# USING QUIZZIZ AS A TOOL FOR ONLINE FORMATIVE ASSESSMENT IN STUDENTS' READING COMPREHENSION IN THE SECOND GRADE OF JUNIOR HIGH SCHOOL

(Undergraduate Thesis)

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#### **ABSTRACT**

# USING QUIZZIZ AS A TOOL FOR ONLINE FORMATIVE ASSESSMENT IN STUDENTS' READING COMPREHENSION IN THE SECOND GRADE OF JUNIOR HIGH SCHOOL

# Anjeli Dahlena Putri

Using online applications as the media can improve students' engagement in doing the assessment administered by the teacher. This study investigated the effect of using Quizziz as a tool for online formative assessment in students' reading comprehension scores and analyzed students' perception of Quizziz as an online formative assessment tool in reading comprehension. This research was conducted in a Control Group Pretest-Post-test design. The data were obtained from pre-test, post-test and questionnaire. The researcher used a Paired Samples T-test to see if there were significant improvements in students' reading comprehension scores in the experimental and control class after getting the treatments. The t-values are 5.959 (pair 1) and 2.314 (pair 2) at the significant level of 0.000 (pair 1) and 0.030 (pair 2). The T-test shows significant improvements in students' reading comprehension scores in experimental and control classes. However, the improvement in the experimental class is more significant than in the control class. Furthermore, the researcher used an Independent Samples T-test to see the differences in students' reading comprehension improvements between the classes. The t-value is 2.213 at the significant level of 0.032. The result shows that using Quizziz for assessment is practical for teachers and students, and innovative features in Quizziz provide students with a new exciting way of doing either exercise or assessment. There is a significant effect of using Quizziz as a tool for online formative assessment in students' reading comprehension scores, and students have an affirmative perception of Quizziz as an online formative assessment tool in reading comprehension.

**Keywords**: formative assessment, online application, quizziz, reading comprehension, perception.

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#### **CURRICULUM VITAE**

Anjeli Dahlena Putri, a second child of Ridwan and Misna Aini, she was born on October 8th, 2001. She has two siblings; an older brother named Renaldi Kumar Mahendra and a younger sister named Azzaira.

She started her study at SD Negeri 1 Gistang, Way Kanan. She participated in various non-academic activities at a young age, such as synopsis, calligraphy, choir, and badminton. After she graduated from elementary school in 2012, she continued her study at SMP Negeri 1 Kasui, Way Kanan. She joined a regency-level storytelling competition and managed to be the first winner. She graduated from junior high school in 2016. Then, she continued her study at SMA Negeri 1 Kasui, Way Kanan. She actively participated in English competitions, such as speech contests, syarhil Qur'an English, and English debating championships. She also became the chairman of PIK-R in SMAN 1 Kasui in her second year of Senior High School. She graduated in 2019. In the same year, she successfully passed the SMPBTN program and enrolled in the English Department at the University of Lampung.

During her study at the University of Lampung, she actively participated in students organizations, such as SEEDS (Society of English Education Department students), HMJPBS (Himpunan Mahasiswa Jurusan Pendidikan Bahasa dan Seni) and ESo (English Society Organization). She became the secretary of the Education Division of SEEDS in 2020. She became the vice president of HMJPBS in 2021. She also participated in numerous competitions, such as national storytelling competitions (ALSA-UI and OEC JIC), Storytelling Semarak Bulan Sastra (IMABSI), and short story-making contests (Literasi Bangsa and SBS). To complete her study, she undertook research related to *Quizziz* as a tool for online formative assessment in students' reading comprehension in the second grade of junior high school.

# **DEDICATION**

The writer dedicates this work to:

Her beloved parents – Ridwan and Misna Aini
Her superb brother – Renaldi Kumar Mahendra
Her zealous sister – Azzaira
Her generous teacher – Debora Merlin
Her Alma mater – University of Lampung
English Teachers

# **MOTTO**

"Cheer up. We are living in someone's dream."

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Bandar Lampung, June 19<sup>th</sup> 2023 The Author,

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#### I. INTRODUCTION

This chapter indicates some points as the prior information of the research consisting of background, research question, objectives, significance, the scope of the research, and definition of the term that will be used in this research.

#### 1.1 Background of The Research

Online Applications have been widely used as communication media among teachers, students, and parents since students should study through online learning due to the Covid-19 pandemic, as announced by the government on March 2020. Parents are required to provide some facilities such as smartphones and internet access. They also need to be aware of the technology used to ensure that their children can learn effectively. This condition causes parents and students to be more familiar with technology, especially online learning. However, in 2022, the cases of Covid-19 have decreased significantly, and vaccination in Indonesia has already been optimized so that online learning is no longer a necessity for schools.

On the other hand, teachers can still optimize the use of technology and internetbased activity because students must have been accustomed to technology associated with online applications, websites, and other internet things during the pandemic era. Smaldino et al. (2014) state that another medium for communication and interactivity, the cell phone, has become a great equalizer for all students regardless of their social and ethnic backgrounds. It also happens to students in Indonesia after the covid-19 pandemic. So, instead of returning to the traditional assessment method, teachers need to upgrade their assessment tools to create an engaging, exciting, and secure assessment for students.

Students need to be aware of their learning levels to ensure that they approach the learning task efficiently and understand the knowledge and skills they seek. This self-monitoring of one's learning helps ensure the achievement of successful inquiry and enables the learner to apply the skills in similar learning situations (Smaldino et al., 2014). Formative assessment is one of the assessments to help teachers and students monitor students learning progress.

Formative assessment is beneficial to improve the quality of students' learning. Based on Brown (2004, p.6), cited from Pitoyo et al. (2019), formative assessment is an evaluation of developing students' competencies and skills process in aid to enhance students' growth and progress of learning. Gilbert et al. (2011), cited from Jalani & Hashim (2020), state that online formative assessment tools have intensified the measurement of learner outcomes and made it possible for them to obtain immediate and direct feedback. Nevertheless, paper-based formative assessment in reading comprehension is less effective because students can exchange their answers with friends. Moreover, having exercises only on paper is less engaging and may cause anxiety.

Using online applications as the media can improve engagement in administering the assessment. Fakhruddin & Nurhidayat (2020) investigated that students' low level of motivation, lack of vocabulary, feeling of nervousness, and habit of doing exercises in a rush became the problems that the students faced in understanding the material in the exercises, especially when the researcher did no use any application. Furthermore, when it comes to Reading comprehension assessment, students will find some text that should be comprehended quickly. So they need assessment media that can support their comprehension and help them to overcome their problems while doing the assessment. Sutarsyah (2015) suggests that students' reading comprehension problems relate to vocabulary, sentence and rhetorical structures, and background knowledge.

