

# Game Media Development Cross Puzzles in Learning Summary Explanation Text

Yunita Lestari <sup>a,1\*</sup>, Nugraheti Sismulyasih Sb <sup>b,2</sup>

<sup>a,b</sup> Faculty of Science Education, Universitas Negeri Semarang, Semarang, 50122, Indonesia

<sup>1</sup> [yunita.lestari1821@gmail.com](mailto:yunita.lestari1821@gmail.com); <sup>2</sup> [nugrahetisabilillah@yahoo.co.id](mailto:nugrahetisabilillah@yahoo.co.id)

\* Corresponding Author

Received : 31 January 2022

Revised : 02 February 2022

Accepted : 18 June 2022

**ABSTRACT:** This research is based on Indonesian language learning that has not been effective yet, the result of learned is not optimal yet, to overcome this problem, the researcher developed crossword puzzle game. This development research aims to produce crossword puzzle products as well as know the feasibility and effectiveness of the product. The subjects of this study are the students of class V which amounted to 34 students. Data analysis techniques used to descriptive percentage and n-gain test. The results showed that the media of crossword puzzles is very feasible to use with the percentage of assessment 89.58%, material expert judgments of 88.63%. The result of N-gain analysis showed that the value obtained is 0.5226 in the medium category and the response is very good. The conclusions of this research is the crossword puzzle game to summarize the developed explanation text is declared eligible and effective in improving the writing skill of the students' explanatory text.

**Keywords:** cross-game puzzles, explanatory text.

## Citation:

Lestari, T., & SB. Nugraheti, S., (2022). Game Media Development Cross Puzzles in Learning Summary Explanation Text. *EduGen: Educational Generation Journal*, 1(1), 1-8. DOI : <https://doi.org/10.56787/edugen.v1i1.3>



This work is licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License.

## INTRODUCTION

Education is needed to produce a generation that has high competitiveness and thinks globally in the Minister of National Education Regulation Number 22 of 2006 concerning Standards for Elementary School Content which states that language has a central role in the intellectual, social and emotional development of students and is a supporter of success in learning all fields. studies (Damaianti, V. S., Abidin, Y., & Rahma, 2020). Language learning is expected to help students recognize themselves, their culture, and the cultures of others, express ideas and feelings, participate in communities that use the language, and discover and use their analytical and imaginative abilities (Syafitri, 2018).

According to the National Education Standards Agency (BSNP, 2006) the standard content of the Indonesian language is as follows: "Indonesian language learning is directed at increasing the ability of students to communicate in Indonesian properly and correctly, both orally and in writing, as well as fostering an appreciation of the results of their work. Indonesian human literature. Indonesian language has a goal, among others, so that students are able to enjoy and utilize literary works to develop their personality, broaden their horizons of life and improve their knowledge and language skills. In essence, learning Indonesian is directed at improving students' ability to communicate in Indonesian both orally and in writing (Susanto, 2016).

Based on pre-research activities through interviews at the Mangkang Kulon 02 State Elementary School there are several problems including, students seem less active and enthusiastic in participating in learning, especially in Indonesian language content, because students tend to be lazy and bored if only asked to read books while in the learning process teachers use several approaches and methods but they still do not vary apart from that, the factor of the limitations of the learning media used by the teacher and the lack of special media or teaching aids that are able to involve students actively in learning. These problems have an impact on learning outcomes in Indonesian subjects, supported by the results of interviews with fifth grade teachers and student grade document data. It was found that the quality of learning in Indonesian subjects. That the results of Indonesian language subjects have a low average of 51.21 and there are still many who have not reached the predetermined Minimum Completeness Criteria (KKM) which is 65. This is shown from the value data in Class V with 34 students, 28 students have scores below KKM and only 6 students scored above the KKM. The lowest score of students in this class

is 20 and the highest score is 80. This shows that classically only 17.64% have reached the KKM and 82.35% of them have not reached the KKM set.

