

Using Snakes and Ladders Game and Crossword Puzzle as STAD Model Based on Students' Creativity

DOI: <https://doi.org/10.47175/rielsj.v5i2.1000>

| Andreas Lubis^{1,*} | Syarifah² | Siman³ |

¹Basic Education Department,
Postgraduate program,
Universitas Negeri Medan,
Indonesia

^{2,3}Universitas Negeri Medan,
Indonesia

* andrelubis0001@gmail.com



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

ABSTRACT

This research analyzes and finds out several things; 1) the influence of STAD learning using the snakes and ladders game on students' social studies learning outcomes based on high and low learning activeness; 2) To determine the effect of STAD learning using TTS media on students' social studies learning outcomes based on high and low learning activeness. This research method uses quasi-experimental research (quasi-experiment). This research was divided into two classes, namely experimental class I and experimental class II, which were given learning treatment using the STAD learning model. The results of the research are that; 1) The STAD learning model using the snakes and ladders game on learning outcomes based on high learning activity of students in class V of State Elementary School, Kisaran Barat District, the average pre-test score is 65.8 and the average post-test score is 83.6 with a point difference of 18 or 26 .1%. The pre-test average was 61.8, while for Randa students' active learning the post-test average score was 71.27 with a difference of 9 points or 13.9%. 2) The STAD learning model with a crossword puzzle game on learning outcomes based on students' high learning activity, with an average pre-test score of 59.27 and after being treated the average score was 69.82, a difference of 11 points or 15.5%. Meanwhile, based on students' low learning activity, the average pre-test score was 57.33 and after being treated the average score was 67.6, the difference was 10 or 15% points. The conclusion is that there is an influence of the STAD learning model with crossword puzzles and snakes and ladders on learning outcomes based on students' high and low learning activeness and the same goes for using snakes and ladders.

KEYWORDS

STAD model; snakes and ladders game; crossword puzzles

INTRODUCTION

The use of appropriate learning media is very important for achieving learning objectives. This is because learning media really helps teachers or instructors in providing maximum, effective and efficient teaching. Learning is a system because it has components that are interconnected with each other. Each of these components is interrelated and forms an inseparable unit. Teachers must use appropriate media to facilitate learning or improve students' understanding of teaching material. Thus, through the use of learning media, it is hoped that students will more easily understand the material presented by the teacher (Rikawati and Sitinjak, 2020).

Elementary school students, especially lower-class students, need a learning process that is not monotonous. For lower class elementary school students, group learning or interesting

learning should be carried out. This is where the teacher's role as an educator is needed so that students can be interested and not bored in the learning process. In this regard, the use of media in learning is the right solution so that students can be interested and motivate children to learn (Hijriyati and Melinda, 2022).

The learning media used must also be innovative so that they can attract students' interest in learning. Teachers have a role in selecting or designing appropriate learning media to use. In essence, learning media is an aid in the learning process. Media is a tool that can be used to stimulate students' thoughts, feelings, attention and abilities or skills so that they can encourage the teaching and learning process (Tanjung, Azhari and Milfayetty, 2023).

According to Rusman (2012) "learning media is a message carrier technology that can be used for learning purposes and is a physical means of conveying lesson material". Currently, there are quite a lot of learning media available, such as media in the form of power points, media in the form of sticky pictures, printed images, media in the form of videos and other media. Even though there are many media available, sometimes there are still many teachers who cannot use these learning media. Learning media that uses technology such as computers, many teachers are still unable to operate computers. So even though there are interesting learning media, they still cannot be applied by teachers. Apart from that, even if the learning media uses technology, there are still many schools that do not have complete facilities, such as school laptops/computers and projectors.

According to Tafonao, the reason why there are still many teachers who do not use learning media is that teachers think that using media requires preparation, media is sophisticated and expensive, they are not used to using media (technology failure), media is only for entertainment while learning must be serious, at school the media is not available, the school does not have the equipment and materials to make learning media, teachers do not understand the importance of using learning media, teachers do not have the knowledge and ability on how to make their own learning media, teachers do not have the skills to use learning media, teachers do not have the opportunity (time) to create learning media, teachers are used to relying on the lecture method (Tafonao, 2018).