Quizziz is one of the best Applications to support students in doing a formative assessment of Reading Comprehension because Quizziz provides innovative features. The features include instructor-paced lessons, student-paced lessons, a lesson editor where the teacher can create different question types to add images, video, and audio to teleport questions from other quizzes and lessons, options to customize where a teacher can set the level of competition and speed, and reports.

In administering the assessments, teachers should ensure that they can help all students improve their learning. According to Woolley (2011), successful readers are more efficient at gaining unfamiliar word meanings from texts. It is because they have a more excellent existing vocabulary, background knowledge,

and more experience using context clues. On the other hand, (Goerss et al., 1999 and Pressley, 1997) in Woolley (2011) state that less skilled readers are considered to have more difficulties in integrating the text information. *Quizziz*'s innovative features will help students be more integrated with the text information because the features can create a better impression. Furthermore, the teacher can monitor student's progress in learning the material and give feedback necessary for formative assessment.

An excellent formative assessment will give the teacher insightful information to improve the lesson. Loyd and Koenig (2008), cited from Zuhriyah & Pratolo (2020), state that the goal of formative assessment is to monitor students' learning, and it provides ongoing feedback that teachers can use. In line with Loyd & Koenig (2008), Zuhriyah & Pratolo (2020) argues that the assessment must be on plan, gradual, and ongoing to obtain an overview of students' development. Furthermore, Bonaccio & Reeve (2010), cited from Pitoyo et al. (2019), revealed that the individual feeling before or throughout a particular assessment is concerned with completing the examination, the risk, and fear of failing, and anything related to undesirable moments. Teachers must be creative and innovative in conducting formative assessments, especially in reading comprehension, so students can obtain desirable outputs.

Many factors can affect students' reading comprehension. According to Woolley (2011), reading comprehension outcomes may be affected by a lack of reader proficiency, problems within the text, and heavy task demands. Reader

proficiency is an internal factor that the teacher can improve through teaching with various techniques. However, problems within the text and heavy task demands are external factors that the teacher can overcome by using *Quizziz* in the assessment. The followings are findings that support this statement:

Quizziz offers features that will be beneficial to improve the quality of assessment. Haripriya (2022) states that Quizziz is a gamified student engagement platform that provides multiple features to make a classroom fun, interactive and engaging. In line with Haripriya, Tauhidah & Prayitno (2020) argues that Quizziz is an application that supports the implementation of daily online exercises, mid-term examination, and final examination. Daily exercises, mid-term examinations, and final examinations conducted online through Quizziz are very interesting for students because when working, students can see their scores and their friends' scores, so they are enthusiastic about answering questions correctly.

Quizziz is a game-based educational application that brings multi activities players to the classroom and makes it interactive and fun in the class (Sanga & Purba, 2019). In line with Sanga & Purba (2019), Zainuddin et al. (2020) state that innovative gamified e-quiz applications effectively evaluate students' learning performance, particularly as formative assessments after completing each topic.

Teachers need a tool to support students' reading comprehension in the assessment. Zhao (2019) states that students like the features of *Quizziz*,

especially the leaderboard, which shows the live ranking of their performance and motivates them to study. They agree that *Quizziz* helps them concentrate in class and reduces test anxiety. They prefer doing in-class exercises using *Quizziz* than on paper. Miller (2017) in Zhao (2019) found that the colorful interface, avatars, and music provide students with a similar experience to a game. After students answer each question, *Quizziz* will show pictures with memes to tell whether the answer is right or wrong. Supporting the previous arguments, Pitoyo et al. (2019) conclude in their research that students preferred to do the test with *Quizziz* because they could enjoy the test like playing a game.

Although numerous pieces of research describe the use of *Quizziz* in Assessment and examine students' perceptions, there are still very few researches exploring the use of *Quizziz* as a tool for online formative assessment in reading comprehension at secondary school. This research investigates the effect of the use of *Quizziz* as a tool for online formative assessment in students' reading comprehension.

#### 1.2 Problem Formulation

- 1. Is there any significant effect of using *Quizziz* as a tool for online formative assessment in students' reading comprehension scores?
- 2. What is students' perception of *Quizziz* as an online formative assessment tool in reading comprehension?

# 1.3 Objectives of The Research

- 1. To investigate the effect of using *Quizziz* as a tool for online formative assessment in students' reading comprehension scores.
- 2. To analyze students' perception of *Quizziz* as an online formative assessment tool in reading comprehension.

# 1.4 Significance of The Research

The significances of this research are formulated as follows:

- 1. Theoretically, the result of this research is expected to support and strengthen the previous research and it can be used as a reference for further research. Additionally, this research is expected to give another point of view to lecturers in the English Department about using *Quizziz* in language teaching and learning.
- Practically, the result of this research hopefully can give a new experience
  for students in doing practical reading comprehension assessment.
   Furthermore, teachers can provide an engaging online reading
  comprehension assessment.

# 1.5 Scope of The Research

The research is focused on investigating the effect of using *Quizziz* as a tool for online formative assessment in students' reading comprehension and analyzing students' perceptions of *Quizziz* as an online formative assessment tool in reading comprehension, precisely for students in the second grade of SMP N 2 Umpu Semenguk, Way Kanan, Lampung. The collected data will be analyzed using the relevant English teaching assessment and reading comprehension theory.

# 1.6 Definition of Key Terms

# 1. Quizziz

According to Zhao (2019), *Quizizz* is an educational application with game-based features. It can be accessed through www.*Quizizz*.com and by downloading the Application from Google Play Store.

#### 2. Assessment

Assessment is a process of gathering, analyzing, and interpreting information about students' learning progress.

#### 3. Formative Assessment

Formative assessment is an assessment that the teacher uses to monitor the in-process progress of the students throughout the course so that the teacher can adjust the lesson based on the individual student's needs and objectives.

# 4. Reading

Reading is the process of interpreting written language where the recognition can happen from minor parts to a whole or vice versa.

# 5. Reading Comprehension

Reading comprehension is an operational process that involves understanding written text, developing and interpreting meaning, and using meaning appropriate to the text type, purpose, and situation.

# 6. Perception

Perception is the way people see and judge something, leading to a decision whether they agree or disagree with it.

#### II. LITERATURE REVIEW

This chapter contains the following topics: previous research, main theories (defining the term of assessment, the importance of assessment, the theory of reading, reading comprehension, assessment of reading comprehension, The Theory of Perception, *Quizziz*, and *Quizziz* features), theoretical assumption, and hypothesis.

#### 2.1 Previous Research

Zainuddin et al. (2020), in the research with title The Role of Gamified E-quizzes on Student Learning and Engagement, examine the differences between three applications (The Socrative, *Quizizz*, and iSpring Learn LMS) that have similarities as gamified e-quiz application platforms. The research proves that the learning performance of Group 1 (Socrative) and Group 2 (*Quizizz*) participants were better than that of Group 3 (iSpring LMS) participants. The *Quizizz* group had the highest mean scores among the three groups in the assessments, recording the most improvement in all three quizzes, while the Socrative group came next. The study involved ninety-four Indonesian secondary school students from three different science classes aged between 15 to 16 years old. Six students were invited from each group to be interviewed on their learning experiences and perceived engagement in gamified learning instruction and gamified e-quizzes.

