The Effect of Prodigy towards Junior High School Students' Grammar Competence

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Abstrak

Tujuan dari penelitian ini adalah untuk mengetahui apakah Prodigy, sebagai media pembelajaran Bahasa Inggris digital, memiliki pengaruh signifikan terhadap kompetensi *grammar* siswa Sekolah Menengah Pertama (SMP). Prodigy adalah aplikasi pembelajaran digital yang baru saja meluncurkan fitur pembelajaran Bahasa Inggris dalam versi web pada tahun 2022. Desain penelitian ini adalah kuantitatif dengan metode eksperimental. Subjek dalam penelitian ini adalah siswa kelas 8 SMP. Terdapat dua kelas dalam penelitian ini yang masing-masing kelas terdiri dari 35 siswa. Satu kelas bertindak sebagai kelompok eksperimental dan kelas yang lain sebagai kelompok kontrol. Penelitian ini bertempat di sebuah SMP di Jawa Timur. Data penelitian dikumpulkan menggunakan instrumen *Pre-Test* dan *Post-Test*. Hasil penelitian menunjukkan bahwa penerapan Prodigy sebagai media pembelajaran Bahasa Inggris digital memiliki pengaruh yang signifikan terhadap kompetensi *grammar* siswa. Peneliti menganalisis nilai *Pre*-Test, yang menunjukkan tidak ada perbedaan signifikan terhadap siswa dan dianggap bahwa kedua kelas memiliki kemampuan yang sama dalam kompetensi *grammar*. Kemudian, untuk mengetahui apakah ada perbedaan signifikan terhadap kompetensi *grammar* siswa setelah diterapkan Prodigy, perlakuan sebanyak lima kali pertemuan diberlakukan terhadap kelompok eksperimental dalam penelitian ini. Siswa bermain Prodigy dengan bimbingan peneliti. Setelah perlakuan, *Post-Test* diberikan kepada kedua kelas. Selanjutnya, nilai *Post-Test* dianalisis. Berdasarkan panduan uji non-parametrik, hasil analisis menunjukkan bahwa terdapat pengaruh signifikan secara statistik. Dengan begitu dapat disimpulkan bahwa Prodigy, sebagai media pembelajaran Bahasa Inggris digital, mampu membantu siswa untuk meningkatkan kompetensi *grammar* mereka, khususnya *present* dan *past tense.*
Kata Kunci: Grammar, Media Pembelajaran Digital, Prodigy, Mengajar dan Belajar

Abstract

The study aimed to know whether Prodigy, an English digital learning media, has significant effect towards junior high school students' grammar competence. Prodigy is a digital learning application which has just launched its English learning feature in 2022. Design of the study was quantitative with experimental research method. Subject of the study were the eighth graders of junior high school. There were two classes, in which each class had 35 students. The first class was the experimental group and the second class was the control group. The study was conducted in a public junior high school in East Java. Data of the study was gathered using instruments, Pre-Test and Post-Test. The result of the study showed that the implementation of Prodigy as a digital English learning media has significant effect towards students' grammar competence. The researcher analysed the pre-test score. It showed that there is no significant difference between students of both classes and they had equal ability in grammar competence. Furthermore, in order to know the significant difference towards students' grammar competence after the implementation of Prodigy, a treatment was given to the experimental group. The treatment was conducted in five meetings. Students played Prodigy with the guidance of the researcher. After the treatment was completed, post-test was administered to both groups. Ultimately, post-test score was analysed. Based on the non-parametric guide, the result was considered to be statistically significant. In conclusion, Prodigy, as an English digital learning media, was able to help students to improve students' grammar competence, especially present and past tense.
Keywords: Grammar, Digital Learning Media, Prodigy, Teaching and Learning