There are still many teachers who do not use media in learning, so the impact is that students do not develop and learning becomes monotonous and not varied. Researchers or other teachers have also created a lot of media or developed various kinds of interesting media.

RESEARCH METHODS

This type of research is quasi-experimental research (quasi-experiment), namely research that aims to determine whether there is an influence or consequence of something that occurs on the subject, namely students. The quasi-experimental method was chosen because the population in this study was determined to be heterogeneous and did not form a new group. In this quasi-experiment, the samples taken in this research were divided into two classes, namely experimental class I and experimental class II. These two classes receive different treatment. In experimental class I, learning treatment was given using the STAD learning model using the snakes and ladders game media, while in experimental class II, learning treatment was given using the STAD learning model using the TTS game media.

This research will be carried out at SDN in West Kisaran District. Research activities were carried out in the second semester of the 2022-2023 academic year. The subject matter chosen in this research is "Colonial Nationalities" which is material in the class V syllabus that is being studied in that semester.

The population in this study were all class V students of SDN West Kisaran District in the even semester T.P 2022/2023 consisting of

2 classes totaling 40 people, with details:

- a. Class V SDN 010092 West Kisaran District: 20 people
- b. Class V SDN 013858 West Kisaran District: 20 people

The samples in this research were class V SDN 010092 West Kisaran District and V SDN 013858 West Kisaran District. The sampling technique in this research was carried out using Total Sampling. Class samples were taken from the population, namely 2 classes, where selecting experimental class I and experimental class II from the two classes was done randomly. The random results selected class V of SDN 013858 Mekar Sari District as experimental class I which was taught using the STAD learning model with the snake and ladder game media with a total of 20 students. Class SDN 010092 Subdistrict was selected as experimental class II which was taught using the STAD learning model with TTS game media with a total of 20 students.

The design used in this research is a design that uses a pretest and posttest because this design is the most effective in terms of showing a cause-and-effect relationship. This research involved two classes, namely experimental class I and experimental class II which were given different treatments. In the experimental class I, the STAD learning model was treated using snakes and ladders media, and in the experimental class II, the STAD learning model was treated using TTS media. The research design is a 2 x 2 factorial design with a two-way analysis of variance (ANOVA) technique as in table 1 below.

Tabel 1. Two Way ANOVA Research Design

Learning model (A) Learning Outcomes Based on Learning Activeness	STAD with Snakes and Ladders Media (A₁)	STAD with TTS Media (A₂)
Learning outcomes based on high learning activity (B ₁)	$\mu_{A_1B_1}$	$\mu_{A_2B_1}$
Learning outcomes based on low learning activity (B ₂)	$\mu_{A_1B_2}$	$\mu_{A_2B_2}$

Description:

- A₁ = STAD Learning Model using snakes and ladders as media
- A₂ = STAD Learning Model with TTS media
- B₁ = Learning outcomes based on high learning activity
- B₂ = Learning outcomes based on low learning activity
- $\mu_{A_1B_1}$ = Average social studies learning outcomes based on high learning activity of students taught using the STAD learning model using snakes and ladders media.
- $\mu_{A_2B_1}$ = Average social studies learning outcomes based on high learning activeness of students taught using the STAD learning model with TTS media.
- $\mu_{A_1B_2}$ = Average social studies learning outcomes based on low learning activity of students taught using the STAD learning model with snakes and ladders media.
- $\mu_{A_2B_2}$ = Average social studies learning outcomes based on low learning activity of students taught using the STAD learning model with TTS media

RESULTS AND DISCUSSION

Tabel 2. Analysis Results

No.	Hipotesis Statistik	Hipotesis Verbal	Finding
1.	$H_0 : \mu_{1A_1B_1} > \mu_{2A_1B_1}$ $H_a : \mu_{1A_1B_1} < \mu_{2A_1B_1}$ Accepted H_0 , if $T_{count} > T_{tabel}$	<ul style="list-style-type: none"> • H_0: There is no influence of STAD learning using the snakes and ladders game on students' social studies learning 	There is an influence of STAD learning using the snakes and