The findings show that students could be motivated to improve their learning performance through gamification instruction by engaging in exciting and fun

competitions. Students perceived *Quizizz* as having a positive impact on all types of learning engagement and motivation in class, and they felt that *Quizizz* enhanced learning performance through friendly competition. This enthusiasm and excitement also led students to greater engagement and, subsequently, to improved learning performance.

The interviewees said they had fun and enjoyed participating in a competitive activity. These positive feelings are considered emotional engagement. This finding also implies exciting activities in the *Quizizz* application, not only in scores, points, and leaderboards that cater to the spirit of competition but also a funny image or meme appearing after each correct or wrong answer makes the quiz more fun.

Zhao (2019), in his research; Using *Quizizz* to Integrate Fun Multiplayer Activity in the Accounting Classroom, examines students' perception of using *Quizizz* as an educational app in an introductory accounting classroom involving 130 participants, divided into three sections (first semester in 2017, second semester in 2017, and first semester in 2018). The finding proves that Students agree that *Quizizz* is easy to use; using *Quizizz* doing in-class exercises is fun, helps them review the course materials, and stimulates their interest in learning to account. They like the features of this app, especially the leaderboard, which shows the live ranking of their performance and motivates them to study. They agree that *Quizizz* helps them concentrate in class and reduces test anxiety. *Quizizz* is perceived to positively impact students' engagement and learning outcomes in an accounting

classroom. Generally, students' feedback is consistent in different semesters and class sizes.

Pitoyo et al. (2019), in the research with title Gamification Based Assessment: A Test Anxiety Reduction through Game Elements in *Quizizz*, investigate the category of students' test anxiety, students' attitudes toward *Quizizz*, and the students' preference toward the elements of the game in *Quizizz*. Pitoyo et al. (2019) suggest that *Quizizz* supports all devices, such as computers, smartphones, and tablets. It is also available for iOS, Chrome apps, and Android. Consequently, it is reachable in this era in which technology development is imposing.

The result shows that students still had anxiety when facing examinations or tests. *Quizizz* could reduce test anxiety among students. Hence most of the students were interested in doing a test because they could enjoy the test, and the highest mean score for the game elements is Points meaning that students prefer the Point element. Students prefer to do the test with *Quizizz* because they can enjoy it like playing a game. Furthermore, the game elements are essential in this context because they made the test look like a game with all the dynamics and mechanics of the gamification.

# 2.2 Defining Term of Assessment

Assessment is defined as obtaining information for making decisions about students; curricula, programs, schools; and educational policy (Nitko & Brookhart, 2014).

In line with Nitko & Brookhart, Janna Smith (2011) in Chappuis et al. (2014) states that assessment is not a singular noun referring to an individual test or task but an ongoing process interwoven with instruction.

Nattiello (1987), cited from (Wiliam, 2018), points out that assessments serve many different purposes in schools. Many studies showed that an assessment designed for selecting students (for example, by giving a grade) is not likely to improve student achievement as much as an assessment specifically designed to support learning.

According to Burke (2010), assessment is the process of gathering evidence of student learning to inform instructional decisions. Educators can use the evidence to support students' learning if the evidence is accurate and timely. Assessment consists of teachers' tools to collect information about student learning and instructional effectiveness. Teachers use tests, presentations, observations, and classwork to assess student learning. (Nitko & Brookhart, 2014) (Stivala et al., 2010) continue that proper assessment tools are concrete examples for students of what they are expected to do with their learning.

Although assessment, test, and evaluation often refer to the same terms, there is a distinction between them. Burke (2010) states that assessment is an ongoing daily process, whereas evaluation often occurs at the end of an assessment cycle. Furthermore, Nitko & Brookhart (2014) defines a test as an instrument or systematic procedure for observing and describing one or more characteristics of a student using either a numerical scale or a classification scheme. Evaluation is the

process of making a value judgment about the worth of a student's product or performance.

# 2.3 The Importance of Assessment

Teachers and schools can use formative assessment to identify student understanding, clarify what comes next in their learning, help teachers to improve instructional practice, help students measure their understanding, and build students' confidence. Stiggins & Dufour (2009) state that students' confidence can be improved through teacher feedback. Burke (2010) states that feedback is the heart and soul of formative assessment. In line with Burke, Black & Wiliam (2005) states that an assessment activity can help the learning process and modify the teaching and learning activities in which students are engaged if it provides information for feedback. The feedback can come from the teacher and their students assessing themselves and each other.

Tsagari et al. (2015) state that assessment involves collecting evidence and making judgments or forming opinions about learners' knowledge, skills, and educational abilities. So that by conducting a proper assessment, the teacher can improve the quality of learning in their class and modify the current activity to support the learning process. Furthermore, Andrade & Heritage (2018) argue that teachers must understand how student learning is developed to respond to their students' current learning status along the way to deeper learning, ensuring that students remain on track and achieve intended goals.

Suppose the instructional purpose of the assessment is formative. In that case, teachers will engage in an ongoing process involving giving students specific feedback and directions as they proceed toward the instructional goal (Burke, 2010). In line with Burke, Chappuis et al. (2014) state that the essential part of our classroom assessment job is to keep students in touch with their progress as learners in ways that keep them believing in themselves as learners so they will keep trying. Popham (2008) states that formative assessment is a way to improve the caliber of still underway instructional activities, and summative assessment is a way to determine the effectiveness. Furthermore, Burke (2010) states that the instructional purpose of a formative assessment is to provide feedback during the learning process.

# 2.5 Reading Comprehension

Most definitions of reading comprehension (Davey & Miller, 1990; Pulido & Hambrick, 2008) manifest that reading comprehension is an output of a reader's interaction with a text (Al-Jamal et al., 2013). Furthermore, (Baumann, 2009) suggests that reading reflects the communicative interactions among the author's intentions, the content of the text, the abilities and purposes of the reader, and the context/situation of the interaction.

The RAND report (2001) in Baumann (2009) defines comprehension as simultaneously extracting and constructing meaning through interaction and involvement with written language. Additionally, The NAEP (2009) in Baumann (2009) defines reading comprehension as an active and complex process that

involves understanding written text, developing and interpreting meaning, and using meaning as appropriate to the type of text, purpose, and situation.

Baumann (2009) states that the core function of literacy is understanding the meanings of printed words and texts, which is achieved through reading comprehension.