INTRODUCTION

Digital media paves the way to the innovative and creative learning activities. Explicit knowledge, such as books and manuals, become more easily and rapidly acceded through digital media than the traditional one (Wikramanayake, 2005). The media also has integrated with the students' life. Mobile phone, personal computer, and laptop become common things to have nowadays. The binary code system could provide various software and digital platforms, for instance game and social media. 'Digital Natives', a term used nowadays to call a generation who is born in a world where technology grows massively (Prensky, 1992). They

comprehend well the digital language of internet, video games, and computers rather than the prior generations (Bennett et al., 2008). (Prensky, 1992) also stated that learning through digital games is a one good method to reach the digital natives. The digital natives of learners tend to have better access of knowledge (Keengwe & Georgina, 2013). Tootell stated that through implementing technology, educators have more chance to closely connect with learners. In terms of English learning activity, technology really supports learner to learn English easily. Various sources are available on the internet. The massive development of powerful internet lets educators and learners know the latest trends of the global world (Sarica & Cavus, 2009). Online dictionaries, authentic materials video from natives, and even real-time chat are easily accessed through smartphones. Moreover, grammar learning is also supported by digital platforms.

The popularity of mobile device as the alternative learning aid has increased nowadays (Badroeni et al., 2020). The previous studies had studied grammar learning applications, which were Duolingo, Memrise, Busuu Tenses Master, Learning English Grammar, and Johnny's Grammar Word Challenge. (Tiara et al., 2021) and (Aulia et al., 2020) elaborated how students' perception about the use of Duolingo to support their vocabulary learning. The result was Duolingo becomes an effective and exciting English Learning application to enhance students' vocabulary acquisition. (Nuralisah & Kareviati, 2020) revealed that students' vocabulary test score was increased after the researchers implemented Memrise in their English learning activity. Furthermore, a study by (Rosell-Aguilar, 2018) sought to Busuu users' responses and expectation of the application. The result showed that Busuu supports them to master the language skills, especially the vocabulary mastering. Another application was Tenses Master. (Badroeni et al., 2020) had conducted a study which sought to whether there is an improvement of students' high school grammar competence using Tenses Master. The result revealed that students' learning achievement in grammar is improved. Moreover, an application called Learning English Grammar had studied by (Gamlo, 2019). The result showed that students were satisfied and had positive attitude towards the application. Their grammar competence was also improved. In addition, based on the research conducted by (Inayati & Damayanti, 2016), the application was able to improve junior high school students' grammar competence. They showed positive response and enjoyed to learn grammar using Johnny Grammar's Word Challenge.

However, the applications above do not have virtual world which is like we usually see in an online game, in this case, Role Play Game (RPG). One of the applications that has the virtual world feature is Prodigy (Figure 1).

Figure 1
Virtual World Advanture

Prodigy is a free digital learning platform. The mobile application can be downloaded from Google Play Store. In 2022, Prodigy launched a new feature, which help students to practice English, on its web. Through the game-based learning that Prodigy provides, students may find learning English is as fun as playing game. In Prodigy, students have to build their own village by collecting items. They need energies to collect and build houses; therefore, questions are provided during the gameplay.

The researcher tried to play the English feature of Prodigy. The result was Prodigy has an interactive game display and storyline which is potential to be the learning media for students, especially junior high school students in Indonesia, to comprehend grammar in a fun way. The researcher chose grammar to be the language component that was studied in the research because Prodigy provides materials which support writing and reading skill. The material for instance, tenses, modals, finding the main topic of a story, and others. The underlying reason for conducting the study in junior high school was the game display and the grammar material were suitable for them. Elementary students would face difficulties to follow the material because they had not studied about it yet. In addition, the colourful game display, kids' avatar, and slow-pace mode in Prodigy were not suitable for senior high school students. Even though Prodigy had similar features to the other applications, it had different feature. In Prodigy, while students are learning English by answering questions to gain energy, they can explore the virtual world freely, build houses, and craft things. This study was similar to the previous study, which aims to know the effect of digital learning media towards students' grammar competence. Nevertheless, Prodigy had different feature to other applications mentioned before. It was virtual world exploration in which students enjoyed every material provided inside Prodigy. This game display and interactive storyline give new experiences to students. Therefore, through this different feature, the aim of this study is to know the effect of Prodigy towards students' grammar competence, especially junior high school

students. The research question was formulated as "Does the use of Prodigy have effect on junior high school students' grammar competence?"

