

Development of a Team Games Tournamen Model Based on Multilevel Games to Increase the Motivation to Learn IPS of Students

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Abstract: The low motivation of students to learn social studies reflects the ineffectiveness of learning models that are in accordance with students' learning needs. Teachers should find out students' learning needs that can be used to improve learning motivation because it is very important and is one aspect that influences the success of learning. This type of research is a development research with a Design Thinking model to improve students' motivation to learn social studies by understanding their learning needs through five stages, namely Empathize, Define, Ideate, Prototype, and Test. Data collection techniques use observation techniques, interviews, diagnostic tests and questionnaires. The data analysis technique uses qualitative and quantitative descriptive data analysis techniques. Based on the learning model developed in this study in the form of a TGT model based on tiered games Sambung Kata, Tebak Gaya and Family Seratus and has been tested on users using a Likert scale, valid results are obtained, very practical and effective in improving the motivation to learn social studies of class VIIIF students of SMP Laboratorium UM. With indicators of students having full awareness to follow learning, the desire to have good grades, the desire to do assignments on time, and not getting bored easily in following social studies learning.

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Introduction

Indonesia ranks 69th out of 78 countries in global education quality based on the 2018 PISA (Program for International Student Assessment) report released by the OECD (2019). One important indicator that contributes to the low quality of education in Indonesia is the low motivation of students to learn. Data from the Ministry of Education, Culture, Research and Technology (Kemendikbudristek) in 2022 noted that more than 37% of junior high school students showed symptoms of disengagement or active non-engagement in the learning process, especially in face-to-face learning after the pandemic (Kemendikbudristek, 2022). In line with this, the BPJS Health report (2021:45) shows an increase in psycho-educative complaints in school-age children, which correlates with low interest and motivation to learn.

Hamzah B. Uno as cited by Rahman (2021: 292-293) states that learning motivation is an internal and external encouragement in students who are learning to make changes in

behavior. According to Deci and Ryan (2020: 70), learning motivation is strongly influenced by the fulfillment of three basic psychological needs, namely competence, autonomy, and relatedness. Low fulfillment of these aspects, especially in a learning environment that is not adaptive to students' learning styles, is the cause of decreased motivation. If this is left unchecked, according to Nasution and Huda (2021:80), it will have an impact on low academic achievement, increased learning boredom, and even the risk of early school dropout. Therefore, it is crucial to design learning solutions that are able to respond appropriately to students' needs and characteristics.

According to Arifin and Budiarti (2020: 123), the strategy that can be used is the implementation of active learning models based on collaboration and healthy competition. Of the various active learning models available, Slavin (2020: 785) states that the Teams Games Tournament (TGT) model is one of the most effective cooperative learning models in increasing learning motivation, especially for students with kinesthetic learning styles. This is because TGT combines group dynamics, educational games, and competition that stimulate students' learning spirit.

The TGT model has various variants, and the selection must be adjusted to the learning objectives and characteristics of the students. Research in the last five years by Hidayat and Rahmawati (2021: 45) shows that the TGT model based on the word connect game has succeeded in increasing student learning motivation in Indonesian subjects, as well as students' skills in explaining material orally. Furthermore, research by Pramono (2022: 103) states that the use of the TGT model based on guess the style game significantly increases students' learning motivation in science lessons as well as their ability to demonstrate material according to their daily experiences and contexts. Recent research by Sulastris and Yuniarti (2023: 58) also shows that the TGT model based on the family hundred game is not only effective in increasing learning motivation in social studies lessons, but also develops students' problem solving skills in the context of educational games that are reflective and collaborative.

Although the three studies show the effectiveness of the TGT model in increasing learning motivation, the focus of each study is still limited. Research by Hidayat and Rahmawati (2021: 45-52) only focuses on increasing motivation and explaining skills in Indonesian subjects. Pramono (2022: 103-111) focused on motivation and demonstration skills in science lessons. Meanwhile, Sulastris and Yuniarti (2023: 58-68) emphasized more on the aspects of motivation and problem solving skills in social studies subjects. No research has been found that specifically examines the use of TGT models tailored to students' kinesthetic learning styles, in the context of social studies subjects by integrating 3 competencies which include explaining, demonstrating and solving problems.