Comprehension is essential to make the reading activity more meaningful. Reading words is not only mimicking the sounds of language. Repeating text is memorization and oral drill, and writing letters and characters is not only copying. In addition, the study by Carrel (1987) in Sutarsyah (2015) shows that background knowledge plays a crucial role in reading comprehension because the readers' prior knowledge significantly influences reading comprehension more than the textual form.

# 2.4 Types of Assessment

Based on its instructional purpose, there are two types of assessments; formative and summative.

# **Formative Assessment**

The formative assessment uses evidence of student learning to make adjustments to a learning activity (Wiliam, 2010) in Andrade & Heritage (2018). Chappuis et al. (2014) suggest that formative assessment is the process teachers and students use to gather evidence to improve learning.

Ataya (2007) in Burke (2010) states that informal assessment techniques include conversations with students, class interactions, questioning, daily work, observation, interviews, conferences, and graphic organizers. Furthermore, the more formal techniques include quizzes, performance, and portfolio assessments. Additionally, Nitka (2004), cited from Jones et al. (2007), states that formative assessment techniques include conversations with students, class discussions, questioning during instruction, daily homework and classwork, teacher-made quizzes and tests, and student portfolios.

Teachers using formative assessment approaches and techniques are better prepared to meet diverse students' needs – through differentiation and adaptation of teaching to raise student achievement levels and achieve more significant equity of student outcomes (Black & Wiliam, 2005). Supporting Black & Wiliam's ideas, Burke (2010) argues that formative assessments are not graded but used instead as feedback to help students improve their work before the final summative evaluation.

Hattie and Timperley (2007), as cited in O'Connor (2009), found that the most significant benefits from feedback occurred when students received feedback related to how to do a task more effectively (Burke, 2010). Furthermore, Hattie and Timperley (2007) in Andrade & Heritage (2018) state that the model includes four types of feedback; task level (feedback about how well tasks are understood and performed), process level (feedback about the main processes needed to understand and perform tasks), self-regulation level (feedback about students' self-monitoring,

regulating, and directing of actions), and self-level (personal evaluations of the learner).

Feedback can come from various sources, including teachers, students, peers, and technology (Andrade & Heritage, 2018). Andrade & Heritage continue that revision is an important additional aspect of feedback that is often overlooked. Furthermore, feedback is most useful when it is followed by an opportunity for the teacher to adjust instruction and for students to revise and improve their work. Andrade & Heritage (2018) mention three critical principles of practice for practical formative assessment: assessment is integrated into the teaching and learning process, assessment evidence is used to move to learn forward, and assessment supports student self-regulation.

Formative assessment can be administered in through offline and online mediums. According to Sudakova et al. (2022), Online Formative Assessment (OFA) emerged due to the convergence of formative and computer-assisted assessment research so that this assessment utilizes technology to improve the quality and desirable output.

Formative assessment can occur many times in every lesson. It can involve several methods for encouraging students to express their thoughts and different ways of acting on such evidence (Black & Wiliam, 2005). McMillan (2004), cited from (Jones et al., 2007), argues that formative assessment is essential when the correct procedure is crucial to later success, when analysis of procedural steps can aid in

improving the final product, and when learning is at an early stage. According to Popham (2011), there are five potential applications of formative assessment as follows:

# 1. To make an immediate instructional adjustment

Using formative assessment to make an immediate instructional adjustment means the teacher gathers data, analyzes it, and decides whether or not to change instruction right then, in that class session, at that moment.

#### 2. To make a near-future instructional adjustment

Applying the formative assessment process to make a near-future instructional adjustment involves the teacher collecting assessment evidence of students' status relative to a longer-term instructional aim to inform decisions about what to do better or differently in the subsequent few class sessions.

#### 3. To make a last-chance instructional adjustment

Instructional time remains, and if the assessment evidence suggests that students are not at mastery or close to it, the teacher can provide additional or different instruction designed to get students back on track before the unit's scheduled conclusion and the unit's summative assessment.

# 4. To make a learning tactic adjustment

The fourth way that formative assessment can be used is to enable students to use assessment evidence to monitor their progress and decide whether they need to change how they are attempting to learn.

# 5. To promote a classroom climate shift

Popham (2008) states that a classroom climate shift is suitable to change a classroom's culture or its atmosphere. Popham continues that it calls for a

fundamental change in three dimensions of the classroom: learning expectations, responsibility for learning, and the perceived role of classroom assessment. Formative assessment can measure whether the classroom climate is appropriate to support students' learning. Additionally, Adelman & Taylor (2005) states that classroom climate is a significant determiner of classroom behavior and learning. Establishing and maintaining a positive classroom climate is seen as a basis for improving schools.

#### **Summative Assessment**

Summative assessments measure what students have learned at the end of a unit. This assessment can also help students to ensure they have met required standards on the way to earning certification for school completion or entering certain occupations or as a method for selecting students for entry into further education (Black & Wiliam, 2005). Furthermore, Chappuis et al. (2014) state that summative assessment is an assessment that provides evidence of student achievement to make a judgment about student competence or program effectiveness. In line with Chappuis et al., Andrade & Heritage (2018) points out that summative classroom assessment, including grading, is usually done by the teacher to certify and report learning.

The instructional purpose of a summative assessment is to make a final judgment at the end of the learning process (Burke, 2010). Burke continues that Summative assessment occurs when teachers evaluate a final product. It usually takes place at the end of a chapter, a unit of study, a benchmark period, a quarter, a course, a

semester, or an academic year. Nitko & Brookhart (2014) argue that summative assessment of students' achievement means judging the quality or worth of a student's achievement after completing the instructional process. Additionally, Jones et al. (2007) state that if teachers decide to evaluate the final product, they engage in summative assessment. Summative assessment documents student learning at the end of a unit of study, measuring learning outcomes.

# 2.6 The Theory of Reading

# **Bottom-up process**

Reading led to the implementation of automatic habit that influences the response to written text. Reading is a systematic decoding process that starts from translating the printed symbol through the eyes, recognizing letters, combining them to form words, and then combining the words to form phrases, clauses, and sentences of the text. These words are finally comprehended into speech (Sutarsyah, 2015). This view suggests that the recognition process in reading starts from small parts to the whole text.

#### **Top-down Process**

Sutarsyah (2015) defines reading, in this view, as an operational process between the reader and the text. Goodman (1971) in Sutarsyah (2015) states that reading is a "psycholinguistic guessing game" in which the reader regenerates the writer's message. The reader can use only some of the textual hints, and they are expected to make a correct prediction without using all of the contextual hints. The reader

works from whole to part in recognizing, understanding, and interpreting words and letters in the text. Prior knowledge has an essential role in this approach.

To summarize, Bottom-up processing is focused on decoding and understanding words. Top-down processing involves the integration of background knowledge with the text.