		<p>outcomes based on the high learning activity of students in class V of the State Elementary School, West Kisaran District.</p> <ul style="list-style-type: none"> • Ha: There is an influence of STAD learning using the snakes and ladders game on students' social studies learning outcomes based on the high learning activity of students in class V of State Elementary School, West Kisaran District. 	<p>ladders game on students' social studies learning outcomes based on the high learning activeness of students in class V of State Elementary School, West Kisaran District.</p>
2	$H_o : \mu_1 A_1 B_2 > \mu_2 A_1 B_2$ $H_a : \mu_1 A_1 B_2 < \mu_2 A_1 B_2$ Accepted H_o , if $T_{count} > T_{tabel}$	<ul style="list-style-type: none"> • Ho: There is no effect of STAD learning using the snakes and ladders game media on students' social studies learning outcomes based on the low learning activity of students in class V of State Elementary School, Kisaran Barat District. • Ha: There is an influence of STAD learning using the snakes and ladders game on students' social studies learning outcomes based on the low learning activity of students in class V of State Elementary School, West Kisaran District. 	<p>There is an influence of STAD learning using the snakes and ladders game on students' social studies learning outcomes based on the low learning activity of students in class V of State Elementary School, West Kisaran District.</p>
3	$H_o : \mu_1 A_2 B_1 > \mu_2 A_2 B_1$ $H_a : \mu_1 A_2 B_1 < \mu_2 A_2 B_1$ Accepted H_o , if $T_{count} > T_{tabel}$	<ul style="list-style-type: none"> • Ho: There is no influence of STAD learning using crossword puzzles on students' social studies learning outcomes based on the high learning activity of students in class V of State Elementary School, West Kisaran District. • Ha: There is an influence of STAD learning using crossword puzzles on students' social studies learning outcomes based on the high learning activity of students in class V of State Elementary School, West Kisaran District. 	<p>There is an influence of STAD learning using crossword puzzles on students' social studies learning outcomes based on the high learning activity of students in class V of State Elementary School, West Kisaran District.</p>
4	$H_o : \mu_1 A_2 B_2 > \mu_2 A_2 B_2$ $H_a : \mu_1 A_1 B_1 < \mu_2 A_2 B_2$ Accepted H_o , if $T_{count} > T_{tabel}$	<ul style="list-style-type: none"> • Ho: There is no influence of STAD learning using crossword puzzles on students' social studies learning outcomes based on the high learning activity of students in class V of State Elementary School, West Kisaran District. • Ha: There is an influence of STAD learning using crossword puzzles on students' social studies learning outcomes based on the high learning activity of students in class V of State Elementary School, West Kisaran District. 	<p>There is an influence of STAD learning using crossword puzzles on students' social studies learning outcomes based on the high learning activity of students in class V of State Elementary School, West Kisaran District.</p>
<p>Conclusion: Social studies learning outcomes based on students' active learning are better taught using the STAD learning model with the snakes and ladders game rather than the STAD learning model with crossword games in class V of the State Elementary School in Kisaran Barat District.</p>			

The Influence of STAD Learning Using the Snakes and Ladders Game Media on Students' Social Sciences Learning Outcomes Based on the High Learning Activeness of Students in Class V of State Elementary School in West Kisaran District (A1B1).

At the significance level $\alpha=0.05$ and $dk = n_1+n_2-2=9+9-2=16$. Because the price $t_0 = 2.12$. By comparing the t_{count} value with the t_{table} value, it is obtained that $t_{count} > t_{table}$, namely $3.36 > 2.12$. Thus, H_o is rejected and H_a is accepted, which means that "the influence

of STAD learning using the snakes and ladders game on students' social studies learning outcomes is based on the high learning activity of students in class V of the West Kisaran District Elementary School."