Based on the results of diagnostic tests on seventh grade social studies learning at UM Laboratory Junior High School, most students have a kinesthetic learning style. However, in practice, these needs have not been optimally facilitated. So that several problems arise in learning as a result of initial observations in the form of students who are more engrossed in playing alone or chatting with their classmates, lack of participation during question and answer sessions, and lack of active students in group discussions. The condition is exacerbated by the social studies learning schedule which is in the last hour of Tuesday and Friday, where students' social-emotional conditions tend to decline (sleepy, tired, and less focused). This is reinforced by the results of students' visual reflections through face drawings on sticky notes that illustrate their mood and emotional state during learning.

The low motivation of students to learn social studies in class VIIF SMP Laboratorium UM is important to be resolved immediately. This is because this condition can have a negative impact on the understanding of material and overall student learning outcomes both in cognitive, affective and psychomotor aspects. The cooperative learning model that can facilitate the learning styles of students who are mostly kinesthetic as a result of the research above is the Teams Games Tournament (TGT) model. The Teams Games Tournament (TGT) learning model according to Wilujeng as cited by Setyaningrum and Asrofah (2024: 3) is learning where students in groups with different abilities participate in learning material tournaments that are followed by all students. In addition, this type of tournament learning game involves students becoming tutors to explore the material. This model can improve teamwork with elements of games and tournaments, thus creating a fun and competitive learning atmosphere.

The steps of implementing the TGT model are: (1) Class presentation: the teacher explains the material and TGT learning techniques so that students can understand and follow each learning step well; (2) Team formation: students are formed into 4-5 groups heterogeneously; (3) Games: games in this learning model are designed with questions that assess students' understanding of the material; (4) Tournaments: students take part in academic tournaments by playing smart and competing to get the highest points and become winners; (5) Team recognition: teams that show the best work will get awards (Thalita, A, et al 2019: 149). The integration of the TGT model with interesting game techniques in the form of games "Sambung kata, Tebak Gaya and Family Hundred" is in accordance with the social studies learning objectives to be achieved in class VIIF, namely students can explain, demonstrate and solve problems given in group learning which is expected to increase active participation and student learning motivation. There is no previous research that integrates these three game techniques. The novelty of this research aims to fill the void.

Through this research, it will be thoroughly explained the development stage using Design Thinking to the implementation stage in the classroom in order to determine the effectiveness of the development of the TGT model based on graded games "Sambung kata, Tebak Gaya and Family Hundred" towards increasing student learning motivation. The indicators of increased learning motivation in this study refer to the book "Contemporary Innovative Learning Strategies" by Wena as cited by Hidayah, Zulaihati and Sumiati (2023: 8) which includes students' awareness to take part in learning, students' desire to have good grades, students' desire to do assignments according to the specified time, not easily bored in participating in learning. So that the title in this study is "Development of a Teams Games Tournament Model Based on Graded Games to Increase Social Studies Learning Motivation of Class VIIF Students at UM Laboratory Junior High School".

Research Method

This research uses the type of development research (Research and Development/R&D) which aims to produce products in the form of Teams Games Tournament learning model based on multilevel games and test its validity, practicality, and effectiveness in increasing students' social studies learning motivation. The development model used in this research is Design Thinking which is a product development approach centered on user needs through five stages: Empathize, Define, Ideate, Prototype, and Test (Brown, 2020; Dam & Siang, 2021). This model was chosen because it is relevant to the needs of educational innovation that is adaptive to student dynamics in the school field.

The subject of this research was students of class VIIF SMP Laboratorium UM in the 2024/2025 school year. The object of this research is the development of a Teams Games Tournament model based on multilevel games in social studies learning. Data collection techniques in this study used observation techniques, interviews, diagnostic tests and questionnaires. The observation technique was carried out to identify the real conditions of student learning motivation and learning needs in class VIIF. The observation instrument used a checklist-based non-participatory observation sheet. Structured interviews were conducted with several students to deepen the information obtained from the observation results. The interview guidelines were prepared based on indicators of learning motivation and learning needs based on students' learning styles. Diagnostic tests were filled in by students to find out all students' learning styles at the beginning of the learning activities.