### **Interactive process**

Widdowson (1979), in Grabe (1992), states that concerning the concept, reading is a correlative activity of combining written information with the readers' prior knowledge. In this view, the reader initiates the scope of knowledge in his/her mind that may be refined and extended by the new information supplied in the text. Reading is a dialogue between the reader and the text (Sutarsyah, 2015).

Goodman (1992) in Sutarsyah (2015) states that reading starts with linguistics surface representation, encoded by a writer, and ends with meaning the reader constructs. Furthermore, Sutarsyah (2015) suggests that the interaction view is the most appropriate to deal with in identifying the reading process. Any reading strategy should be derived from this model.

## 2.7 Aspects of Reading

According to Nuttal (1982), there are five aspects of reading as follows:

1. Determining Main Idea

The main idea is the most significant knowledge about the concept of a paragraph that the author needs to remember. Determining the main idea is an ability to understand and discover a passage's main point by highlighting its passage and finding repetition of ideas/words. The critical concept binds all the sentences in the paragraph or article together.

#### 2. Finding the Specific Information or Part of The Text

Those include searching for the details relevant to the purpose in mind and dismissing the irrelevant ones. Specific information refers to the exact, reliable fact or definition of something stated in the text.

## 3. Finding References

References are the systematic use of one item to mean something else in the information must identify. Finding a reference means that another understands and defines one textual word.

#### 4. Finding Inference

A good guess or conclusion drawn on the grounds of the logic of the passage is inference. Finding an inference indicates that the reader recognizes and objectively concludes the sentences of passages.

#### 5. Understanding Vocabulary

Vocabulary is all the words that exist in all particular languages or subjects. In vocabulary, there are content and function words. Content words are usually nouns, verbs, adjectives, and sometimes adverbs. Function words are used to make our sentences grammatically correct, e. g; pronouns, determiners, prepositions, and auxiliary verbs.

#### 2.8 Assessment of Reading Comprehension

According to Guthrie et al. (2007) in Woolley (2011), reading comprehension is a complex interaction of language, sensory perception, memory, and motivational beliefs (Guthrie et al., 2007). A teacher needs a communicative and effective assessment tool to assess students' reading comprehension because it involves many aspects that should be assessed.

As stated by Eason & Cutting (2009), Keenan et al. (2008) in Carlson et al. (2014), reading comprehension assessments vary across many dimensions. The dimensions include response format (e.g., cloze, multiple-choice, open-ended), presentation format (e.g., paper-pencil and computer-based), and the components of reading comprehension measured (e.g., literal comprehension, inferential processes, main idea identification). The features in *Quizziz* support reading comprehension assessment in many dimensions so that the teacher can maximize the essence of reading comprehension assessment based on the dimension.

Cutting & Scarborough (2006) in Carlson et al. (2014) state that in designing an assessment, the developer must make decisions about each dimension, which requires careful consideration of the benefits and drawbacks of options under each dimension. The followings are characteristics of a typical dimension of assessment based on Carlson et al. (2014):

1. Multiple-choice tests are efficient for administrating in group settings and are familiar to readers; however, traditional multiple-choice tests require readers to choose only one correct choice, and choices are mainly distracters without

diagnostic meaning (Cutting & Scarborough, 2006). Additionally, multiple-choice questions are traditionally presented after an entire text, thus measuring the product of comprehension rather than the processes used to build a coherent representation of the text.

- 2. Open-ended questions allow readers to demonstrate comprehension processes used to build a coherent text representation; however, open-ended assessments such as think-aloud are time-consuming and difficult to score (e.g., Magliano et al., 2011).
- 3. Modified cloze tests, with only three options for the reader to select, are efficient to administer and score and have been demonstrated to provide a general indicator of reading proficiency (Deno, 1985; Espin & Foegen, 1996; Fuchs & Fuchs, 1992; and Wayman, Wallace, Wiley, Ticha, & Espin)

Carlson et al. (2014) state that an assessment is developed and evaluated to measure comprehension processes in the present study. The comprehension processes happen during online reading when the readers capitalize on the benefits of existing measures with efficient and familiar presentation formats. The processes also happen when the readers address the shortcomings of existing measures by identifying specific online reading comprehension processes and individual processing differences used to develop a coherent representation of a text.

#### 2.9 The Theory of Perception

Otter et al. (2013) in Ghadirian et al. (2017) described perception as a process of actions for acquiring information. That acquisition can stem from the environments to which students are exposed. In line with Ghadirian et al., (Démuth, 2013)

suggested that perception is a process of acquiring and processing information. (Démuth, 2013) states that some critical philosophers are convinced that what we call the world a set of various perceptions, feelings, and ideas. (Démuth, 2013) also defines perceptions as objects which form the world's content and diversity. However, the starting point and the source of any intellectual cognition will be the subject of our thoughts. Furthermore, Schmitz (2009) in Hidayati (2016) states that perception is the process of selecting, organizing, and interpreting information.

#### 2.9.1 Stages of Perception

According to Green et al. (2018), there are three stages of perception:

## 1. Sensory Stimulation and Selection

This stage is related to neurological receptors associated with sensory stimulation for processing information. The brain will determine which information will get attention and which will be ignored. This process will be influenced by the individual's needs, interests, expectations, and physiological limitations. People pay attention to things that fill their needs or requirement. In this case, the students need to know the answers to the test items. It stimulates them to find more clues indicating the answers to the test items. People pay more attention to those things they enjoy, meaning that interest also allows us to perceive more detail in those things we experience. Furthermore, people pay more attention to those things they believe they are supposed to experience. On the other hand, physiological limitations also affect an individual's perception because they refer to fundamental sensory limitations;

one or more of an individual's senses are limited regarding how well they will function.

#### 2. Organization

Organization is the stage of perception where there is a process of taking the information and putting it into some concept people can recognize. There are four variables affecting how people organize the information they get. The first factor is patterns that form pre-existing "templates" people use to order information. The second factor is proximity which refers to how people see one object concerning what is around it. The next factor is simplicity which refers to how people are driven to lower uncertainty and make sense of the world around them. People favor the most straightforward, least confusing perception of a person or event in lowering uncertainty. The last factor is closure which refers to the psychological drive for completeness where people are more comfortable perceiving a whole, complete picture than partial images that do not seem to make sense. As a result, people will fill in missing information to make the incomplete appear whole. Some people will take it as fact, not supposition, once they fill in the missing information. Finally, it will end up as a false reality.

#### 3. Interpretation

The interpretation stage is where people make sense of what they have experienced. People determine what it means to them. From the communication model, people know how their field of experience determines their interpreted input.

## 2.9.2 Types of Perception

According to Irwanto (2002) in Rezkika & Tanau (2018), there are two kinds of perceptions: positive and negative. Positive perception projects all insights and responses that continue with the effort to use it, which is accepting and supporting the perceived object. On the other hand, negative perception is a perception that projects all insight and responses that are perceived as not suitable with the object, and it will proceed with rejection. Thus, perception can be positive or negative depending on individuals' point of view and their knowledge about an object that is perceived.

