de bulunmayışıdır. Araştırma sonuçları yeni okuryazarlık deneyimlerinin öğretmenler ve öğrenciler açısından kullanımına örnekler teşkil etmektedir. **Anahtar Sözcükler:** Zayıf okuyucular, çevrimiçi anlama, yeni okuryazarlık

An Action Research on the Online Comprehension Process of Struggling Readers

Article Information	ABSTRACT
Received: 12.03.2020 *Accepted*: 04.12.2020 *Online First*: 08.12.2020 *Published*: 31.01.2022	This study aims to reveal struggling readers' process of online comprehension. In accordance with this general purpose, the study was designed as an action research study in qualitative approach. The criterion for teachers to be included in the study is that they are knowledgeable about and experienced with struggling readers' online comprehension. Eight teachers working in the USA were chosen to be interviewed about the issue in 2019. After that, relevant implementations were made in Turkey and the teachers who were included in the implementation (eight teachers) were consulted for their views. "Interview" was used as the technique of data collection. Various interview questions were prepared for use in this method. The answers to the interview questions were translated into Turkish, turned into written documents and then the data was put to content analysis. An action plan was prepared on the basis of the views stated by teachers in the USA in relation to struggling readers' online comprehension. The action plan was put into practice in Turkey and struggling readers' online comprehension skills were described. It was concluded on the basis of the themes, codes and categories distinguished that activities on online comprehension promoted struggling readers' motivation to read. Another important finding obtained in the study was that the system of reading coaching- which was used in the USA- was not available in Turkey. The results obtained in the study set models in relation to new literacy experiences for use by teachers and students. **Keywords:** Struggling readers, online comprehension, new literacy

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1. INTRODUCTION

Increasing interest has focussed in recent years on bringing students up to higher levels in literacy and on how to prepare them to the technological society we live in (Ganske, Monroe and Strickland, 2003, p.118). Continuously changing nature of literacy has required that researchers investigate the complex structure of online reading comprehension and writing through the internet and information and communication technology (Mokhtari, Kymes and Edwards, 2008, 354). An issue emphasised by Hartman and Morsink (2015) is the multiplication of reading in the web through internet-based technologies, information and communication technologies. Educators dealing with new literacy are concerned with children's experience with the media. They investigate students' interaction with technology as a result of technological literacy (Compton-Lilly, 2009, p.89). Researchers point out that students in classrooms, libraries especially in the USA and in many parts of the world research knowledge and ideas through online searching (Kymes, 2005, p. 492).

1.1. Online Comprehension

Studies on new literacy are scarce in Turkey and moreover, almost no studies on online comprehension were found in our review of literature. On examining the studies in this respect, the study entitled "An Analysis of 5th Graders' ability to employ literacy strategies" conducted by Ulusoy (2012) is remarkable. The study aims to determine students' ability to access to knowledge on the internet, to analyse the knowledge they access to, to find answers to the questions given and to share the reached knowledge on the internet. Accordingly, the sample of the study was composed of 6 graders chosen in purposive sampling method; and the data was collected through observation forms, think aloud procedure, semi-structured interviews and notes taken by the researcher. It was concluded that students' levels of using new literacy behaviours were not linear in a manner reflecting their school achievement. In addition to that, it was also found that four students' answers were inadequate, that they had semantic defects and incoherence in their sentences.

In a M.A thesis entitled "Analysing Prospective Primary School Teachers' Reading Skills on Digital Platforms by Esmer (2013), a case study was conducted in qualitative approach with the participation of 24 prospective teachers. The general conclusion reached in the study was that prospective teachers' reading on digital platforms should be considered as a whole and that one of the most important components of the process was teacher training. In this context prospective teachers had problems in reaching technological knowledge and in sorting out the information, and eighteen prospective teachers perceived reading printed materials as more advantageous than reading on digital media.

Ertem (2014, 54) states that reading printed materials is not different from reading comprehension on digital media but that the two have similarities and differences and points out that good readers employ reading comprehension strategies such as purposeful reading, activating prior knowledge, revising, predicting, analysing text structure, finding the main idea, analysing the information in the text and checking comprehension on digital media. On the other hand, Coiro (2003, 458) questions whether or not comprehension on the internet is a different process; if there are any differences how influential they are in configuring the meaning in measuring it and in professional development. The researcher points out that the internet offers several opportunities with its interactive text formats (for instance, hypertext, interactive multimedia), that the new readers use these elements (new goal and motivation, prior knowledge, metacognitive skills) and that the internet provides new readers with new activities.

As commonly known, comprehension means processing mentally the knowledge collected while reading (Güneş, 2016, p.379). Yet, the concept of online comprehension leads us to reading by means of various technological equipment. Readers read on the screen. Güneş (2016,) states that comprehension skills developed based on the interaction between readers, texts and media differ as in the following:

> It is usually difficult to follow the headings, sub-headings and side headings because readers cannot see the whole page. Continual movement of the pages, the top and bottom of the pages coming one after another all make it difficult to discover the information layout on the pages and the page structure. Because pages come to readers in pieces, combining the information the information contained in the disappeared parts in mind and thus following the chain of meaning requires upper order skills- skills such as upper order attention, recalling, comparing, thinking, combining and comprehending. Readers who cannot develop such skills get lost in pages on the screen and in details (p. 379).

Online reading differs in upper order skills it requires. Readers move up and down left and right at the beginning in the search engine and in the scroll bar, and the length of pages and page no disappear during that (Hartman, Morsink and Zheng, 2010, 147). The process of reading comprehension includes pre-reading, while reading and post-reading processes (Tierney and Readence, 2000; cited in Primeaux, 2000, 539). Hartman, Morsink and Zheng (2010, 131) point out that online comprehension is a complicated concept and that it introduces readers to new processes. Decoding, word recognition and comprehension are similar in online and offline reading. Yet, the similarities decrease in upper order processes. They are inter-page, inter-part and

inter-textual processes. According to Coiro (2011, p.356), online texts make it possible to present information through one or more elements (hyperlinks, figures, animations, videos or online network systems)

Coiro (2003, 459, cited in Ertem, 2014) states that web-based texts contain non-linear, interactive and multimedia forms and classifies the text types as in the following:

1. Non-linear hypertexts: Providing links under short texts enables readers to reach the needed information in non-linear ways with their choice.
2. Multimedia texts: They consist of multimedia forms of animations, pictures, videos, cartoons, virtual platforms, unconventional fonts, colours and sizes.
3. Interactive texts: Readers can communicate interactively with others by using discussion forums in digital texts and they can also learn about different perspectives (pp. 57-58).

The term hypertext in this context means a text containing digital information and it is connected with an electronic system, a CD-ROM encyclopaedia or a library. Internet texts, on the other hand, are the texts which are reached on the internet (Coiro, 2011, 356). Texts in the networks evolve and change from uni-modal texts into multi-modal texts. Multi-modal texts are the texts synthesising different types of media, and they contain sentences uttered by somebody, videos, tweets, graphs and photos (Hartman, Hagerman and Leu, 2018, 60-61). Hartman, Morsink and Zheng (2014, 140) state that online comprehension has its elements. One of the undeniable points here is that each element is plural in itself. Readers click on hyperlinks in typical online reading and pass from one web page into another, search for terms in the search engine, write a comment in the comment box under the article and examine the comments made by other readers in accordance with their purpose for reading. The concepts having to do with the plurality of online reading are explained by Hartman, Morsink and Zheng (2010, pp.138-140). One such concept is divided texts (lexia texts). Online texts are composed of divided texts. They provide links for other texts and thus they constitute meta-texts. Online texts are plural because they make up textual combinations (textual constitutions). What Hartman, Morsink and Zheng (2014, 141) highlight in this context is that they suggest the concept of "understanding together".

A review of studies concerning online reading and comprehension conducted abroad demonstrated that Kingsley (2011)-worked with 443 students for 12 weeks and found in quasi experimental design how online comprehension influenced students' performance. The researcher found that it affected language using skills and internet use remarkably and that it also affected reading comprehension performance. Clear differences were found between the experimental and the control groups in locating and synthesising skills. The results showed that inclination for internet use and experience in it was influential in the development of skills related to online comprehension. Dembroski (2014), in a study comparing traditional comprehension with online comprehension, described what strategies (timing on task, prior knowledge, use of technology, self-confidence) students use during online comprehension. The researcher used two measurement instruments with 123 students who were 8th graders. The researcher used "the MAP Reading Test" (Northwest Evaluation Association, 2013, cited in Dembroski 2014) to measure conventional comprehension and "ORCA" (Leu, Kulikowich, Sedransk and Coiro, 2009, cited in Dembroski, 2014) to measure online comprehension. Consequently, significant similarities and differences were found between the two scales. After that, 12 participants were invited to qualitative interviews. It was found in consequence that the students who were found to be upper level in online comprehension used more reading strategies than their peers, that they could sort out relevant and irrelevant information and that they were better at reasoning, synthesising, discovering the multimedia, determining the purpose for reading and focussing on details.