Students need learning media that are able to stimulate their desire to read and learn Indonesian language material while learning can be fun when students can interact with each other, varied learning media can be used as a way to make learning fun, through these media students can be invited to learn while playing (Kurniaman, O., & SB. Sismulyasih, 2019). Games are contexts between players who interact with each other by following certain rules to achieve certain goals (Sadiman, 2014). Research that supports this research is based on international research conducted by Michael L. Littman, Greg A. Keim, and Noam Shazeer in the Journal of Artificial Intelligence with the title "A probabilistic approach solving crossword puzzles" which states that solving crossword puzzles presents a unique intelligence challenge. , extensive knowledge competition, and speed. These resources make it possible for researchers to tackle language-related games and other important things in the application. Although developing solutions also requires a greater understanding of the puzzle's themes and tricks.

Other supporting research is research conducted by Moh. Sholahuddin Ghozali and Ahmad Qosyim with the title "The Effectiveness of Three-Dimensional Crossword Puzzles (TTS3D) as Learning Media on Living Things Interaction Materials" the study aims to describe the effectiveness of three-dimensional crossword puzzles (TTS3D) as learning media for creature interaction. life. This type of research uses a Research and Development (R & D) design which is limited to the seventh stage. Based on the research results obtained, this game media is declared effective. In this research, it has been proven that the media of crossword puzzles can improve the learning outcomes of Indonesian class V students, while the researchers developed the media of crossword puzzles to make it easier for students to learn to summarize explanatory texts. Supported by research conducted by Novita Andyani, Kundharu Saddhono, Yant Mujianto in BASASTRA Journal of Research on Language, Indonesian Literature and Teaching Volume 4 Number 2 of 2016 with the title "Improving the Ability to Write Explanatory Texts Using Audiovisual Media in Junior High School Students" stated the results 'The study showed an increase in students' motivation and level of ability to write explanatory texts. The average score of the students' explanatory text score was 74.61 with a success rate of 69.23%. At the end of the text explanation period, the students' average score was 84.42 with a success rate of 88.46%.

Based on the background of the problem which is supported by the opinions of experts and strengthened by the results of previous research, the researcher examines the problem by conducting research and development (Research and Development) with the title "Development of Crossword Puzzle Game Media to Summarize Explanatory Text for Class Students. V SDN Mangkang Kulon 02 Semarang". The purpose of this study was to develop a crossword game, determine the feasibility, and effectiveness of a crossword puzzle game to summarize explanatory text in class V.

## **METHOD**

This study uses the Research and Development (R&D) method. Sugiyono (2013) explains that the research and development method is a research method used to produce certain products, and test the effectiveness of these products. In the research on the development of crossword puzzle media, the researcher used the Sugiyono development model only up to 8 steps because the researcher had limitations, namely time and cost to carry out mass production. The subjects of this study were the fifth grade students of SDN Mangkang Kulon 02 Semarang with a total of 34 students. Sources of data were also obtained from the fifth grade teachers and students at SDN Mangkang Kulon 02 Semarang as well as linguistic and media expert lecturers. The research was conducted from April to May. Data collection techniques carried out by researchers are using questionnaires, documentation, interviews, and tests.

The data taken in this study consisted of media assessments by media experts and linguists, questionnaires for teacher and student responses, and the results of students' skills in writing explanatory texts. Assessment data by media experts, linguists, as well as teacher and student responses using a descriptive percentage assessment with a Likert scale. The results of the students' explanatory writing skills were obtained from the pretest and posttest which were then calculated using the N-gain formula.

## **RESULT AND DISCUSSION**

The design of the crossword puzzle game was developed and consists of several parts, namely, 1) teacher and student crossword game book 2) board game, 3) markers. The crossword puzzle game book contains KI, KD, indicators, game instructions, explanatory text, questions and answers to crossword

puzzle games. The design of combining various components in the crossword puzzle game media is arranged in a product design prototype. Product design prototypes are used as an initial picture in pouring development ideas. The product design prototype is a reference in product manufacture so that the product developed is in accordance with the initial idea of product development. The design of crossword puzzle game media development using A3+ (48 cm x 32 cm) ivory paper laminated, framed and coated with duplex. The developed crossword game is also adapted to the objectives and the material to be taught, namely explanatory text material. The display of the results of the crossword puzzle game development is presented as follows:



Figure 1. Display of the Crossword Puzzle Game

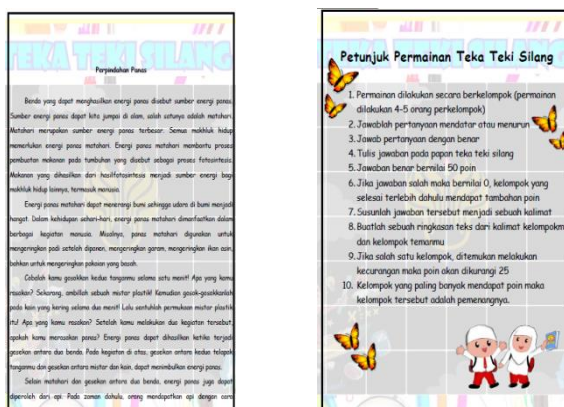


Figure 2. Front and Back Covers of the Crossword Gamebook

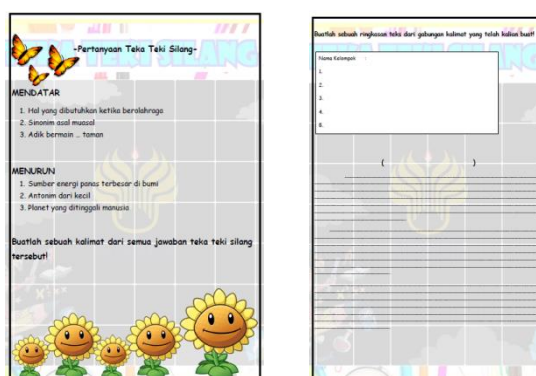


Figure 3. Contents of the Crossword Puzzle Game Book

The crossword puzzle games are rated by media experts and materials experts. The material expert, namely Drs. Sukarir Nuryanto, M.Pd., while the media expert comes from the Department of Educational Technology, namely Dr. Kustiono, M.Pd., The researcher analyzes the assessment given by

the expert using the formula in Purwanto (2013:102), namely the score obtained is divided by the maximum score and multiplied by one hundred percent.

**Table 1.** Assessment of Media and Material Expert Validation Results

No.	Validator	Validation Device	Percentage	Criteria
1	Drs. Sukarir Nuryanto, M.Pd.,	Material Validation	88%	Very good
2	Dr.kustiono, M.Pd.,	Media Validation	89%	Very good

Based on table 1 the results of the validation of the assessment by material experts the percentage is 88% which has very good criteria, not much different from the results of the assessment by media expert lecturers, the percentage obtained is 89% and is included in the very good criteria. There are 3 aspects of assessment in assessing the crossword puzzle game media with 15 questions, which include KI, KD, learning objectives, display design, size, color, media use and media endurance and completeness in using media. Based on the results of the validation assessment by material and media experts, it can be concluded that the crossword puzzle game media is suitable for use in learning Indonesian with explanatory text material.

#### **Student and Teacher Feedback**

Students and teachers provide a feasibility assessment using the crossword puzzle game media through a response questionnaire that is distributed after learning to use the media. The results obtained are as follows.

**Table 2.** Recapitulation of Teacher and Student Response Questionnaires

No.	Validator	Percentage	Criteria
1	Student SDN Mangkang Kulon 01	95%	Very good
2	Teacher SDN Mangkang Kulon 01	86%	
3	Student SDN Mangkang Kulon 02	94%	
4	Teacher SDN Mangkang Kulon 02	88%	

Based on these data, the percentage results are included in the percentage of 81%-100%, so that it is included in the criteria with very good responses. The effectiveness test was conducted in class V of SDN Mangkang Kulon 02 Semarang with a total of 34 students, and data were taken from student learning outcomes before using the media or pretest and after using the media or posttest. The results of the test of the difference between the average pretest and posttest that t count is -16,058. Because the t table has a positive value of 2.034, then the t count is changed to positive or absolute to 16,058 so that  $t_{count} > t_{table}$  then  $H_a$  is accepted and  $H_o$  is rejected, which means that the use of crossword puzzle game media is effectively used in Indonesian content.