#### 2.9.3 Factors of Perception

Walgito (2004:75), in Hidayati (2016), suggests that two factors affect one's perception.

#### **Internal factors**

Internal factors come from an individual related to the psychological factor, such as thoughts, feeling, willingness, needs, sex, motivation, and attention. Additionally, individuals' family environments highly influence their characteristics and temperaments. According to Langton et al. (2015), a perception that was caused by internal factors are believed to be under personal control of the individual or have been done purposively by the person. Perceptions that are highly influenced by the internal factors tend to be similar across variety of situations.

#### **External factors**

External factors come from outside an individual, influenced by the environment that is processed through the sense organ or receptor, such as sight, sounds, and hearing. The individual's sense organ links the individual and the object in the surrounding. According to Langton et al. (2015), a perception that was caused by external factors is the result from outside causes, that is the person have a particular perception by the influence of the situation. External factors that have a high influence can make people in the same group to have similar perceptions on the same thing.

#### 2.10 Quizziz

Quizizz is one of the online applications used in the learning process. Quizizz application is a web tool accessed through www.Quizizz.com, which has superior characteristics over other online learning media (Zhao, 2019). Furthermore, Ju & Adam (2018), cited from Dewi (2021), argues that Quizizz is a web appraisal instrument as a fun multiplayer classroom action that allows all students to practice beside their gadgets.

Quizziz is a customizable online learning platform that enables teachers to give direct feedback through distance. Wiliam (2011) & Scherer (2016), cited from Rahayu & Purnawarman (2019), formulated the factors that affect whether the feedback is effective in terms of constructive, timely, action-oriented feedback. Learners learn twice as fast when they gain constructive feedback, such as specific comments on errors, suggestions to the students about improving, and at least one

positive remark. By using *Quizziz*, teachers can give feedback and revision to support students learning although they are not in the classroom.

#### 2.10.1 Quizizz features

Haripriya (2022), on *the Quizziz* help center, states that a teacher can create lessons, conduct formative assessments, assign homework, and interact with students (for all grades) in a captivating way. *Quizziz* offers innovative features to support formative assessment as follows:

- Instructor-paced Lessons/Quizzes: Teachers control the pace; the whole class goes through each question together.
- 2. Student-paced Lessons/Quizzes: Students progress at their own pace and can see a leaderboard and live results for each question or lesson.
- 3. Bring Your Own Device (BYOD): Students always see the content on their own devices, PCs, laptops, tablets, and smartphones.
- 4. Access to millions of Quizzes: Import any public quiz as-is, edit and customize them.
- 5. Quiz + lesson) Editor: Choose from 6 different question types to add images, video, and audio to teleport questions from other quizzes and lessons.
- 6. Reports: Get detailed class-level and student-level insights for every quiz. Share with parents/guardians to monitor student progress. Black et al. (2003) point out that almost all the teachers mentioned some form of self-assessment in their plans. They use red, amber, or green 'traffic lights' to indicate the student's perception of the extent to which a topic or lesson had been understood, to strategies that encouraged self-assessment via targets that placed responsibility on students.

- 7. Options to Customize: Options to customize the quiz sessions to toggle the level of competition and speed.
- 8. Sharing & Collaboration: Share the quiz with other instructors and/or ask them to be collaborators.

## 2.11 Theoretical Assumption

The theory that will be used in this research is the gamification-based assessment theory. It was developed by Goksün & Gürsoy (2019) and Landers & Callan (2011). The theory was used to study the differences in learners' performance and perceived engagement using traditional instruction with paper-based quizzes and gamified instruction with gamified e-quizzes as formative assessments. It was also used to investigate students' attitudes toward *Quizizz* and their preference toward the elements of the game in *Quizizz*.

Those theories indicate that the use of *Quizziz* had a positive effect on students' performance. Gamification offers great potential for improving learning because it takes the motivational properties of games and layers them on top of other learning activities, integrating the human desire to communicate and share the accomplishment with goal-setting to direct the attention of learners and motivate them to action. As applied to this research, this theory holds that the researcher would expect using *Quizziz* as a tool for online formative assessment to positively affect students' reading comprehension because *Quizziz* creates an opportunity for students to experience an exciting activity during the learning process. Students receive immediate feedback about their achievements, which benefits their learning

development. Furthermore, using elements associated with the game for educational purposes can create more learning engagement.

# 2.12 Hypothesis

H<sub>1</sub>: - There is a significant effect of using *Quizziz* as a tool for online formative assessment in students' reading comprehension scores.

#### III. METHODOLOGY

This chapter discusses the research method, which consists of research design, population and sample, data collecting technique, research instruments, research procedure, scoring criteria, validity, Reliability, data analysis, data treatment, and hypothesis testing.

## 3.1 Research Design

This research was conducted through quantitative research. According to Daniel (2004), quantitative research is about collecting numerical data to explain a particular phenomenon. Furthermore, Aliaga and Gunders (2002) in Daniel (2004) state that Quantitative research explains phenomena by collecting numerical data that are analyzed using mathematically based methods (in particular statistics). The research design is control group pretest-post-test design. The researcher used two classes in total, one as the control group and another as the experimental group. The design was used to see the effect of using *Quizziz* as a tool for online formative assessment in students' reading comprehension scores by comparing the result in the pre-test and post-test of both groups.

According to Setiyadi (2013), the research design is represented as follows.

K1 T1 X T2

**K2 T1 O T2** 

#### Notes:

- K1 refers to the experimental group.
- K2 refers to the control group.
- T1 refers to the pre-test that was given before the researcher implements

  Quizziz as a tool for online formative assessment in reading

  comprehension to measure the students' competencies before they get the

  treatment.
- X refers to the treatments by using Quizziz as a tool for online formative
  assessment in reading comprehension. Students did the formative test in
  Quizziz and get direct written feedback.
- O refers to students' regular treatment which is doing paper-based reading comprehension assessments in class without direct feedback.
- T2 refers to the post-test given after using *Quizziz* as a tool for online formative assessment in reading comprehension and to measure how far the students improved after getting the treatment.

#### 3.2 Population and Sample

The population of this research was the second-grade students in the second semester of SMP N 2 Umpu Semenguk Way Kanan in the academic year 2022/2023. The second-grade in the school consists of three classes. The samples of this research were two classes that were randomly selected using cluster sampling. Each class consisted of 23 students, so there were 46 students as the sample of this research. All the classes of the second grade got the probability to be the sample.