A remarkable finding was that prior knowledge was not influential in online comprehension but that previous experience with technology increased efficiency and decision making. Investigating the issue of secondary school students' and teachers' online comprehension and discovering the pedagogy of new literacy, Henry (2007) found that the secondary school students and teachers living in high socio-economic regions had higher levels of online comprehension than those living in low socio-economic regions. The results suggested that access to the internet at primary school level and use of internet at secondary school level was the predictor variable of online comprehension. Yuan Chen (2009), analysing the online reading comprehension strategies used by primary school and secondary school students with normal and private education needs, demonstrated that the 5th and 6th graders had opportunities for computer and internet use but that they were not good at using online reading and search strategies and that they were weak at pre-reading and while reading strategies due to non-linear and unfamiliar online texts and due to their failure to use the clues on web pages.

Resources on the internet are needed in order for teachers to do a number of activities for online comprehension. Online reading and comprehension activities will become widespread in our country by means of those resources. Digital libraries available on the internet enable students to read many books in different languages. There are also free digital libraries in which different languages can be selected across the globe in addition to online resources which are paid e-books in Turkey. Anderson and Baljhy (2009, 540) point to the following addresses which can help teachers in electronic texts and e-books:

- The International Children's Digital Library- www.childrenslibrary.org
- Between the Lions: Public Television- pbskids.org/lions
- Classics for Young People – www.ucalgary.ca/dkbrown/ storclas.html
- Project Gutenberg- www.gutenberg.org

- Talking Book Library- www.talkingbooklibrary.net/Matrix.htm

The researcher also states that students can form reading, writing and discussion blogs (www.wordpress.com) and do online comprehension exercises.

It is undoubtedly a fact that online comprehension requires upper order skills and that it is a skill that our age necessitates. New generation children using the skill are nested in technology. The process of integrating with technology- which develops simultaneously for them is not the same in the case of children having reading difficulties. The differences of those readers- who are referred to as struggling readers- from readers who use their online comprehension skills are shown in the Table 1 below.

Table 1.
The Characteristics of Strong and Struggling Readers in Online Comprehension

Pressley and Afflerbach state that readers who are strong in online comprehension use the following strategies (cited in Kymes, 2005, 493-496):	Akyol (2005,45) lists the following chareacterisctics for struggling readers:
One of the critical elements for students to understand a text is their awareness of their purpose for reading.	They cannot distinguish reading for pleasure from reading for information in terms of purpose and method.
Skimming and scanning are necessary for students especially in hypertexts.	They cannot use helpful strategies (asking their teacher or a relative, re-reading, etc.). They cannot check whether they have understood.
They activate their prior knowledge and make logical interpretations and they form information networks and cognitive paths.	Struggling readers cannot transfer their prior knowledge into reading.
Discovering the new meanings of words: readers can reach dictionaries by using hypertexts in online texts, they can pass into alternative pages and they can obtain detailed information through diagrams or other images.	They pronounce words rather than understanding them.
They can use the method of cut and paste while reading online by re-reading and by using graphic editors.	They do not believe in the benefits of reading and are usually untidy; they cannot finish their work, they get bored quickly, they feel excited and feel helpless.
They use interpretation or paraphrasing skills and skills of conversing with the author. Intertextual thinking skill is also activated at this time.	They do not use clues (sounds, shapes, previous experience, semantics, syntax, etc.)
They are skilful at assessing the text structure.	They do not control inconsistencies in texts.
They can revise information.	They have weak guessing abilities and skills.

Students with reading difficulties have specific needs. The skills in which they are deficient are phonological awareness, sounds, comprehension and writing (Teale, 2009, cited in Walker-Dalhouse, Risko, Lathrop and Porter, 2010, 71).

Wood (1998) stresses that struggling readers cannot attain acceptable levels without using appropriate materials and measurement instruments and that considerable time should be devoted to such students. Wood (1998) puts forward five principles for effective teaching to struggling readers:

1. Appropriate materials should be used.
2. Classification should be made according to whether students prefer reading aloud or silent reading.
3. Extensive time should be allocated to students for fluent reading.
4. Extensive time should be allocated to students for reading comprehension.
5. Students should be allowed time for independent reading. (pp. 67- 69).

Hall (2006, 425) conducted a qualitative study interviewing the teachers of students who had reading difficulties. The study concluded that a) teachers' being informed of students' cognitive strengths and weaknesses and b) how teachers motivate their students to increase comprehension were important points for teachers to stimulate students. One of the important findings obtained in the study was that struggling readers tried ways to comprehend but that their attitudes towards reading were negative.

Melekoglu (2011, 248) worked with 13 secondary school students with learning difficulties and 25 secondary school students without learning difficulties and with a high school student for 18 weeks in the USA. The researcher measured motivation with various scales and found consequently that the acquisition of reading had significant results in both groups but that reading motivation had remarkable effects on struggling readers having no learning difficulties.

Goetze and Walker (2004, 778-780) state that they observe children under risk using literacy and technology so as to make sense. The researchers chose 12 students under risk who were the 4th, 5th and 6th graders and who had difficulty in reading. They investigated whether or not using a system of signs and presentations helped to understand the works of children's

literature. They collected the research data through inspiration maps and hyper studio projects. Field notes were obtained through interviews. In consequence, the researchers found that 11 students set up intertextual connections about the books they had read. The study emphasised that students set up intertextual connections by means of technological instruments.

Hartman and Monsink's (2015) predictions about reading in the future shed light on students having problems in reading. Thanks to the availability of reading coaches with artificial intelligence and of their voice recognition properties it will be possible to assist individuals like Siri iphone and to recommend special reading strategies, and with the availability of new technologies it will be possible for instance to record face movements, eye movements and facial expressions and to take biometric data while reading and to make explanations of abbreviations in the texts by means of smart glasses. There are reading coaches in the cities of US today. While they help teachers, they spend time together with students in the classroom and they also contribute to teachers' applications (Walker-Dalhouse, Risko, Lathrop and Porter, 2010, 70). The goal of reading teachers is to guide readers and thus to ensure that they control the process of comprehension (Primeaux, 2000, 538).

1.2. Aim and Importance of the Study

The destiny of struggling readers in Turkey is dependent on teachers' personal efforts. There are no reading coaches who are experts in this matter, as in other countries. Yet, an elective course, inclusive language education, is available at universities this year for the education of such children. The reading experience of struggling readers on the internet stand in front of important reading skills brought by the contemporary age. This study aims to reveal struggling readers' situation in terms of online comprehension by means of interviews with teachers in the USA who are trained and experienced in this matter.

1.3. Research questions

The main problem considered in this study in line with its purpose is formulated as: "How do the teachers in the USA perceive and evaluate the online comprehension process of struggling readers?" and the sub-problems are as in the following:

1- What are the factors influencing online comprehension?
2- How can teachers help struggling readers in using online comprehension strategies?

2. METHOD

This study was designed as action research within qualitative research approach. Qualitative research is an approach aiming to discover and understand the meanings, individuals or groups attach to a social or humanitarian problem (Cresswell, 2014, 4). According to Yıldırım and Şimşek (2016, 308), the purpose of action research is to test an application within a pre-determined theoretical framework and to evaluate it. Accordingly, a practitioner can put a new approach into practice under the guidance of a researcher who has good command of the theoretical framework and the process can be analyzed and evaluation concerning the application can be made by the researcher. This study is technical/scientific/collaborative action research, of the type of action research.

This study aims to do in-depth analysis on struggling readers' online comprehension process. Struggling readers' online comprehension is a critical issue needing analysis. Therefore, the teachers in the USA who have knowledge and experience in this respect and the teachers in Turkey who have the opportunity to examine the sample applications and to do in-depth analyses in this respect are the fundamental components of the study. For this reason, teachers' views will be consulted and the documents of action plan will be examined in this study.

2.1. Research Group

The background knowledge and experience of the participants included in the study group in this research requires that criterion sampling be made in accordance with the purpose of the study (Fraenkel, Wallen and Hyun, 2012, 100). It is essential that the teachers intended to be included in the research are knowledgeable about and experienced with struggling readers' online comprehension. 8 teachers in the USA who did activities for online comprehension in their classrooms were chosen to interview. Sample applications were done with the participants in Turkey, and views of those who joined the applications (8 teachers) were obtained.

2.2. The Process of Action Research

Yıldırım and Şimşek (2016, 309-315) consider the process of action research at stages described below. This study describes the research process accordingly.

2.2.1. Deciding on the research problem

A research problem was identified considering the fact that research in struggling readers' online comprehension was not available in Turkey. Thus, the main problem is how the teachers in the USA who have relevant practices and the primary school teachers in Turkey understand the process of struggling readers' online comprehension and how they evaluate it.

2.2.2. Data collection

One of the researcher went to the United States for research purposes and applied Michigan State University to get the permission. She was registered in the university computer system on January 20, 2019 as the researcher, and her training in Human Research Protection [HRP] and in Institutional Review Board [IRB] was completed. Thus, the researchers were informed of ethics and legislations in Michigan State in the USA, and the necessary certificates were obtained. The permission required was received on March 4, 2019. The ethical agreement and the questions for use in the research were uploaded onto the application system abbreviated as CLICK in cooperation on January 22, 2019. The researcher worked on the research questions along with the advisor and they were uploaded onto Google surveys having given the final shape to the questions. Prior to the interviews, the teachers to be included in the research were sent e-mails by means of the ethical committee signature forms and Google surveys. Eight primary school teachers were interviewed on 18-26 April 2019 in a Primary School located in Flint. The data were recorded with a video camera and a voice recorder.