**Table 3.** Differences In The Mean Of Pretest And Posttest

Paired Samples Test							
	Paired Differences				T	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference			
				Lower Upper			
Pair 1 pretest posttest	-.25088	9.110	1.562	-28.267 -21.910	-16.058	33	.000

The researcher calculated the average increase using the N-gain according to Lestari (2015) with the posttest score formula minus the pretest score divided by the maximum score minus the pretest. The results of the students' pretest and posttest are as follows:

**Table 4.** Student Pretest and Posttest Results

Pretest Average	Posttest Average	N-Gain	Criteria
51.02	76.11	0.52	Medium

## DISCUSSION

This research produces a product in the form of a crossword game to summarize explanatory texts for fifth grade elementary school students. The crossword puzzle game to summarize the explanatory text that has been developed is based on a needs questionnaire that has been distributed to teachers and fifth grade students. According to Amin in Cahyo (2011), crossword puzzles are one of the most popular brain teasers for many people. Not only for adults, this game is also beneficial for children, especially to hone their left brain abilities. In this game the player must fill in the blank spaces (in the form of white squares) with letters that form a word based on the instructions given. Usually the clues are divided into the categories "Hidden" and "Decreasing" depending on the position of the word that must be filled in.

This is supported by the journal from M.Husni Abdullah in the journal with the title "Use of Crosswords Media to Improve Student Learning Outcomes in Social Studies Subjects Class V SDN Songgokerto 01 Batu" The purpose of this study was to determine the use of media crossword puzzles in improving Arabic learning outcomes. As for the sampling in this research, the author only took class II as an experimental class with a total of 18 students based on simple random sampling. Data collection techniques in this study were tests, observations, interviews and documentation. While the data analysis technique used is the "t" test analysis. Thus, the results of the experiment that the author did show the following: First, student learning outcomes in the Arabic language subject for the introduction of numbers 1-10 in class II Madrasah Ibtidaiyah Nurul Iman Pengabuan before the application of the Crossword Puzzle media, the student's score was 56.11 (pre-test) experienced an increase in the mean value after the application of the crossword puzzle media increased to 79.44 (post-test). Second, there is a significant difference between pre-test and post-test learning outcomes which can be interpreted that the Null Hypothesis is rejected, namely  $t_{tt} 5\% < t_{tt} > t_{tt}$  or  $2.11 < 11.73 > 2.90$ . Based on the research findings, it can be concluded that there is a difference between student learning outcomes in Arabic subjects before and after using the crossword puzzle media.

Another journal that supports research conducted by Mohammad Andi Wasgito in the Journal of Fine Arts Education Volume 2 Number 3 of 2014 with the title "Development of Crossword Puzzles Educational Game Media (TTS) in the Learning Process of Class VII Students of SMP Negeri 2 Kalianget". This study resulted in (1) the concept of developing crossword educational game media in learning arts and culture for seventh grade students of SMP Negeri 2 Kalianget which contains questions



about applied art, which include the meaning, function, types of applied art, and examples of works of applied art packaged in a crossword puzzle in the form of a book, the media of the crossword puzzle is also equipped with pictures and puzzles that have been adapted to basic competencies, indicators and learning objectives (2) Development of media for educational games for puzzles -crossword puzzles are made after conducting research, starting from field surveys, analyzing student needs, media selection stage, media preparation, expert validation, revision, media use and report writing (3) The benefits of using crossword puzzle educational media in learning, namely can increase the activeness of learning s This can be seen from the results of the recapitulation of the assessment of student activities in learning, so the quality of student activities is "very good" with a percentage of 86%. And from the results of the student response questionnaire, it shows that students respond well to the existence of crossword puzzles that are applied in learning, with an average percentage of 2.86% with the category "meeting" the standard criteria for assessing student responses. Meanwhile, the results of student learning tests using crossword puzzles that were tested in class showed the criteria of "very good" with an average grade of 84.7.