There is an influence of the STAD learning model with the snakes and ladders game on learning outcomes based on the high learning activeness of students in class V of SD Negeri Kisaran Barat with an average pre-test score of 65.8 and an average post-test score of 83.6 with a point difference of 18 or 26.1%. By comparing the t_{count} value with the t_{table} value, it is obtained that $t_{count} > t_{table}$, namely $3.36 > 2.12$. This is in line with the results of Asmiyanti's research entitled "The Influence of Snakes and Ladders Media on Social Studies Learning Outcomes of Class IV Students at SDN 015 Garo City" at Pahlawan University. The research results show that the snake and ladder game media has an influence on the learning outcomes of class IV students at SD Negeri 015 Garo City (Asmiyanti, 2021). In accordance with what Slavin stated in Rusman that the main idea behind STAD is to encourage students to encourage and help each other to master the skills taught by the teacher, in line with the snakes and ladders game media that according to Jamil the objectives of the snakes and ladders game media are (1) train children in working together in groups; (2) train children in answering knowledge questions; (3) increasing children's physical and mental strength (Asmiyanti, 2021). With these activities, students are equipped with life skills that are valuable in society. This learning process can encourage students to actively learn and the ability to teach with cooperative activities in small groups who may acquire and master the material.

In this way, one student and another student in the group can provide answers in their own way. Without realizing it, students have carried out activities, because each student will try to answer questions in a different way from their friends, while also paying attention to the quality of the answers given.

The influence of the STAD learning model with the snakes and ladders game on social studies learning outcomes based on students' low learning activeness (A1B2)

At the significance level $\alpha=0.05$ and $dk = n_1+n_2-2=11+11-2=20$. Because the price $t_0 = 2.09$. By comparing the t_{count} value with the t_{table} value, it is obtained that $t_{count} > t_{table}$, namely $3.22 > 2.09$. Thus, H_0 is rejected and H_a is accepted, which means that "the influence of STAD learning using the snakes and ladders game on students' social studies learning outcomes is based on the low learning activity of students in class V of the West Kisaran District Elementary School."

There is an influence of the STAD learning model with the snakes and ladders game on learning outcomes based on students' low learning activeness with an average pre-test score of 61.8 while the average post-test score is 71.27 with a difference of 9 points or 13.9%. By comparing the t_{count} value with the t_{table} value, it is obtained that $t_{count} > t_{table}$, namely $3.22 > 2.09$. In accordance with the first hypothesis, that the STAD learning model with the snakes and ladders game on social studies learning outcomes is based on students' low learning activity, this is in line with the results of Asmiyanti's research with the title "The Influence of Snakes and Ladders Media on Social Sciences Learning Outcomes for Class IV Students at SDN 015 Garo City" University Hero. The research results show that the snake and ladder game media has an influence on the learning outcomes of class IV students at SD Negeri 015 Garo City (Asmiyanti, 2021). In accordance with what Slavin stated in Rusman that the main idea behind STAD is to encourage students to encourage and help each other to master the skills taught by the teacher, in line with the snakes and ladders game media that according to Jamil the objectives of the snakes and ladders game media are (1) train children in working together in groups; (2) train children in answering knowledge questions;

(3) increasing children's physical and mental strength (Asmiyanti, 2021). With these activities, students are equipped with life skills that are valuable in society. This learning process can encourage students to actively learn and the ability to teach with cooperative activities in small groups who may acquire and master the material.

This also explained by Arafat in his research showed that 1) the implementation of the learning model using the snakes and ladders bulletin board media on Indonesian cultural and ethnic diversity material. Student learning outcomes are measured through evaluation results after the lesson is completed in each cycle. Learning outcomes in the evaluation at the end of learning using the snakes and ladders game method have shown an increase. Student learning outcomes for each action are as follows; The initial value before the action was determined showed an average value of 40. Still below the specified kkm value, namely 65, the first cycle action showed an average value of 60 and the second cycle action was at 80. The form of learning using learning media will be more effective and can improve student learning outcomes, good planning can create quality learning, one example is using snakes and ladders media with learning materials delivered to students which will influence the success of learning (Arafat, 2022).

The difference between the STAD learning model and crossword puzzles on social studies learning outcomes based on students' high learning activeness (A2B1)

At the significance level $\alpha=0.05$ and $dk = n_1+n_2-2=11+11-2=20$. Because the price $t_0 = 2.09$. By comparing the t_{count} value with the t_{table} value, it is obtained that $t_{count} > t_{table}$, namely $3.99 > 2.09$. Thus, H_0 is rejected and H_a is accepted, which means that "the influence of STAD learning using crossword puzzles on students' social studies learning outcomes is based on the high learning activity of students in class V of SD Kisaran Barat District."