The teachers in the USA were sent Google surveys for data collection purposes. After the teachers completed the surveys, one-to-one semi-structured interviews were made with them. The participants were chosen from teachers teaching the 3rd and 4th graders in a Primary School by sending them e-mails. Thus, 8 teachers responding to e-mails with positive answers-4 of whom were teaching the 3rd graders and 4 of whom were teaching the 4th graders- were summoned to the interviews. Efforts are made to understand the unobservable such as experiences, attitudes, thoughts, intentions, comments and mental perceptions and responses through interviews (Yıldırım and Şimşek, 2016, 130). This study employs the approach of semi-structured interviews. The purpose of semi-structured interviews is to identify the similarities and differences between information given by the interviewees and to make comparisons accordingly (Brannigan, 1985, cited in Yıldırım and Şimşek, 2016, 130).

The interview questions and the questions for pilot scheme are as in the following:

Questions for Pilot Scheme

The data collected in the research were recorded with a voice recorder and a video camera. The voice and video recordings of American teachers were translated into Turkish and were transcribed. In addition to that, the interviews with Turkish teachers prior to and after the application were also transcribed and were put to content analysis. The main purpose in content analysis is to reach the concepts and the relationships capable of explaining the data collected. Therefore, the data should first be conceptualized, then they should be arranged logically in accordance with the concepts emerging and themes explaining the data should be distinguished accordingly (Yıldırım and Şimşek, 2016, 242).

2.2.3. Literature review

Literature was reviewed at this stage.

2.2.4. Data analysis and interpretation

A meeting was held with an researcher of this article following the first interview with the teachers in the USA, and a framework was set for the analysis of the data. The teachers' perspectives of online comprehension were the focus of attention in the meeting. It was observed by the researchers during the interviews that the teachers perceived online and offline comprehension to be inter-connected. After that, pre-interviews were held with the teachers in Turkey, action plan was implemented and the final interviews were made. A negotiation was conducted with another researcher of this article prior to the interviews in Turkey, a plan was prepared for data collection, and the research report was revised.

2.2.5. Action plan implementation and development

It was seen after the interviews with the teachers in the USA that web pages that could be used with students in the classrooms in the United States with internet connection were available. It is difficult in Turkey to have open access to such web pages which have educational content. For this reason, a meeting was held with researchers of this article and how to have an alternative application in Turkey was discussed with him. Thus, expert opinion was obtained in terms of using "WWWDOT", a strategy used in reading web pages. Following the literature review, the action plan was built on the basis of the model of "New Literacy Structure" (Leu, Coiro, Castek, Hartman, Henry, Reinking,2008,3).
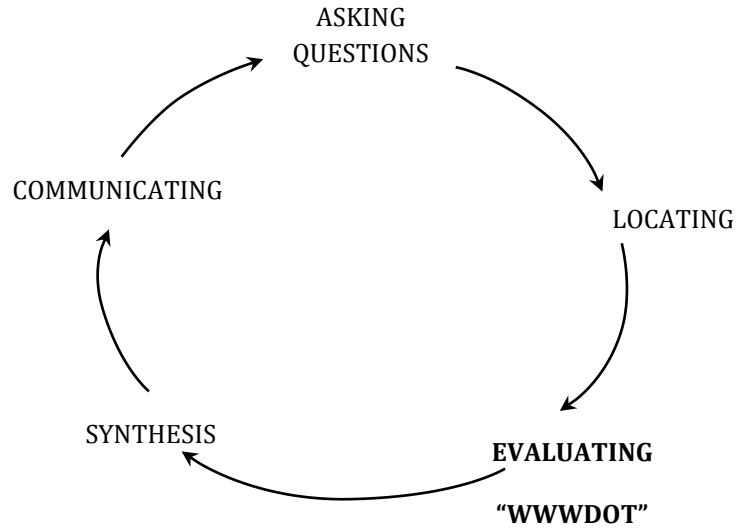
Figure1. The new literacy structure

Some of the components of the model were selected, and activities were prepared accordingly.

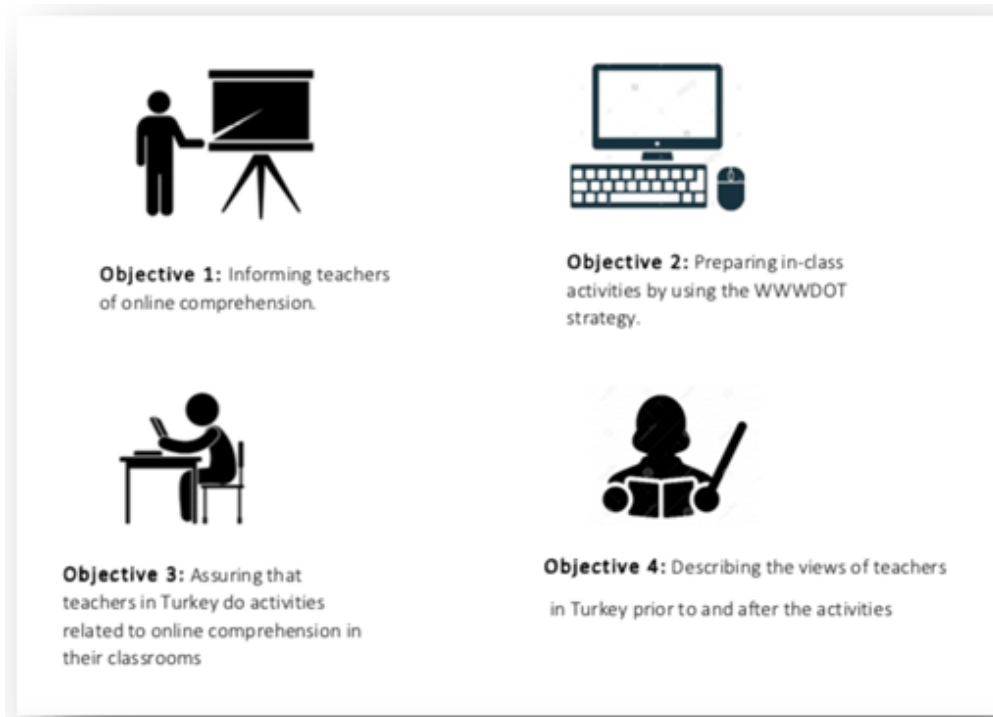### 2.2.6. Developing monitoring plan

Figure 2. Action plan infographics

Observation was made at this stage on the extent to which the application was consistent with the action plan. "WWWDOT" strategy applications were done in the computer laboratory for a week to assure that each teacher makes two-hour observations.

2.2.7. Implementing the plan

Application was done on 27-31 May 2019 in a primary school in Ankara.

2.2.8. Monitoring the application

The teachers observed their students in the computer laboratory for online comprehension during the application.

Picture 1.Teacher observation

2.2.9. Analyzing and evaluating the application

The results of the application were analyzed at this stage.

2.3. Validity and Reliability

The participants' confirmation was received for the persuasiveness of the study (internal validity). Criterion sampling – a method of purposeful sampling- was used for the transferability of the study (external validity), and detailed descriptions were made in the Findings part. Consistency analysis was done by a professor who was an expert in qualitative research for the consistency (internal reliability) of the study, and the data coming from the interviews were archived as specified in ethical agreement for the confirmability (external reliability) of the study. The participants' confirmation of the persuasiveness of the study was as in the following:

> *"They chose a topic and set out with curiosity. They tried to reach what they were curious about, and they kind of thought that they were free because they had chosen the topic they were writing about." (Turkish Teacher _4)*

3. RESULTS

The Findings obtained in accordance with the purpose of this study are included in this part.