Another study was also carried out by Wingga Pratami, Ngurah Ayu, and Henry Januar Saputra (2017) with the title "The Effect of Educational Game Media Knowledge Puzzles on Students' Interest in Learning in Science Subjects Grade 5 SDN 03 Protomulyo". Based on the results of the t test, it is known that with a significance level of  $\alpha = 0.05$  with  $t_{\text{count}} = 2.115$  and  $t_{\text{table}} = 2.024$ . Because  $t_{\text{count}} > t_{\text{table}}$  which is  $2.115 > 2.024$  so  $H_1$  is accepted. So it can be concluded that there is a significant influence of educational game media media "Knowledge Puzzle" on students' interest in learning in science subjects grade 5 SDN 03 Protomulyo. Another research was also carried out by Putu Hendy Pradika, I Gusti Agung Oka Negara, I G. A. Agung Sri Asri, in 2017 with the title "The Effect of Horey Course Review Learning with Crossword Puzzles (ITS) on the Social Sciences Knowledge Competence of fifth graders at Gugus Budi Utomo Elementary School. Dentim for the 2016/2017 academic year" aims to determine the effect of the Course Review Horey learning model with the Cross Puzzle game on the social science knowledge competence of the fifth grade students of Gugus Budi Utomu Denpasar Timur in the 2016/2017 academic year. The results of the study based on data analysis, obtained the price  $t_{\text{count}} = 6.78 > t_{\text{table}} = 2,000$  with a significant level of 5% and  $dk = 86$ , then  $H_0$  is rejected and  $H_a$  is accepted. This proves that there is a significant difference in social science knowledge competence between the experimental group and the control group in class V SD Gugus Budi Utomo Denpasar Timur 2016/2017 academic year. The average value also shows that the social studies knowledge competence obtained by students in the experimental group  $X = 86.24 > X = 69.89$  students in the control group. Thus, it can be concluded that the Course Review Horey learning model with the game of crossword puzzles on the social science knowledge competence of fifth grade students of Gugus Budi Utomo Denpasar Timur in the 2016/2017 academic year.

The same research in an international journal was conducted by Wiwat Orawiwnakul (2013) with the title "Crossword Puzzles as a Learning Tool for Vocabulary Development" with the result that the overall post-test score of students was higher than the pre-test score at a significance level of 0.05. When classifying students into three groups. With their vocabulary skills, it was found that students in all groups could improve their vocabulary knowledge skills at the 0.05 significance level. Results from Repeated Actions Analysis of the test of variance showed that there were significant differences in the scores of the three tests obtained by students from the test and the final exam (Lucio, 2015) .

Another study was conducted by Elizabeth Yuriev, Ben Capuano, and Jennifer L. Short. Those who researched about Crossword Puzzles, in the journal Chemistry Education Research and Practice in 2016 with the title "Crossword puzzles for chemistry education: learning goals beyond vocabulary". In this study we have developed crossword puzzles to assist students in mastering chemical terminology through meaningful learning as opposed to rote learning. We have evaluated this tool for its effectiveness in study and revision. In particular. The results show that crossword puzzles improve students' ability to solve problems and when used systematically, contribute to improved learning. These findings are discussed in the context of information processing and meaningful learning.

In the development of media crossword puzzles are taught for explanatory text material, the following are supporting journals about this research, namely research conducted by Iis Suwartini in the Bahastra Journal Volume 37 Number 1 of 2014 with the title "Analysis of Explanatory Texts on Mass Media Through Learning-Based The problem with the results is that the process of learning explanatory text material needs to apply effective learning methods.

## CONCLUSION

The conclusions of the crossword puzzle game to summarize the explanatory text for fifth graders were developed according to the needs of teachers and students, namely: (1) a rectangular crossword game with a size of 48 cm x 32 cm; (2) A crossword puzzle game book, in which there are several sections, namely, KI, KD, indicators, game instructions, explanatory text and questions and answers to crossword puzzles. The development of the crossword game media has gone through an 89% media feasibility assessment, and an 88% assessment of the feasibility of the material. (3) The results of the pretest and posttest mean differences test that t count is -16,058. Because the t table has a positive value of 2.034, then the t count is changed to positive or absolute to 16,058 so that t count > t table then  $H_a$  is accepted and  $H_o$  is rejected. The average increase (N-gain) of pretest and posttest data was obtained by 0.5226 with moderate criteria. So it can be concluded in this study that the crossword puzzle game media is feasible and effective to be used in the Indonesian language content of explanatory text material on the learning outcomes of fifth grade students at SDN Mangkang Kulon 02.