METHODS

The researcher used quantitative method with experimental research design. According to (Ary et al., 2014), experimental research is methodical study in which the researcher uses one or more independent variables and observes one or more dependent variables which are related to the independent variable's manipulation. The experimental research design that was conducted in the study is Quasi-Experimental Design, which was Non-equivalent Control Group. There were two groups, an experimental and a control group. The researcher gave a treatment using Prodigy to the experimental group, meanwhile the control group got no treatment. A pre-test was administered to the groups in order to know students' grammar competence and to make sure that the two groups are equal. Then, a treatment was given to the experimental groups in five meetings. After the treatment, the researcher administered a post-test for both groups to measure whether the use of Prodigy affects their grammar competence or not.

The research was conducted in a public junior high school in East Java. The population of the research was all the eighth graders of a public junior high school in East Java. The total class of the eighth grades was 9 classes; and the total students were 313 students. The researcher took two classes, which were 8A and 8C, as the research sample. The students had studied present and past tense. They were allowed to use mobile phone during the learning process with the guidance of the teacher; and they had internet access. The experimental group was 8A and the control group was 8C. There were 35 students in each group. The underlying reason for choosing 8A and 8C as the sample was because the researcher had discussed the class selection with the vice principal of the school. The result was he asked an English teacher to be the researcher's supervisor during the research. The English teacher taught 8A and 8C class; and he recommended the researcher to do the research in those classes.

Pre-test was administered as the measurement of the dependent variable before the treatment. It was paper-based test and was conducted in the first meeting. The test aimed to know students' grammar competence. In the study, the researcher gave test sheets, which contain 20 multiple-choice questions about simple present tense and past tense, to students. The test questions were adapted from Oxford Basic Grammar Practice Test. The students had 30 minutes to do the test. Then, treatments were given to the experimental group. Meanwhile, the control group was taught the material based on the room teachers' lesson

plan, which contained also present tense and past tense materials. In the second meeting, the researcher introduced Prodigy to experimental group and explained to them about what Prodigy is, especially the English learning features. In the third meeting, students played and explored the game. In this meeting, the researcher asked students to write down the questions appeared on the game. Students also wrote their answers. The purpose was to make students remember what questions they have answered. Later on, the researcher guided students to know whether they give the right answer or not. The researcher explained the answers to them. The treatment in the third meeting was applied until the sixth meeting. Afterwards, post-test was administered to both groups. The test was conducted in the seventh meeting of the treatment. The procedure of conducting post-test was the same as pre-test. The post-test questions were similar to pre-test.

The researcher analysed the data to find out the answer of the research question. As the data was not normally distributed, the researcher used Mann-Whitney U Test to analyse the data. The data will be computed using IBM SPSS 25 for Windows. The stages are as follows: (1) Organizing students' score of pre-test and post-test, (2) Coding, which was classifying data based on the students' group, (3) Assessing normality using *Shapiro-wilk* normality test, (4) Determining the overall significance, (5) Computing a Mann-Whitney U Test to compare median values of the pre-test, (6) Computing a Mann-Whitney U Test to compare mean values of the post-test for both groups, (7) Calculating the eta-squared, and (8) Presenting the result in form of a table.

RESULTS AND DISCUSSION

The purpose of this section is to reveal the data collected and to interpret findings of the research that was conducted on the eighth graders at public junior high school in East Java. The researcher presents the result of test scores of experimental and control groups; and elaborates the discussion.

After conducting the stages of data analysing, it can be concluded that the implementation of Prodigy as students' English digital learning media has effect on students' grammar competence. The researcher elaborates the analysis process below.