3.1. Findings Concerning the Pilot Scheme

The pilot scheme was composed of two questions and follow-up questions focusing on the concept of reading comprehension. The themes, categories and codes distinguished according to three views of teachers in Turkey are presented below relationally.
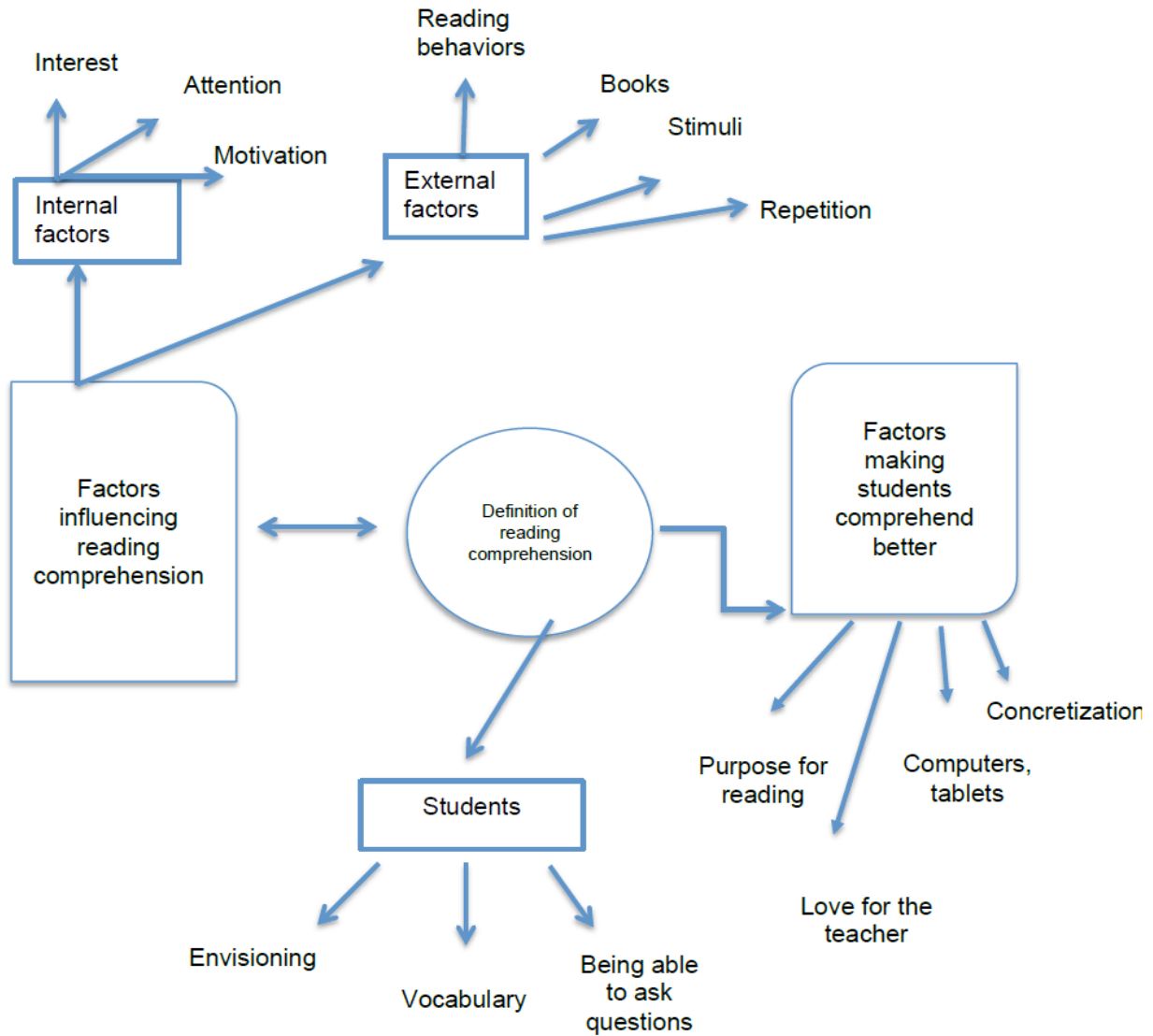
Figure 3. The relationships between the themes, categories and codes emerging with the views of teachers in Turkey in consequence of the questions for pilot scheme

A close examination of Figure 3 makes it clear that the findings obtained from the interviews with teachers in Turkey are divided into three themes (factors related to reading comprehension, the definition of reading comprehension and factors that make students comprehend better). The teachers made the definition of reading comprehension from the aspect of students, and thus three codes were distinguished in the category of students. Accordingly, envisioning, being able to ask questions and vocabulary were the indicators of comprehension. The theme of reading comprehension was related to the theme of factors influencing reading comprehension. Two categories (internal and external factors) and seven codes (interest, attention, motivation, reading behaviors, books, stimuli and repetition) related to the theme were distinguished.
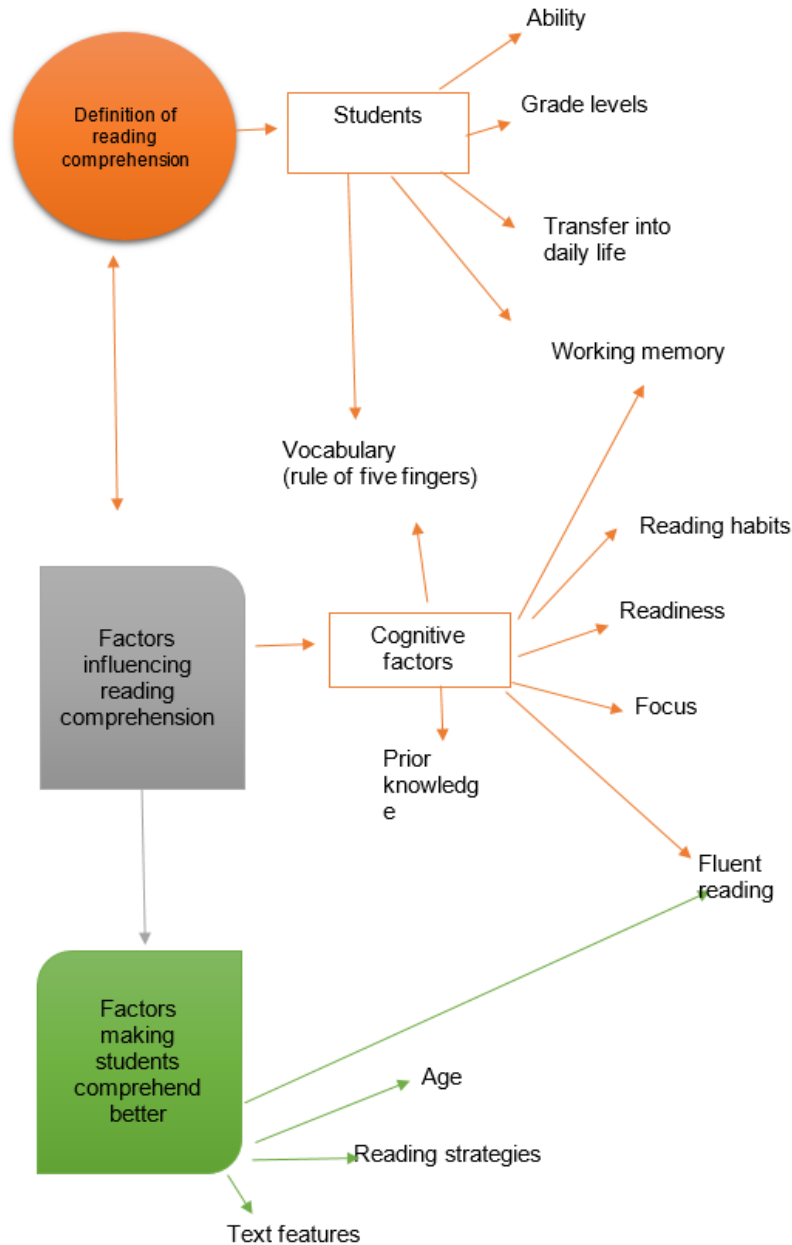
Figure 4. The relationships between the themes, categories and codes emerging with the views of teachers in the USA in consequence of the questions for pilot scheme

An examination of Figure 4 indicates that the finding obtained from the interviews with American teachers are also divided into three themes (the definition of reading comprehension, factors influencing reading comprehension and factors making students comprehend better). According to the views of teachers in the USA, the categories and codes in these themes vary. Accordingly, ability to read and grade levels are the important codes emerging in definitions in the category of students in reading comprehension. An important code remarkable here was that the importance of working memory in terms of defining reading comprehension and of the factors influencing reading comprehension was emphasized by teachers. The teachers in the USA also mentioned cognitive factors in the theme of factors influencing reading comprehension, unlike the teachers in Turkey. Some of the sample statements coming from the interviews with American teachers are as in the following:

> *"I teach this to parents- as I teach to the kids: If I were you, I would read the first one or two pages of a book- thinking that the book is your own independent choice; if I didn't understand more than five words with the rule of five fingers, I would re-consider choosing the book. Is it the right fit for me? Because I cannot read it. Maybe, I can read it later in a year. It may not be appropriate for me now. I need to find other books. After that conversation with parents, they know how to help the kids to achieve success. This method is the key." (American_Teacher1)*

Another theme related to the theme of the definition of reading comprehension is the factors making students comprehend better. The codes and categories in this theme and the views of Turkish and American teachers are shown in the Table 2.