## REFERENCE

- Abdullah, M., & Husni. (2017). Penggunaan Media Teka Teki Silang Untuk Meningkatkan Hasil Belajar Siswa Pada Mata Pelajaran IPS Kelas V SDN Songgokerto 01 Batu. *JPGSD*, 5(3) 1491.
- Cahyo, A. N. (2011). Gudang Permainan Kreatif Khusus Asah Otak Kiri Anak. Jogjakarta: Diva Press.
- Damaianti, V. S., Abidin, Y., & Rahma, R. (2020). Higher order thinking skills-based reading literacy assessment instrument: An Indonesian context. *Indonesian Journal of Applied Linguistics*, 10(2), 513–525. <https://doi.org/https://doi.org/10.17509/ijal.v10i2.28600>.
- Ghozali, M. S., & Qosyim, A. (2017). Efektifitas permainan Teka Teki Silang Tiga Dimensi (TTS3D) Sebagai Media Pembelajaran Pada Materi Interaksi Makhluk Hidup. *E-Jurnal Pensa*, 3(4), 1-20.
- Kurniaman, O., & SB. Sismulyasih, N. (2019). The Influence of The Big Book Media Has The Character of Conservation in Early Reading. *ELS Journal on Interdisciplinary Studies in Humanities*, 2(1), 141–147.
- Lang, H.R. & D. N. Evans. (2006). Models, Strategis, and Methods: For Effective Teaching. New York: Pearson Education, Inc.
- Littman, L. ., Michael., Greg A. Keim, dan Noam Shazeer. A probabilistic approach solving crossword puzzles. *Jurnal Artificial Intelligence*, 23, 122-145.
- Lucio, P. S. (2015). Construction of a task for assessing reading comprehension in elementary school: Pilot study. *Temas Em Psicologia*, 23(4), 1035–1050. <https://doi.org/10.9788/TP2015.4-17>.
- Novita, A., Saddhono, K., & Mujiyanto, Y. (2016). Peningkatan Kemampuan Menulis Tes Eksplanasi Dengan Menggunakan Media Audiovisual pada Siswa Sekolah Menengan Pertama. *Jurnal Penelitian Bahasa, Sastra Indonesia dan Pengajarannya*.4(2):161
- Orawiwatnakul, W. (2013). Crossword Puzzles as a Learning Tool for Vocabulary Development. *Academic Journal*.
- Permendikbud No. 22 Tahun 2016 dalam BAB I tentang Standar Proses.
- Pratami, W., Ayu, N., & Saputra, H. J. (2017). Pengaruh Media Game Edukasi “Teka Teki Pengetahuan” Terhadap Minat Belajar Siswa Pada Mata Pelajaran IPA Kelas 5 SDN 03 Protomulyo. *Jurnal Profesi Keguruan*,3(2):149
- Pradika, P. H. dkk. (2017). Pengaruh Pembelajaran Course Review Horey Dengan Permainan teka Teki Silang (TTS) Terhadap Kompetensi Pengetahuan IPS Siswa kelas V SD Gugus Budi Utomo Dentim Tahun pelajaran 2016/2017. *e-jurnal PGSD Universitas Pendidikan Ganesha*, 5(3), 17-30.
- Syafitri, N. (2018). The Correlation Between Lecturers’ Teaching Styles and Students’ Reading Habit Towards Reading Comprehension. *ELS-Journal on Interdisciplinary Studies in Humanities*, 1(1), 96–102.
- Sadiman, A. S.dkk. (2014). Media Pendidikan, Pengertian, Pengembangan, dan Pemanfaatannya. Jakarta: PT Raja Grafindo Persada.
- Suwartini, I. (2014). Analisis Teks Eksplanasi Pada Media Masa Melalui Pembelajaran Berbasis Masalah, *Jurnal Bahastra*, 37(1), 49-66.

- Susanto, A. (2013). *Teori Belajar dan Pembelajaran di Sekolah Dasar*. Jakarta: Prenadamedia Group.
- Wasgito, A. M. (2014). Pengembangan Media Permainan Edukatif Teka-Teki Silang (TTS) dalam Proses Pembelajaran Siswa Kelas VII SMP Negeri 2 Kalianget. *Jurnal Pendidikan Seni Rupa*. 2(3), 43-70.
- Yuriev, E., dkk. (2016). Crossword puzzles for chemistry education: learning goals beyond vocabulary. *Jurnal Chemistry Education Research and Practice*. 18, 30-66.