Supported by Wana's research, the results show that there is an increase in student learning outcomes who use Crossword Puzzle (TTS) media. The research results show that Crossword Puzzle (TTS) media can be used as an alternative learning medium for students, especially in social studies subjects (Wana, P R, 2021).

Through Crossword Puzzle media, social studies learning increasingly attracts students' attention, students are more enthusiastic in asking questions and expressing opinions so that they can encourage students to achieve better learning outcomes. (2) The use of TTS media has a significant effect on cognitive learning outcomes in social studies subjects. The scores achieved by students increased from pre-test to post-test by utilizing TTS learning media. This is evident from the t -count value in this study which was 21.512 with a significance value of $0.000 < 0.05$ (Murti, I., Trio Pangestu, W., & Rias Wana, P., 2021).

The difference between the STAD learning model and crossword puzzles on social studies learning outcomes based on students' high learning activeness (A2B1)

At the significance level $\alpha=0.05$ and $dk = n_1+n_2-2=9+9-2=16$. Because the price $t_0= 2.16$. By comparing the t_{count} value with the t_{table} value, it is obtained that $t_{count} > t_{table}$, namely $3.29 > 2.16$. Thus, H_0 is rejected and H_a is accepted, which means that "the influence of STAD learning using crossword puzzles on students' social studies learning outcomes is based on the low learning activity of students in class V of SD Kisaran Barat District."

So, it can be concluded that overall the social studies learning outcomes based on the active learning of students taught using STAD learning with the snakes and ladders game are better than the social studies learning results based on the learning activeness of students taught using STAD learning with crossword puzzle games.

The findings of the third hypothesis provide the conclusion that: there is an influence of the STAD learning model with crossword games on learning outcomes based on students'

high learning activity, with an average pre-test score of 59.27 and after being treated the average score is 69.82 point difference. 11 or 15.5%. By comparing the tcount value with the ttable value, it is obtained that $t_{count} > t_{table}$, namely $3.99 > 2.09$. This is in line with Prima Rias Wana's research in 2021 with the title "The Effect of Using Crossword Puzzle Media (TTS) on Student Learning Outcomes in Class V Social Sciences Lessons." The research results show a difference from the learning outcome data of 75.51 for the experimental class, and 66.44 for the control class. The research results show that there is an increase in student learning outcomes who use Crossword Puzzle (TTS) media. The research results show that the Crossword Puzzle (TTS) media can be used as an alternative learning medium for students, especially in social studies subjects (Prima Rias Wana, 2021). In accordance with what Slavin stated in Rusman, the main idea behind STAD is to encourage students to encourage and help each other to master the skills taught by the teacher. The learning model using crossword puzzle games can also increase learning activity, according to what Fathona stated in Lakora, et al. that the use of TTS media provides many advantages to students in the learning process (Lakoro et al., 2020).

Based on the findings above, It is able to increase students' motivation in answering questions, providing a stimulus so that students actively follow the material. In this regard, as a prospective teacher and a teacher, it is appropriate to be able to choose and use learning models in the teaching and learning process at school. This is because students are not passive and do not experience boredom. Apart from that, choosing the right learning model is the key to the success or failure of a lesson carried out as in this research on rows and series material. It turns out that to improve social studies learning outcomes for fifth grade students at Kisaran Barat State Elementary School it is better to teach STAD learning with snake games. stairs than STAD learning with crossword games.