Table 2.
Pilot Scheme for the Theme of Factors Making Students Comprehend Better. The Categories, Sub-Categories and Codes of Turkish and American Teachers' Views

			Techers' views Matrix – Pilot	
Themes	**Categories**	**Sub-categories**	**Codes for the teachers in the Turkey**	**Codes for the teachers in the USA**
What makes students understand better	Attention – Focus	Cognitive and Affective Studies	Knowing students' areas of interest Motivation- interest Preparatory work to read Interesting pictures, books with pictures Continuous reading Attention, reading by concentrating Activities done with the teacher	Ability to read Interest in reading Working memory visualization in mind out-of-the-school experiences Reading experience with parents Pre-reading activities Looking at pictures
		Reasons for the poor reading	Attention deficit, family matters, friendship relations, genetic factors, individual differences, need for more support, need for parents'-teacher's interest, need for supporting with study.	Family matters, health, learning difficulties, inability to read fluently, uninteresting texts, students' unwillingness to work with texts, students' reading levels
		Elements for better understanding	Knowing the purpose for reading, loving the teacher, reading from the computer or tablet, attention span, learning style, visuals and concretization, individual learning differences	Students' reading levels, fluent reading, using reading strategies, interesting texts, prior knowledge, inclination to library research, changing the level of a text, using web pages

An examination of Table 2 makes it clear that the concept of "attention" arises as a category in teachers' views in this theme. It is considered as the major factor making students comprehend better, causing weakness in reading and being influential in cognitive and affective work. Some sample statements made by Turkish and American teachers in relation to the above-mentioned codes and sub-categories are as in the following:

> *"It is necessary to read a lot. Reading fast, focusing attention on something, reading voluntarily, with love… not just for the sake of doing it; but I myself should want to read. I should be aware of the importance of reading and so I should research." (Turkish Teacher 8).*
>
> *"Primarily books with pictures are important for struggling readers. They see the visual and have curiosity. They don't like informative books especially very much. Reading comprehension is something that develops through reading. They use computers, tablets, screens very often. This generation of students is very different. Therefore, they need more efficient books." (Turkish Teacher 7).*
>
> *"One of them is students' reading levels. If they cannot read fluently what they read, they won't be able to comprehend it. For this reason, we should discuss their reading levels, reding fluency. And also, the words; the words they know. Focusing is very important. There are lots of kids who cannot focus… or who are distracted by their classmates or by looking out of the window… you know… their attention can easily be distracted; their attention can be distracted more easily now than in the past. Therefore, this is something I frequently emphasize in my classes. I am interested in what they read… I give examples, as I also did in the past. You read two pages of a book and you may not know what you read because you may be thinking about something else. I give examples of myself in this matter. You need to think about what you read. That is, you need to focus… now let's turn back to strategies again… how can we teach the strategies so that they can learn to re-read, so that they can learn to put the text into pieces, so that they can work out the passage, the paragraphs and the sentences if they don't comprehend what they have read. Primarily those come into my mind." (American Teacher 2).*

3.2. Findings for the Main Problem

The main research problem was stated as "how do the primary school teachers in the USA and the primary school teachers in Turkey perceive the process of online comprehension and how do they evaluate it?" the findings concerning the problem were divided into three themes.

Table 3.
The Views of Teachers in Turkey Prior to and After the Application

Teachers' Views Matrix-1					
		First interview		**Final interview**	
Themes	**Categories**	**Sub-categories**	**Codes**	**Sub-categories**	**Codes**
Perception of online comprehension	Technology	Technically	computers, interactive, the İnternet	Technically	computers, interactive, the İnternet, media literacy, checking the internet safety
	Motivation	From the aspect of students	New generation	From the aspect of students	New generation, different stimuli, concentration, freedom
	Analogy	Simile	Games and cartoons	Simile	Cake , digging a well with a needle, computer engineer, hacker, reading in motion
Differences between online comprehension and offline comprehension	Online	Interaction	The internet, mass, participation, fluid, visuals	Focus and concentration in reading	Stimuli, attention, acceleration, visuals, using certain strategies
	Offline	Individualism	paper, texts, only himself/herself	Direct reading	Printed books
Evaluation in reading comprehension	Online	Experience	No differences, needs trying, ı didn't have the opportunity to compare	Experience	Getting them to prepare PPT presentations, getting them to make posters, getting them to write reports on the word program, getting them to write stories and to get them to use the key board in this way
	Offline	Activities	By asking questions, drama, evaluation questions, concept maps, story maps, imaginary heroes, 5Ws1H, main idea, ordering the events, giving examples from Daily life, identifying the author's purpose, alternative evaluation methods	Activities	By asking questions, drama, evaluation questions, concept maps, story maps, imaginary heroes, 5Ws1H, main idea, ordering the events, giving examples from daily life, alternative evaluation methods

As is clear from Table 3, Turkish teachers' perceptions of online comprehension are divided into three categories. Accordingly, they define online comprehension as technically on the dimension of technology and from the aspect of students on the dimension of motivation. They mostly said that they wanted to make an analogy for online comprehension after the application; but only two teachers made the analogy and likened online comprehension to a game and a cartoon. Some of the samples for definitions of online comprehension made by the teachers were as in the following:

> *"I can say it is the kind of comprehension on which they can do things rather by using technology and by taking computers into consideration." (Turkish Teacher 2)*
> *"Kids of the present day have too much interaction with other kids. So, when I look from their perspective, get in touch with somebody else or making use of others' experiences, being able to look from others' perspectives or following what they read, what they play… being in more online interaction with others." (Turkish Teacher 3)*
> *"I don't think that online comprehension method will not work with any children of this generation. It is legendary!" (Turkish Teacher 1)*

Some new codes and categories were formed in the final interviews with the teachers in relation to the main problem of the research. Thus, media literacy and the internet security emerged as the new codes in the theme of online comprehension. The teachers made the following statements about the need for control in online reading activities:

"Kids should be controlled seriously during online. Different images appear on the screen. Children write as they wish. Some say "How it was born" some say "Animals facing extinction" ... It should be controlled very well at school and in the family. Limits that children can reach should be set. There was a child who wanted to watch the birth of an animal. They find lots of things when they write the word reproduction on the Google. It is very nice if there is control." (Turkish Teacher 6)

What the teachers emphasized in the interviews after the application was the code of concentration in the category of motivation. They had the views as in the following in this respect:

"Children occasionally gain time in online reading; it can sometimes be faster. For this reason, it does not distract their attention; because they can waste more time, they can look around when they turn the pages of a book. I think it is beneficial." (Turkish Teacher 8)

Despite the fact that teachers said that they observed students to focus intensely in online comprehension, they also stressed with the code of different stimuli that students' attention could be distracted by pop up ads and so on. A sample for teachers' views in this respect is as in the following:

"I think that there are more intensive stimuli in online comprehension. Especially in this activity we do, children grab from somewhere because of those stimuli. They have both good and bad sides. Having too many stimuli takes children away and some students focus on unnecessary details. You also saw in the application that the child focused on the advertisement on the side while doing research on the internet." (Turkish Teacher 1)

It was found that the examples for analogies teacher made increased after the applications. Some of the examples for teachers' analogies were as in the following:

"He/she did reading in motion. He/she used his/her hands and whole body. He/she didn't have to read." (Turkish Teacher 4)
"It is something like digging a well with a needle. Because you find something useful from a place as large as a sea with a needle". (Turkish Teacher 7)
"They're going out of the classroom was something like they were going to eat a dessert. It looked like we had offered them a piece of cake and they would eat up all of it. It was just like students who had not eaten dessert for a long time, and they were running towards it." (Turkish Teacher 3)

The initial views of teachers in Turkey about the differences between online comprehension and offline comprehension were considered in the sub-categories of individualism and interaction. Accordingly, online comprehension was exemplified in a structure based on the internet and on interacting with a mass- as different from offline comprehension. Some of the examples for teachers' statements about the differences between online and offline comprehension are as in the following:

"Online is a web on which they can meet and communicate with others and can reach different places with a computer. But offline is what someone does as a job. There are masses he can reach online, there is a library he can access to. Therefore, it plays a more active role." (Turkish Teacher 3)
"A piece of paper...smelling the paper...Writing... doing whatever you want on it.... Yes, computer can also do the same, but I think it is something different to touch paper." (Turkish Teacher 2)

The teachers evaluated the difference that they had previously perceived as individual and interactional in the theme of difference in terms of focusing on reading after the applications and they distinguished such codes as that students gained time in online comprehension, that they focused on visuals and that they used reading strategies. An example for teachers' views in this respect is as in the following:

"That is to say, students' envisioning it by seeing the visuals, writing and stimuli related to the subject they research while they are intertwined with the internet and technology. They use several methods in the process to be able to reach knowledge because they do not directly open their books and begin to read." (Turkish Teacher 1)

The teachers were observed not to be knowledgeable about the methods of online assessment while doing offline assessment in the category of evaluating reading comprehension. On looking at the theme of evaluation in reading comprehension after the application, it was found that teachers had ideas about a number of activities that they could do online.