#### 3.3 Research Instruments

The instruments for this research were pre-test, post-test, and questionnaire. The pre-test and post-test were in the form of a paper-based test. Both pre-test and post-test consisted of 30 multiple-choice questions. There were eight recount texts in the test. The pre-test was given at the beginning of the term before the students got the treatments, and they got the post-test at the end of the term after they got the treatments. Additionally, the researcher distributed the questionnaire at the end of the research. The questionnaire consisted of 15 close-ended questions which was adapted from Zhao (2019).

#### 3.4 Data Collecting Technique

This research is intended to gain data in students' reading comprehension scores after being assessed through *Quizziz* and their perception of *Quizziz* as an online formative assessment tool in reading comprehension. The data was gained from the following:

#### 1. Pre-test

The pre-test was conducted before the researcher gave the treatment to the students. It was to see the students' reading comprehension before assessment through *Quizziz* was given as the treatment. The pre-test was in the form of a reading test.

#### 2. Post-test

The post-test was conducted after the students did the reading comprehension assessment through *Quizziz* to see the students' improvement after the treatments were given in the previous meetings. The post-test was in the form of a reading test.

#### 3. Questionnaire

Additional data were obtained and analyzed from the closed-ended

questionnaire to see the students' perception of *Quizziz* as an online formative assessment tool in reading comprehension. The questionnaire was adapted from (Zhao, 2019).

## 3.5 Validity and Reliability of The Test Items

According to Setiyadi (2013), validity generally means that the data can be trusted. To ensure the validity of this research, the researcher saw content validity and construct validity.

### 3.5.1 Content Validity

In the content validity of the assessment, all items of the assessment represented the linguistics features of basic competence in the chapter being taught that are suitable for the curriculum. As stated by Setiyadi (2013), all indicator items should represent the learning material that will be measured to fulfill the content validity. The researcher developed the assessment based on the objectives in the syllabus of the second-grade students at SMP N 2 Umpu Semenguk Way Kanan. The topics are the representative of reading materials in the 2013 English curriculum.

#### 3.5.2 Construct validity

In construct validity, it is essential to measure that the assessments are related to the topic being taught. According to Setiyadi (2013), all indicator items should have positive correlation to fulfill the construct validity. There are five skills of reading to be measured in this research. The researcher administered multiple-choice questions consisting of 30 test items to get construct validity. The questions support reading comprehension skills, including the main idea, details, references, and inference. The specification of the pre-test and post-test is presented in the following table.

Table 1. Table of Specification of The Pre-test and Post-test

			Pre-test	Post-test	
No.	Aspects	Number of Items	Item Numbers	Item Numbers	
1.	Main Idea	6	1, 6, 13, 18, 21, 25	1, 4, 10, 14, 19, 24	
2.	Specific Information	6	2, 7, 9, 14, 19, 28	2, 7, 15, 20, 25, 27	
3.	Reference	6	3, 8, 10, 15, 22, 29	8, 11, 16, 21, 26, 28	
4.	Inference	6	4, 11, 16, 23, 26, 30	5, 9, 12, 17, 22, 29,	
5.	Vocabulary	6	5, 12, 17, 20, 24, 27	3, 6, 13, 18, 23, 30	
Total		30	30	30	

### 3.5.3 Reliability

Reliability is the consistency of how far measurements can be measured for similar subjects at different times but shows the same result (Setiyadi, 2013). In this research, the researchers used split-half reliability. The researcher divided the test items into odd and even numbers. By comparing the test results, the researcher could see how far the test gave the same result or was stable in measuring the students' competency. The following is the formula of split half method:

$$\mathbf{r}_{xy} = \frac{\mathbf{n}(\sum \mathbf{x}\mathbf{y}) - (\sum \mathbf{x})(\sum \mathbf{y})}{\sqrt{[\mathbf{n}(\sum \mathbf{x}^2) - (\sum \mathbf{x})^2] - [\mathbf{n}(\sum \mathbf{y}^2) - (\sum \mathbf{y})^2]}}$$

Notes:

 $\mathbf{r}_{xy}$  refers to the coefficient of reliability between odd and even number items

**n** refers to the total numbers of students

x refers to the total numbers of the odd number

y refers to the total numbers of the even number

 $\sum x^2$  refers to the total score numbers of the odd number items

 $\sum y^2$  refers to the total score numbers of the even number items

 $\sum xy$  refers to the total score numbers of the odd and even number items

## 3.5.3.1 Reliability of Half Test

The following table is the data that the researcher collected from the try-out test.

	Odd	Even			
Subject (n)	X	y	x <sup>2</sup>	$\mathbf{y}^2$	ху
1.	10	5	100	25	50
2.	10	7	100	49	70
3.	15	10	169	100	150
4.	13	11	169	121	143
5.	7	9	49	81	63
6.	16	7	256	49	112
7.	11	9	121	81	99
8.	10	8	100	64	80
9.	15	10	225	100	150
10.	14	14	196	196	196
11.	13	12	169	144	156
12.	16	14	256	196	224
13.	10	7	100	49	70
14.	14	14	196	196	196
15.	15	15	225	225	225
16.	10	13	100	169	130
17.	8	8	64	64	64
18.	15	12	225	144	180
19.	10	10	100	100	100
20.	14	14	196	196	196
21.	11	7	121	49	77
22.	12	10	144	100	120
23.	14	13	196	169	182
24.	8	6	64	36	48
Total (∑)	291	245	3641	2703	3081

$$\begin{split} \mathbf{r}_{xy} &= \frac{\mathbf{n}(\sum \mathbf{x}\mathbf{y}) - (\sum \mathbf{x})(\sum \mathbf{y})}{\sqrt{[\mathbf{n}(\sum \mathbf{x}^2) - (\sum \mathbf{x})^2][\mathbf{n}(\sum \mathbf{y}^2) - (\sum \mathbf{y})^2]}} \\ \mathbf{r}_{xy} &= \frac{24(3081) - (291)(245)}{\sqrt{[24(3641) - (291)^2][24(2703) - (245)^2]}} \\ \mathbf{r}_{xy} &= \frac{73.944 - 71.295}{\sqrt{(87.384 - 84.681)(64.872 - 60.025)}} \end{split}$$

$$\mathbf{r}_{xy} = \frac{2.649}{\sqrt{(2.703)(4.847)}}$$

$$\mathbf{r}_{xy} = \frac{2.649}{\sqrt{13.101.441}}$$

$$r_{xy} = \frac{2.649}{3.619.6}$$

$$r_{xy} = \frac{2.649}{3.619.6}$$

$$r_{xy} = 0.73$$

After obtaining the reliability of half test, the researcher used the Spearman-

Brown Prophecy formula to ensure the reliability. The formula is as follows:

$$\mathbf{r}_k = \frac{2\mathbf{r}\mathbf{x}\mathbf{y}}{1 + r\mathbf{x}\mathbf{y}}$$

Notes:

 $\mathbf{r}_{k}$ : the reliability of the test

 $\mathbf{r}_{xy}$ : the reliability of half test

The criteria of reliability are:

0.90-1.00 : high

0.50-0.89 : moderate

0.00-0.49 : low

## 3.5.3.1 Reliability of Whole Test

$$\mathbf{r}_k = \frac{2 \mathbf{r} \mathbf{x} \mathbf{y}}{1 + r \mathbf{x} \mathbf{y}}$$

$$\mathbf{r}_k = \frac{2(0.73)}{1 + 0.73}$$

$$r_k = \frac{1.46}{1.73}$$

 $r_k = 0.84$  (Moderate)

#### 3.6 Validity of The Questionnaire

## 3.6.1 Content Validity

In the content validity of the questionnaire, all items represent students' perceptions of *Quizziz* as an online formative assessment tool in reading comprehension. To investigate students' perceptions, the researcher provided a questionnaire that can optimally represent students' points of view.