As the participant in each group were less than 50 students, the researcher assessed normality of the data using Shapiro-Wilk normality test. The table below shows the test output:

Table 1

Normality Test

Class	Shapiro-Wilk[a]	
	df	Sig.
Pre-Test Experimental Group	35	.503
Post-Test Experimental Group	35	.001
Pre-Test Control Group	35	.014
Post-Test Control Group	35	.456

Table 1 shows the result of normality test. The interpretation of the table was based on (Pallant, 2020). Sig. value more than .05 indicates normality meanwhile if the Sig. value less than .05 indicates that the data was not normally distributed. The table above shows Sig. of Pre-Test Experimental Group which was .503 and Sig. of Post-Test Control Group was .465. It means that the data was normally distributed in the pre-test experimental group and post-test of control group. However, the table shows Sig. of Post-Test Experimental which was .001 and Sig. of .014 which was .014. The Sig. value of the data was less than .05. In can be concluded that the data was not normally distributed. Therefore, the researcher used Mann-Whitney U Test to analyse the students' grammar competence scores. After testing the normality, the researcher analysed pre-test scores by using Mann Whitney U Test. The aim was to know whether the experimental group and control group has equal ability in their grammar competence, especially present and past tense, or not. The table below presents the detailed result:

Table 2

Test Statistics of Pre-Test

Class	Test Statistics[a]
	Scores
Mann-Whitney U	609.000
Wilcoxon W	1239.000
Z	-.041
Asymp. Sig. (2-tailed)	.967

Table 2 presents the significance level of experimental and control group pre-test scores. The researcher used the non-parametric test guide from (Pallant, 2020). According to the table above, Asymptotic Sig. (2-tailed) was .967, which was more than .05. It means that there was no significant difference on the students' pre-test result; and it considered that both groups had equal ability in grammar competence.

The researcher conducted post-test for both experimental and control groups to compare students' grammar competence after the researcher gave treatment to the experimental group. The score was analysed using Mann-Whitney U Test to measure the significance level. The table below shows the detailed result:

Table 3

Test Statistics of Post-Test

Class	Test Statistics[a]
	Scores
Mann-Whitney U	392.500
Wilcoxon W	1022.500
Z	-2.596
Asymp. Sig. (2-tailed)	.009

Table 3 revealed the significance level of experimental and control groups post-test score. Asymptotic Sig. (2-tailed) was .009. Based on the non-parametric analysis guide, in which the researcher had stated in the pre-test result section, the result of post-test showed asymptotic significance (*p*-value) was less than .05. Therefore, it was considered to be statistically significant. Prodigy, as an English learning media, was able to help students to improve students' grammar competence, especially present and past tense. In conclusion, the research question in Chapter I could be answered. Prodigy has effect on junior high school students' grammar competence.

Mann-Whitney U Test in the research revealed a significant difference in the grammar competence of experimental group ($\mu = 41.8$, $n = 35$) and control group ($\mu = 29.2$, $n = 35$), $z = -2.6$, $p = .009$, $r = .31$. The researcher also calculated the effect size using a formula by (Pallant, 2020). According to the calculation, the *r* value was .31. The researcher interpreted the eta square data based on the guideline from (Cohen, 1988). The criteria are .10 = small effect, .30 = medium effect, .50 = large effect. The result was considered to be medium effect.

According to the findings, it can be concluded that the alternate hypothesis (Ha), in which the use of Prodigy has effect on junior high school students' grammar competence, is accepted; and the null hypothesis (Ho), in which the use of Prodigy has no effect on junior high school students' grammar competence, is rejected. Prodigy improved students' junior high school grammar competence. Ultimately, there are two perspectives which are discussed in this study: (1) The increasing of students' engagement in English learning, especially grammar, when they use Prodigy, (2) The improving of students' grammar competence through the use of Prodigy.