"Absolutely, there should be oral assessment; but I think there should be criteria for children to express themselves in writing" (Turkish Teacher 4)

Table 4.
The Views of Teachers in the USA on Online Comprehension Prior to and After the Application

The views of Teachers in the USA			
Themes	**Categories**	**Sub-categories**	**Codes**
Perception of online comprehension	Technology	Technically	Web-based, digital reading
	Motivation	From the aspect of students	Motivation and sharing
	Analogy	Simile	Coffee, pizza, opening the door, watching TV, solving problems like a detective, pluralism, readers' leadership, eyes shining
The differences between perceptions of online comprehension and offline comprehension	Online	In terms of in-class applications	Lots of elements distracting attention, ready online content, knowing how to use strategies
	Offline		Reading from paper and books
Evaluation in reading comprehension	Online	Accessible resources abundance in online resources	State assessment, Google docs, summarizing, video recording, extensions of some web sites (E.g. News ELA), some strategies (e.g. RECE, OAR strategies), Star reading Tests, sentence completion, informal assessment, accelerated readers, asking questions, asking to tell orally, short tests
	Offline	Typical applications	worksheets, tests

On examining Table 4, it is clear that the teachers in the USA- unlike the teachers in Turkey- have clearer and shorter perception of online comprehension and that it is a part of their daily life. It was observed in Teachers' Views Matrix 1 that the perceptions of teachers in Turkey related to online comprehension caused some misconceptions. According to the interpretations of the teachers is Turkey, reading on the computer screen was also perceived as online reading. In addition to that, media literacy was also a code which emerged consequently. Some of the examples for definitions made by the teachers in the USA in relation to online reading are as in the following:

> *"In my opinion, online comprehension is very similar to reading a text and a book and inferring meaning from it. But this time they don't read a physical book, but they read online." (American Teacher 6).*
> *"Online comprehension means their having to understand how a web page works. Primarily the pieces of the page…. Using the page skillfully, navigating in it." (American Teacher 5).*
> *"Being able to get the knowledge that you acquire from an online resource and understanding what happens, what is in the resource, what knowledge you get from it and using the knowledge meaningfully and sharing it with others." (American Teacher 3)*
> *"Actually, I do a lot of online reading comprehension with my students because most of my students have organizational problems. They lose the homework they do, they don't have their homework with them. So, we also do them online. It is easier for them. Also, they personalize it. When we compare the one done online with the one done on paper, they prefer the one which is online because it is more motivating for them." (American Teacher 7)*

In the category of motivation, the teachers in the USA considered online comprehension activities in such codes as motivation and sharing as a part of their daily life whereas the teachers in Turkey interpreted the activities as an environment of study where the new generation felt free with different stimuli. The fact that online comprehension was a part of American teachers' daily life became apparent also with such metaphors as coffee and pizza- which were the symbols of their culture- that they used. Another effective analogy they had made in this respect was "to open the door".

> *"Yes. my metaphor is to open the door. It's just like opening a door because there are so many instruments online and because there are so many properties in reading a book. Just like open the door to students, to probabilities. There are a lot of possibilities to reach the same text, the same curriculum and even to the same reading passage. Doing something online, reading something online is like opening a door." (American Teacher 7)*

An examination of Table 4 makes it clear that the teachers in the USA consider the differences between online comprehension and offline comprehension in terms of in-class applications. Especially the code that there are too many elements distracting attention overlaps with the code that there are lots of stimuli which emerged in the final interviews with Turkish teachers in Matrix 1. The finding demonstrates that teachers have observations in common following the applications.

> *"In this case, they read an online text. But the situation leads to other problems because while some of the students work very well with online texts, it is an obstacle for some others because they follow from the screen. It is too difficult for them to read from the screen if there are visual topics, and it can lead to problems. Because it is different from*

turning a page and continuing reading. There are things that distract attentions such as ads and videos. I think they can sometimes cause problems. The kids will need to decide on whether to watch the video or to skip it on coming across a video when they click on something". (American Teacher 6)

On examining the codes emerging in the theme of reading comprehension in Table 4, it was found that especially teachers in the USA had quite a lot of resources to assess online comprehension.

"We use "Star Reading Tests" to assess online reading comprehension. They are comprehension/vocabulary tests. We use "Accelerated Readers" for comprehension. We also have things we use for state assessment... We also have support we use in research on the web. It is different from Dr. Sue's which I used at Michigan. Children were given a web site there and they were asked questions that they were required to answer, there were paragraph to read. I think it was also a comprehension activity because they were asked to read the paragraphs and to answer the questions. They needed to do cloze activities."
(American Teacher 5)

3.3. Findings Concerning the First sub-problem

The first sub-problem in the research was formulated as "What are the factors influencing online comprehension?" The findings obtained through the first and the final interviews with teachers in Turkey in relation to the problem are presented in one single theme.

Table 5.
The Views of Teachers in Turkey on the Factors Influencing Online Comprehension Prior to and After the Application

Teachers' Views Matrix -2				
	First interview			**Final interview**
Themes	**Categories**	**Sub-categories**	**Codes**	**Codes**
Factors influencing online comprehension	Technology	Technically	Visuals, animated symbols, single page image, interactions, oral instructions, computers, videos, animated symbols	Preliminary experiences with computers, computer using skills, economic level
	Motivation	From the aspect of students	Readiness, interestingness curiosity, being in search of the easy one	Entertainment, curiosity, freedom, visuals, videos
	The internet	Web pages	Okulistic, Morpa, Vitamin, Youtube, Kahoot	Students were found to do research on 45 different web pages
	Strategies	Observations	Five senses, seeing all	Click and see, click on the visuals, collaborative reading, reading the wikis
	Activities	From the aspect of teachers	Activities of listening to books, searching for writers on the Google	Research activities, project assignments, using smart boards, ppt presentations

As clear from Table 5, the theme of factors influencing online comprehension was divided into five categories. Accordingly, there are factors influencing online comprehension in terms of students' motivation as well as factors influencing online comprehension technically. It was observed that the applications in the categories of internet, strategies and activities increased the number of codes. In this context, it became apparent after applications technically that students' computer using skills were one of the important codes influencing online comprehension. Another code remarkable was that after the applications the teachers observed the strategies students used; and thus the codes stated were the fact that the students used strategies such as "click and look", "click on the visuals", "collaborative reading" and "reading the wikis". Some of the examples for teachers' views prior to the application were as in the following:

"I cannot observe very clearly what strategies they use. We can observe them if they have a computer and work in a setting like a computer lab." (Turkish Teacher 4)
"We use an application called Kahoot on the smart board. After entering into the site, the students are connected to the smart board with their mobile phone. There are also statistical results such as the maximum number of As and

maximum number of Bs in the application. Kids have their phone with them, they can connect during classes. It is great for them." (Turkish Teacher 1)

Some of the examples for teachers' views on the factors influencing online comprehension after the application are as in the following:

"First, children need to be inclined to use computer correctly. For example, there used to be a computer course in the past. It was informative. Now it was removed from the program. I don't know why. They take a course in coding now, but it is a different area. I personally feel that there is need for computer courses. Especially when they prepare presentations, those who have computer skills are comfortable, but others fall back. Because this generation uses computers mostly for playing games... In fact, they can be taught how to use a computer, how to make a presentation, what can be done on the Word; things that look simple can be taught to them." (Turkish Teacher 5)
"Firstly curiosity, research. Listening to a favorite piece of music on YouTube, and so on. This is online listening." (Turkish Teacher 6)

Table 6.
American Teachers' Views on the Factors Influencing Online Comprehension

The views of Teachers in the USA			
Themes	**Categories**	**Sub-categories**	**Codes**
Factors influencing online comprehension	Technology	Technically	They should be knowledgeable about working on the computer
	Motivation	From the aspect of students	İnterest, meta-cognitive skills, having alternatives in what they read
	The Internet	Web pages	Hiper-links
	Strategies	Observations	Re-reading, using a dictionary, scrolling down, zooming in/out, visualisation, hashtags
	Activities	From the aspect of teachers	Reading texts from ELA, using Ipads, sharing boks on Book Share, using the online library , DocHub, Amstad protocols, Chrome Book, accelerated reading, Moby Max, Silastic News, Youtube, Story Line Online, Eaststoria,Google Docs

As is evident from Table 6, the theme of factors influencing online comprehension contains the same categories and sub-categories as the ones in the case of teachers in Turkey. In this context, in the category of technology, the code that the teachers in the USA had in common was the fact that students were knowledgeable about working with computers; and it was the code the teacher in Turkey had mentioned following the application. An important code that the teachers in the USA emphasized in the category of motivation was metacognitive skills. On examining Table 6, it became apparent that the teachers in the USA exemplified the strategies they observed- unlike the teachers in Turkey. The fourteen codes emerging in the sub-category of from the aspect of teachers indicated the variability of applications done in the classroom and demonstrate that online resources were abundant in the USA. Some of the examples for teachers' views are as in the following:

"We do online articles, texts from ELA. We normally use DocHub for this. A document is uploaded there. You can add notes; you can work on it online. We also use Book Share. We also use an online library which is for free. Books can be downloaded by using Book Share. Kids use their iPad. We also use online videos. Online comprehension is different because you need to have different skills. We talked about creating instant Hashtags about a year ago. what we did was to create a Hashtag. Hashtags predicted what we would come across. In this way, students could think about everybody, about online texts... Basically my students could inquire, make predictions, inferences and visualization in the classroom." (American Teacher 7)

3.4. Findings Concerning the Second Sub-problem

The second sub-problem in this research was formulated as "How can the teachers in the USA and the teachers in Turkey help struggling readers in using online comprehension strategies?" The findings obtained through the first and the final interviews with teachers in Turkey in relation to the problem are presented in one single theme.