#### 3.6.2 Construct validity

The researcher used a close-ended questionnaire to get the construct validity. The questionnaire consisted of 15 questions. Close-ended questionnaires was provided in the form of Thurstone Scales. The questions were developed by considering the students' experience in doing assessments through *Quizziz*, the advantages and the disadvantages of *Quizziz*, and students' preference for *Quizziz* features.

#### `

#### 3.7 Research Procedures

The procedure of the research is as follows:

## 1. Identifying the Issue

This research was aroused from the issue during the observation and teaching-learning process, namely while teaching and learning English as a foreign language. Due to a lack of feedback during the exercise, students were less likely to know their mistakes and weaknesses on the topic.

#### 2. Determining the Population and Selecting the Sample

The researcher determined the population by choosing one of the schools to be the place for the researcher to collect the data. The researcher chose SMPN 2 Umpu Semenguk Way Kanan as the school. The population was all second-grade students in the academic year of 2022/2023, and the sample was two of the three classes which was selected using cluster sampling.

#### 3. Preparing the Materials

After the population was determined and the sample was selected, the researcher prepared the materials for the assessment based on the course objectives in the syllabus of the first-grade students at SMP N 2 Umpu Semenguk Way Kanan to fit the validity. The researcher modified some examples of recount text from internet sources.

## 4. Giving A Pre-Test

The research gave the pre-test to measure students' reading comprehension before they were given the treatment. The pre-test was conducted in the form of a reading test.

#### 5. Socializing *Quizziz*

The researcher showed students the procedure of operating *Quizziz* in the treatments afterward. The researcher explained each step so the student could do the assessment effectively.

#### 6. Conducting Treatments

After the researcher gave the pre-test to the experimental and control group students, they were given treatments by doing formative assessments through *Quizziz*. Each treatment was conducted based on the time allocation in the syllabus of second-grade students at SMP N 2 Umpu Semenguk. The treatments were conducted in three meetings. The students got a formative assessment after each lesson in those meetings. After the students got the

treatments, they were given a post-test to evaluate their reading comprehension.

## 7. Giving A Post-Test

The researcher gave the post-test to see the improvement in students' reading comprehension. The post-test was conducted in the form of a reading test.

## 8. Distributing Questionnaire

The questionnaire was distributed by sharing the list of Questions to investigate students' perceptions of *Quizziz* as an online formative assessment tool in reading comprehension.

## 9. Analyzing the Data

After the researcher scored the pre-test and post-test, the data was analyzed using SPSS. Furthermore, the researcher analyzed the responses to the questionnaire and conclude with descriptions to explain the data by interpreting statements.

#### 3.8 Data Analysis

The data in this research are from pre-test and post-test of reading comprehension score and questionnaire. In order to get the results of this research, the researcher analyzed the data by using the following steps:

- 1. Scoring the students' reading worksheets for the pre-test and the post-test.
- 2. Putting the scores from students' worksheets into a table in the appendix
- 3. Finding the mean of the pre-test and post-test from the experimental and control groups by using the following formula:

$$Md = \frac{\sum d}{N}$$

Notes:

Md refers to mean

 $\sum$ **d** refers to the total score of students

N refers to the total numbers of students

4. Collecting students' responses to the questionnaire.

Close-ended questionnaire was provided in the form of Thurstone Scales with the following format:

	Responses				
Statements	Strongly Agree	Agree	Neutral	Disagree	Strongly disagree

5. Concluding answer for the research questions. It was developed from statistical computerization, the Independent Samples T-test in SPSS, and students' responses to the questionnaire.

#### V. CONCLUSION AND SUGGESTIONS

This chapter presents the conclusions and suggestions for English teachers who want to try the implementation of *Quizziz* as a tool for online formative assessment of students' reading comprehension and other researchers who want to conduct similar research.

#### 5.1 Conclusion

Based on the data analysis and discussion of the research findings, the researcher comes to the following conclusion:

- 1. There is a significant effect of using Quizziz as a tool for online formative assessment in students' reading comprehension scores. It can be seen from the t-values of pair 1 (5.959) and pair 2 (2.213) in Paired Samples T-tests at the significant level of 0.000 (pair 1) and 0.030 (pair 2). Furthermore, the t-value in Independent Samples T-tests is 2.213 at the significant level of 0.032. It is also supported by the students' gain scores in the experimental class, which is higher than in the control class (17.39>6.38). It can be concluded that using Quizziz as a tool for online formative assessment of reading comprehension can help students improve their reading comprehension.
- 2. Students have an affirmative perception of Quizziz as an online formative assessment tool in reading comprehension, which means they support the use of Quizziz in this research. It can be seen from the frequency and

percentage of the response to the questionnaire. More than 70% of students agree with the statements in the questionnaire that represent their experience in doing the assessment, the advantages, and the favorite features of Quizziz. On the other hand, the students also agree that an internet connection is important for the online assessment through Quizziz.

## **5.2 Suggestions**

Referring to the conclusion above, the researcher would like to recommend some suggestions as follows:

#### **5.2.1 Suggestions for English Teachers**

- 1. English teachers are recommended to use *Quizziz* as an alternative way to conduct reading comprehension assessment because it can make the assessment more efficient and beneficial for both teachers and students.
- 2. English teachers can use *Quizziz* for other types of texts like simple procedure, narrative, and descriptive text.
- Teachers should ensure that the internet connection is good before conducting the assessment and that the students can use the application properly.

#### **5.2.2** Suggestion for Further Research

Based on the data analysis and conclusion, the following are suggestions for future research:

1. Further researchers should ensure that the students understand all the features used in *Quizziz* before implementing the use of it.

- 2. Further researchers may conduct other research using *Quizziz* on a higher level of education because they may have a better understanding in using the application. This research will be best applied in the school that provides devices and internet for the students to access *Quizziz*.
- 3. Further researchers can apply the use of *Quizziz* as a tool for online formative assessment in other English skills that are suitable in this application, such as grammar and listening.

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