CONCLUSION

Based on the research results that have been obtained, as well as the problems that have been formulated, the author makes the following conclusions:

1. There is an influence of the STAD learning model with the snakes and ladders game on learning outcomes based on the high learning activeness of students in class V of the State Elementary School in Kisaran Barat District with an average pre-test score of 65.8 and an average post-test score of 83.6 with a point difference of 18 or 26.1%.
2. There is an influence of the STAD learning model with the snakes and ladders game on learning outcomes based on students' low learning activeness with an average pre-test score of 61.8 while the average post-test score is 71.27 with a difference of 9 points or 13.9%. By comparing the tcount value with the ttable value, it is obtained that $t_{count} > t_{table}$, namely $3.22 > 2.09$.
3. There is an influence of the STAD learning model with crossword puzzle games on learning outcomes based on students' high learning activity, with an average pre-test score of 59.27 and after being treated the average score is 69.82, the difference is 11 or 15.5 points. %.
4. There is an influence of the STAD learning model with crossword games on learning outcomes based on students' low learning activeness, with an average pre-test score of 57.33 and after being treated the average score becomes 67.6, a difference of 10 or 15% points.

REFERENCES

- Arafat, Y. (2022). Penerapan Media Ular Tangga Sebagai Alternatif Belajar Bermain Untuk Meningkatkan Hasil Belajar Siswa Pada Mata Pelajaran IPS Kelas IV. In Universitas Islam Negeri Raden Intan (Vol. 2, Issue 8.5.2017).
- Asmiyanti. (2021). Pengaruh Media Ular Tangga Terhadap Hasil Belajar IPS Siswa Kelas Iv Sdn 015 Kota Garo. Respository Universitas Pahlawan Tuanku Tambusai. accessed on 12 April 2024, <https://repository.universitaspahlawan.ac.id/567/> .
- Hijriyati, & Melinda, C. (2022). Pengaruh Model Pembelajaran Kooperatif Tipe Student Team Achievement Division (Stad) Terhadap Hasil Belajar IPS Siswa Kelas VII Mts. *Bakoba: Journal Of Social Science Education*, 02(01), 141–150.
- Murti, I., Trio Pangestu, W., & Rias Wana, P. (2021). Pengaruh Media Pembelajaran Teka-Teki Silang (Tts) Terhadap Hasil Belajar Kognitif Pelajaran Ips Kelas Iii. *Pendas : Jurnal Ilmiah Pendidikan Dasar*, 6(2), 140–150. <https://doi.org/10.23969/Jp.V6i2.4304>
- Lakoro, S., Eraku, S., & Yusuf, D. (2020). Pengaruh Media Permainan Teka-Teki Silang Terhadap Hasil Belajar Siswa Pada Pembelajaran Geografi Di Sma Negeri 1 Marisa. *Jambura Geo Education Journal*, 1(1), 32–38. <https://doi.org/10.34312/Jgej.V1i1.4845>
- Wana, P. R. (2021). Pengaruh Penggunaan Media Teka-Teki Silang (Tts) Terhadap Hasil Belajar Siswa Pada Pelajaran Ips Kelas V. *Jurnal Pendidikan Modern*, 6(2), 100–107. <https://doi.org/10.37471/Jpm.V6i2.207>
- Rikawati, K., & Sitinjak, D. (2020). Peningkatan Keaktifan Belajar Siswa Dengan Penggunaan Metode Ceramah Interaktif. *Journal Of Educational Chemistry (Jec)*, 2(2), 40. <https://doi.org/10.21580/Jec.2020.2.2.6059>
- Rusman. (2012). Model-Model Pembelajaran Mengembangkan Profesionalisme Guru. Pt. Raja Grafindo Persada.
- Tafonao, T. (2018). Peranan Media Pembelajaran Dalam Meningkatkan Minat Belajar Mahasiswa. *Jurnal Komunikasi Pendidikan*, 2(2), 103. <https://doi.org/10.32585/Jkp.V2i2.113>
- Tanjung, N. A., Azhari, I., & Milfayetty, S. (2023). Development of Interactive Media with Using PBL to Improve Student Learning Outcomes in Grade 4th Social Science Subject. *Randwick International of Education and Linguistics Science Journal*, 4(4), 1031-1044. <https://doi.org/10.47175/rielsj.v4i4.865>
- Wulandari, W., & Syur'aini. (2022). Pengaruh Penggunaan Model Pembelajaran Kooperatif Tipe Stad Terhadap Prestasi Belajar Ips Peserta Didik Paket B Di Pkbn Gempita. *Ranah Research*, 4(2), 151–159.