Table 7.
Turkish Teachers' Views on Struggling Readers Prior to and Following the Application

First interview				Final interview	
Themes	Categories	Sub-categories	Codes	Sub-categories	Codes
Struggling readers	Properties	Characteristic behaviors	Reading less, having different interpretations, comprehending in unexpected ways, dislike for reading, abstaining, avoiding participation, willingness to comprehend online.	Observations	Having difficulty in using the keyboard, lacks in computer skills, lacks in language skills, use of time, preferring looking at the pictures, abstaining, willingness to comprehend online
	Support	Technological Reading coach	Oculistic, Morpa Unusual	technological	Kahoot, research projects

According to Table 7, the views of teachers in Turkey about struggling readers are divided into two categories. The code of their willingness to comprehend online was remarkable in the category of properties of struggling readers and in the sub-category of characteristic behaviors of struggling readers. The finding was also mentioned by the teachers in the final interview. The views stated by the teacher coded as Turkish Teacher 4 in this respect were very assertive:

> *"There is no such thing as a struggling reader in online reading. The student who we considered to be a struggling reader in the classroom was active in online reading." (Turkish Teacher 4)*

It was important that the teachers said that used sites such as Oculistic and Morpa but that they never worked with reading coaches. Some of the examples for teachers' views about struggling readers are as in the following:

> *"It changes from kid to kid. A student having reading difficulty can easily comprehend. In fact, such a student can make unbelievable interpretations even though they are not correct." (Turkish Teacher 5)*
> *"Their interpretations are very different. They have a different approach." (Turkish Teacher 6)*
> *"It is us who are the reading coaches. It is us who help them in anything from tying their shoelaces to cleaning their nose. We don't have this system in our country yet." (Turkish Teacher 7)*
> *"First, struggling readers read less. Second, I attribute it to the families. If parents don't instill in their children the reading habit, it has reverse effects. Habit of reading books should be supported at home as well as at school. Parents should also read beside their children." (Turkish Teacher 8)*
> *"I didn't have such an experience, but they are the students whose attention is easily distracted. They have something else in their mind. They don't want to read. They read by skipping some parts and they don't comprehend. They are the students who are weak in grasping what they read…" (Turkish Teacher 3)*

The category of observation emerged in accordance with the teachers' views after the application. The codes emerging in consequence of the observations teachers made during online comprehension activities also demonstrated that struggling readers' computer skills were important. Besides, the code of struggling readers' willingness to comprehend online prior to and after the application was also an important finding in terms of motivation to read.

> *"They had difficulty with the keyboard. I observed that the child could not write a sentence. I asked the student 'Do you have a computer? Do you know how to search for it?' He said he didn't know. Observed that he also had lacks in language skills. Normally, he can look and copy; but he couldn't do it because he closed a page and opened another. He couldn't look and copy. This lack in computer use absolutely influenced him." (Turkish Teacher 1)*

Table 8.
American Teachers' Views on Struggling Readers

The Views of Teachers in the USA			
Themes	Categories	Sub-categories	Codes
Struggling readers	Properties	Characteristic behaviors	Difficulty in vocabulary, giving up reading, being influenced by difficulty of the text, having difficulty with the length of the text,, they try to use the contextual clues from pictures
	Support	Technological	New ELA, Read Works, Reading Rockets, Reading A to Z Vocabulary, Zillion, Satcy, a site for songs,, used for promoting fluency, Moby Max, Inser Learning, Speech to Test, Screen Reader, Prison
		Reading coach	Working together, working together to consult, using MTSS

As is clear from Table 8, the teachers in the USA exemplify the characteristic behaviors of struggling readers with the code of having difficulty in vocabulary. In the category of supporting struggling readers, it was found that it was possible to reach several resources technologically and that they worked with reading coaches. Some examples from the teachers' statements are as in the following:

> *"Struggling readers especially. For example, they write the word 'elephant' and look at the Google. They look at the page instead of clicking on the links. It is a shock to us that they don't want to read the whole page. They want what they are looking for to be there at that moment without making efforts. We use Prison. We take a text and upload it on to the internet and we show them how to mark the text. We also do the same with the text selected from Google documents. We highlight the text by marking certain parts of it. They also read the comments available on the Google. They also mark the text in their head automatically by reading the text alive on the Google. They do this in their mind. I think it's the best way." (American Teacher 3)*
>
> *"We try to use Moby Max. It's an online application… kids are assessed through tests; we see at what point their skills are at a certain time. They are given various topics and they take tests such as reading comprehension and phonics. We try to do this whenever we go to the lab- I mean once a week. I also try to use a web site called Insert Learning. "(American Teacher 8)*
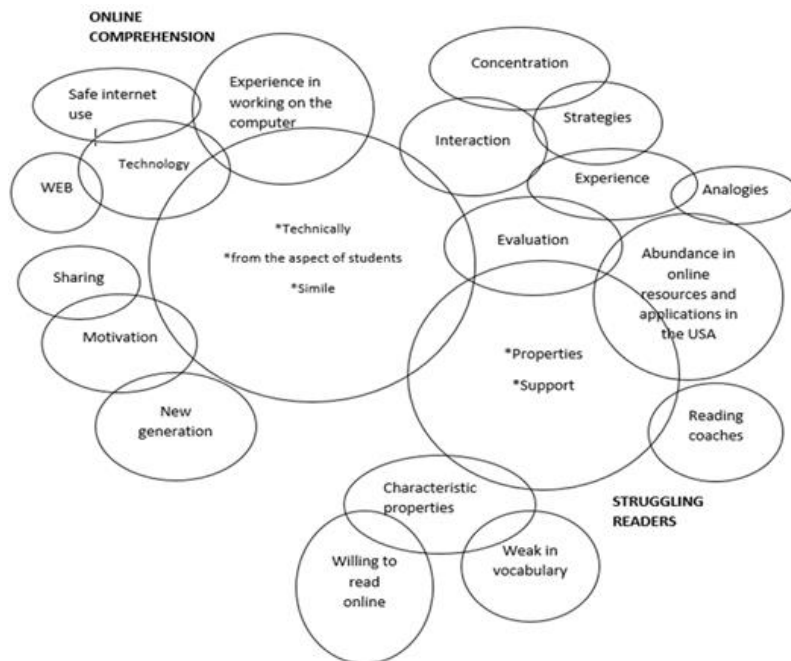

Figure 5. Associations between overlapping sets of themes, categories and some codes which emerged in the findings (Miles and Huberman, 2015,249).

The themes which emerged in the findings were the perception of online comprehension, the differences between online comprehension and offline comprehension, assessing reading comprehension, factors influencing online comprehension and struggling readers. The themes were associated with each other as online comprehension and struggling readers on two main

circles in the Figure 5 above. The associations between categories, sub-categories and the distinctive codes emerging accordingly put forward the views of teachers in the USA and the views of teachers in Turkey in this study.

Accordingly, the teachers in both countries attracted attention to the importance of students' working with computers in the category of technology. While the teachers in the USA gave answers related to web-based reading, the teachers in Turkey called attention to the importance of using safe internet in the applications. While the teachers in Turkey stressed the interest of new generation in technology, the teachers in the USA called attention to the importance of sharing in classroom processes in the category of motivation. It was found in the category of interaction that Turkish teachers' awareness of strategy increased following the application, and that American teachers mentioned several categories as examples.

While the teachers in the USA emphasized the code that struggling readers' vocabulary was inadequate, the teachers in Turkey emphasized the code that struggling readers were willing to read online in the category of characteristic properties in the theme of struggling readers. The action research done in this study demonstrated that experience was important in teachers' views. Especially in the category of assessing students, the codes emerged in consequence of Turkish teachers' experiencing the study. The same was also true for the analogies made. The teachers in Turkey had difficulty in making analogies prior to the application; but they reported their examples for their analogies after the application. The examples for analogies given by the teachers in the USA, on the other hand, indicated that online comprehension was a part of their daily lives. Another important finding obtained in this study was that the system of reading coaching was not used in Turkey yet. It became apparent that the teachers in the USA worked with reading coaches and that they had better opportunities in terms of online resources.

4. CONCLUSION, DISCUSSION AND SUGGESTIONS

This part includes the conclusions based on the findings obtained in the study- which was conducted through action research- the discussion built on the basis of the conclusions and various recommendations.

The conclusions reached for the main research problem which was formulated as "How do the teachers in the USA and the primary school teachers in Turkey perceive and evaluate the process of online comprehension?" were presented in three themes (the perception of online comprehension, the differences between online comprehension and offline comprehension and evaluation in reading comprehension). Accordingly, the Turkish teachers' perceptions of online comprehension focused on the code of internet security especially after the application of action research. The American teachers' perceptions of online comprehension were described by the code of web-based reading. In addition to that, the perception of online comprehension was referred to as a type of reading in which the new generation students are free with different stimuli in the category of motivation from the perspective of teachers in the USA and teachers in Turkey, and the teachers in the USA mentioned the codes of motivation and sharing. Following the applications of action research, the teachers in Turkey offered more analogies than the ones prior to the application whereas the teachers in the USA gave examples of analogies connected with their daily life and thus demonstrated the extent to which online comprehension was the part of their life. On reviewing the literature in connection with the findings obtained in this study, we see the way the question "What changes occur in the process of reding comprehension while reading on the internet?" is considered. Corio (2014) describes the process of online comprehension as "You start with a problem or a question in a search engine while reading on the internet rather than reading a book in your hand, the search engine offers you several examples and you choose the one you need. Online readers take on more responsibility than the one an editor of a printed book takes on once they have access to different types of texts. The fact that literacy and learning change on the internet is related to the fact that online readers access to the format of knowledge in different ways (for instance, texts, multimedia, pictures, videos and audio). This situation demonstrates the emergence of new skills and sharing the messages by synthesizing them digitally. Here the statement that online readers take on more responsibility than the one an editor of a printed book takes on once they have access to different types of texts, which was made by Corio (2014), indeed also makes us think of the concept of internet security- to which the teachers in Turkey call attention.