Prodigy enhances students' engagement in English grammar learning

The result of this research showed that students' engagement has improved when they use Prodigy as their learning media. Students enjoyed the gamification learning method that Prodigy provides. The condition gave positive affects towards their grammar comprehension.

This finding resounds well with the theory of (Prensky, 1992), who stated that learning through digital games is a one good method to reach the digital natives. The engaging activity which was supported by the reward feature of Prodigy as digital learning media with gamification is in the line with the existing study by (Abarghoui & Taki, 2018), in which students were more interactive and engaged because of the reward feature in Memrise. The researcher found that Prodigy helps students' to be more engaged with the learning activity by playing the game and answering the questions. Later on, the questions which appeared on the game were discussed together by teachers and students to find out the correct answer. It helped students to understand the changing verb. They understood that they have to use the base form of a verb in present tense; and need to change the verb into past tense form when they want to express an event happened in the past. Ultimately, the finding above is upheld by prior study, in which with the guidance of teacher, students may understand the true use of technology in their learning process and increasing their engagement Ahmadi.

Prodigy support students' grammar improvement

The findings of the study are in accordance with previous study by (Inayati & Damayanti, 2016) about Johnny Grammar's Word Challenge, which have revealed that the application was able to improve junior high school students' grammar competence and also their vocabulary. The gamification of the game was similar to Prodigy, where students can earn points, badges, rewards, and levels. With the researcher guidance, students' vocabulary was also improved. The improvement gave positive affect on students' grammar comprehension. The correction from the researcher also gave improvement to students' vocabularies as there were words which are new to them. One of the new words is, for instance, '*slide*'. It means '*menggeser*' in Bahasa. Some students had already known the meaning. Nonetheless, the sentence that was appeared on Prodigy was *"The snake slide through the grass.",* which means *"Ular itu meluncur melewati rerumputan.".* The students finally understood that the meaning of *'slide'* may be different according to the context. Moreover, they also knew that the past tense form of the word was *'slide'*, not *'slided'*.

The treatment using Prodigy gave improvement to students' grammar competence through its interesting gamification features. This finding is in accordance with the idea that grammar digital application may improve students' grammar comprehension through quizzes and socializing in the game (Badroeni et al., 2020).

CONCLUSION

Prodigy, which is an English learning digital game, had effect on junior high school students' grammar competence. Prodigy made students enjoy the learning process. Students did not feel bored anymore to learn English through Prodigy's gamification features. The features were, for instance, earning energy, gaining rewards, achieving levels, and developing the village with new furniture and buildings on each level. It was more effective with the guidance from the researcher. The researcher guided students during the gameplay; and asked them to write down questions appeared on screen when they wanted to gain energy to continue developing the village and their answers. After playing the game, students and the researcher discussed the answers together. It made students be more mindful during the learning process. There were also vocabularies improvement. The Prodigy implementation had effect on students' grammar competence, nevertheless, there were still some challenges that the researcher had to tackle during the process.

In addition, teachers may use Prodigy as an English learning aid to teach grammar for junior high school students. The process during the gameplay was fun and enjoyable. They may learn grammar through questions in which the grammar category has been determined by the teacher in *Prodigy for Teacher* setting. Even though teachers may determine the category based on material that students are studying, in Prodigy, there was no Indonesian curriculum yet. The curriculums used in Prodigy were for American, Australian, and Indian. Therefore, future researchers may conduct a study which aims to give suggestion for the company to add Indonesian curriculum. They may also use Prodigy to improve the other English skills, for instance writing skill; and to use it as vocabulary booster. This study may be the inspiration and reference to those who are interested in the implementation of digital English learning aid with gamification features. The researcher suggests future researchers to pay attention to students' internet connection problem and unsupported phone or software as they are the most important things in the implementation of Prodigy. Overall, through teacher's guidance, Prodigy was proven to give effect and to improve junior high school students' grammar competence.

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