The second theme related to the main research problem was the differences between online comprehension and offline comprehension. The teachers in Turkey stated after the application that online comprehension promoted focusing and concentration. Despite this, the important code that both the American and the Turkish teachers highlighted was the abundance of factors distracting attention in online reading. The conclusion reached by Ulu (2017) that the advertisements and news items appearing on the sites attract students' attention is supportive of the conclusions reached in this current study on the basis of the teachers' views.

The third theme distinguished in relation to the main research problem was evaluation in reading comprehension. It was found in the theme that the teachers in the USA had several resources for online assessment in addition to state assessment. The teachers in Turkey, however, stated their views in this respect only after the application of action research. One of the significant resources for assessing online comprehension was "the Online Reading Comprehension Assessment [ORCA]"- an instrument for evaluating online reading. The results of PhD thesis produced by Coiro (2007), in which the researcher used the ORCA instrument, demonstrated that there were connections between prior knowledge and online reading comprehension skills. It is pointed out in the study that upper order online comprehension skills are influential in using the knowledge on the internet to perform the tasks related to the topic, the prior knowledge and the internet; to think critically and to synthesize. Therefore, assessment in reading comprehension is very important.

The results obtained for the question "What are the factors influencing online comprehension?" in relation to the first sub-problem of the research are presented in one single theme. Accordingly, five categories were distinguished in the theme. The categories were labelled as technology, motivation, the internet, strategies and activities. An important code the teachers in Turkey highlighted after the application was their observations about the effects of prior experiences with computers on online comprehension. The same code also emerged in interviews with the teachers in the USA. The results obtained by Kingsley (2011) in a PhD thesis analyzing the 5th graders' online literacy skills demonstrated that inclination to use the internet and relevant experiences were influential in the development of online comprehension-related skills. In a study comparing traditional and online comprehension, Dembroski (2014) makes efforts to describe the strategies students use (time devoted to an activity, prior knowledge, the use of technology, self-confidence) during online comprehension. It was pointed in the study that previous experiences were influential in comprehension and that they promoted decision-making.

While the teachers in Turkey stressed the codes of entertainment and curiosity in the category of motivation in the theme of factors influencing online comprehension during the interview after the application, the teachers in the USA called attention to the code of meta-cognitive skills. A literate person in the 21st century should be able to read both the traditional and the digital texts, he should have wide repertoire, and he should be flexible in the changing literacy (Taffe and Bauer, 2013, p. 163). The teachers in the USA referred to unlimited navigation on web pages through hyperlinks in the category of the internet whereas the teachers in Turkey began to use different web pages after the application. Another factor influencing online comprehension in the category of strategies was that the Turkish teachers' awareness of observing the strategies students used increased after the application. Kymes (2007), in PhD thesis entitled as analyzing and investigating online reading strategies, used the think aloud procedure with 69 high school students. The findings obtained showed that students could reach additional resources, they questioned texts, they used prior knowledge and that they could identify the logic in texts during online reading. In the category of activities, the teachers in Turkey gave various examples for activities following the application while the teachers in the USA mentioned more codes of activity due to richness in e-resources. In a PhD these entitled as "How do the fourth and fifth graders gain online comprehension from new literacy?", Castek (2008) conducted the study in mixed design and gave 28 students online comprehension activities for 15 weeks. The quantitative data of the research showed that the students in the experimental group had remarkable differences in online reading comprehension. The results indicated that online comprehension increased content knowledge. The themes distinguished with the qualitative data demonstrated that the teacher's role changed with transition into new literacy and that the knowledge acquired with teachers' guidance spread among students.

The results obtained for the question "How can the teachers in the USA and the teachers in Turkey help struggling readers in using online comprehension strategies?" in relation to the second sub-problem of the research are presented in the theme of struggling readers. The theme contains two categories labelled as properties and support. The fact that struggling readers had difficulty especially in using the keyboard was a code mentioned by the teachers in Turkey in the category of properties; on the other hand, the fact that students had difficulty in vocabulary was the code emphasized by the teachers in the USA. The code that struggling readers were willing to read online mentioned by the teachers in Turkey after the application was an important finding. In a study conducted by using the technology of tracking eye movements, Kim, Vorstius and Rodach (2018) measured watching the monitor, re-reading and the length of time spent in understanding the context. The results obtained from 319 second graders indicated that children spent more time on words which were conflicting and therefore they looked at the text for a longer time. The research demonstrated that comprehending from the screen was associated with vocabulary reading and reading comprehension but that it would not predict reading comprehension.

Castek, Zawilinski, Mcverry, Byrme and Leu (2014) stress that providing readers who have difficulty in reading with opportunities to read has two important benefits. First, online reading comprehension causes increase in measurable experiences. Second, students configure their capacity to learn how to learn. A finding remarkable in this study was that students who had difficulty in reading did well in online reading. For instance, they can make very good decisions on very important points while using digital properties. Computer screen was recorded for 30 minutes in this study to measure struggling readers' online comprehension skills. After that, 89 students were given the Connecticut mastery test [CMT] and total reading after they had completed the online reading comprehension assessment [ORCA], and then case study was conducted with four of them. The results showed that struggling readers were better at online comprehension; and the skills they used were managing multiple windows, searching for information, adjusting the rate of reading, monitoring oneself while communicating and checking the accuracy of knowledge available on web sites.

On the other hand, Yuan-Chen (2009), in a PhD thesis analyzing primary school and secondary school general education and special education students' reading comprehension strategies, worked with students with and without learning difficulties in the United States and in Taiwan. The results of the research, which was conducted with 119 fifth and sixth graders, indicated that the 5th and 6th graders had the opportunity to use computers and the internet but they were inadequate in online searching and reading strategies, that their orientation was easily disturbed especially on web sites without informative paragraphs or organizational charts, that they could not use the recommended online search strategies, that they were weak in pre-reading and while reading strategies but advantaged in post-reading strategies. This study, on the other hand, has findings in contrast to that and does not support the conclusion that struggling readers are eager in and better at online comprehension.

On examining the sub-category of technology in the category of support in the theme of struggling readers, it was found that the teachers in the USA had abundance in the code related to technological resources. The deficiency of such resources in Turkey

was demonstrated though interviews prior to and after the application. The study entitled "Web-based interventions to Struggling Readers K8" and conducted by Dwyer (2015) aimed to improve the literacy of struggling readers who lived in socially disadvantaged regions. Two groups of female students coming from disadvantaged section of society were chosen in the longitudinal, two-year study which was conducted in Ireland. They were grouped as those moving from the 3rd grade to the 4th grade (n=25) and as those moving from the 5th grade to the 6th grade (n=16). Both groups were given a standardized reading test and the students had achievement below 10% in the test. The research findings showed that integrated curriculum and ecological classroom setting supported struggling readers. The students developed high levels of online reading comprehension in terms of searching for information. Peer work was also influential in online learning.

A significant result obtained in the study was that the teachers in Turkey had never worked with reading coaches. The teachers in the USA, however, said that they worked with reading coaches. Akyol and Yıldız (2013) stated that the system of reading expertise was a necessity in Turkey and that reading experts should be raised in Turkey. The practice made progress in the United States. Jack Mastow et al developed a computer guided reading educator program at Carnegie Mellon University- as described by Biancarosa and Grifiths (2012, pp. 143-144). The program uses the system of voice recognition and gives graphical feedback to structured texts which students read aloud. Another similar program, "Assistant for learning to read scientifically", again uses the system of voice recognition and aims to improve fluency in reading from the 2nd grade to the 5th grade. E-reading technology is advancing especially in terms of early reading skills for those who have visual and linguistic inadequacies in text reading.

This study aimed to reveal the view of teachers in the USA and of the teachers in Turkey prior to and after the application of action research. Based on the results obtained, the following are recommended:

- Experimental studies could be conducted to investigate the process of struggling readers' online comprehension.
- The online comprehension strategies used by students could be analyzed.
- The effects of new literacy on students reading motivation could be scrutinized.
- A reading coach program could be developed to support struggling readers.

Research and Publication Ethics Statement

This study has been found ethically appropriate by Hacettepe University Senate Ethics Commission in the official article of Hacettepe University Faculty of Education, numbered 35853172-755.02.06.

Contribution Rates of Authors to the Article

All authors contributed to the design and conceptualisation of the systematic review. The first author went to the United States within the scope of the BAP project of the same name to collect the data of the article and collected the data with the second author on this subject. Data was collected and analyzed along with third-author in the study carried out by teachers in Turkey. The three authors analyzed the data together and the article was read and corrected by the authors several times.

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Statement of Interest

The authors declare that they have no competing interests.

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