The questionnaire in this study was designed using a Likert scale (Strongly Disagree, Disagree, Agree, Strongly Agree), as recommended by Creswell and Creswell (2018: 322). The validity test questionnaires were filled in by master teachers and PPL colleagues to determine the validity of the model developed in accordance with what should be measured before the test is carried out. Practicality and effectiveness questionnaires were filled out by students and social studies teachers after the test or research took place to determine the level of practicality and effectiveness of the research objectives, namely increasing students' social studies learning motivation. The data analysis techniques in this study were carried out descriptively quantitative and qualitative. Observation and interview data were analyzed qualitatively using data reduction techniques, data presentation, and conclusion drawing (Miles, Huberman, & Saldaña, 2020: 114). Diagnostic test and questionnaire data were analyzed quantitatively using percentage techniques and category average scores based on the Likert scale as stated by Sugiyono (2021: 146).

Result and Discussion

The results obtained based on the Design Thinking development model applied in this study are a series of systematic planning processes that aim to formulate solutions to overcome the main problem in this study, namely the low motivation of students to learn social studies. The design is made systematically and gradually starting from the empathize stage by conducting observations, interviews and diagnostic tests to the target subject. Data from observations, interviews and diagnostic tests are used as a source of information at the define stage so that it is known what the target needs are prioritized. Furthermore, entering the ideate stage, several solutions are formulated and then selected which one is the best idea and can be implemented. After designing the idea carefully, the prototype stage is continued, namely making a sample of the product to be made and then tested at the test stage.

1. *Emphitize*

At the emphitize stage, direct observations and interviews were conducted during the learning process and after learning activities. This observation was conducted on Tuesday, February 04, 2025 at 12.50-14.10 WIB at the same time as conducting PPL 2 class observations. During the observation, Pamong teachers applied a problem-based learning model with cooperative learning methods to improve students' critical thinking skills. When learning takes place students look weak, tired and lethargic because social studies lessons are held at the end of the lesson. When the teacher conducted a class discussion, only a few students were active in the discussion activities. There were even some who played alone, played with their classmates and chatted about other things. When group

work activities took place, only one or two group members worked on the task, while the others were looking for their own activities and were not actively involved in learning activities.

The results of the above observations are reinforced by the results of interviews conducted with five students on Tuesday, February 04, 2025 at 14.20 WIB until completion with the interview results in the following table:

Table 1. Results of Interviews with Students

No	Interview Results
1	My feelings when learning social studies in class were sleepy, bored, tired because the learning was held in the last hour.
2	I feel that social studies learning is not in accordance with my interests and needs..
3	I want to learn social studies with fun and challenging games..
4	Social studies learning is not fun so I am not motivated to learn.
5	I often work together in groups and prefer group learning.
6	I easily understand social studies lessons if they are fun, enjoyable and I am challenged.
7	I find it difficult in learning social studies applied by the teacher.
8	The thing that makes me feel uninterested when learning social studies takes place because the learning is always like that and less challenging.
9	My suggestion is that social studies learning should be cool, fun and interesting by using games.
10	I prefer learning social studies through play or games.

To strengthen the results of observations and interviews, a diagnostic test was conducted at the beginning of guided learning activities which took place on Tuesday, February 18, 2025 at 12.50 WIB until completion to find out the learning needs of all students through the results of their learning style tests. The diagnostic test results show that most students have a kinesthetic learning style. Through interview data, observations and diagnostic tests, it can be seen that the core problem is the lack of facilitation of most kinesthetic learning styles of students so that students lack motivation to be actively involved in learning activities. There is a need for a learning model that can increase the learning motivation of students who are mostly kinesthetic.

2. Define

The define process is done by identifying the core problems that will help the designer in solving student problems based on the results of the previous emphasize stage. At this stage the designer creates a Journal Map to map the steps that the user goes through which in this case the students to implement the learning model that will be designed or developed. The results of the Journal Map in this study are as follows :

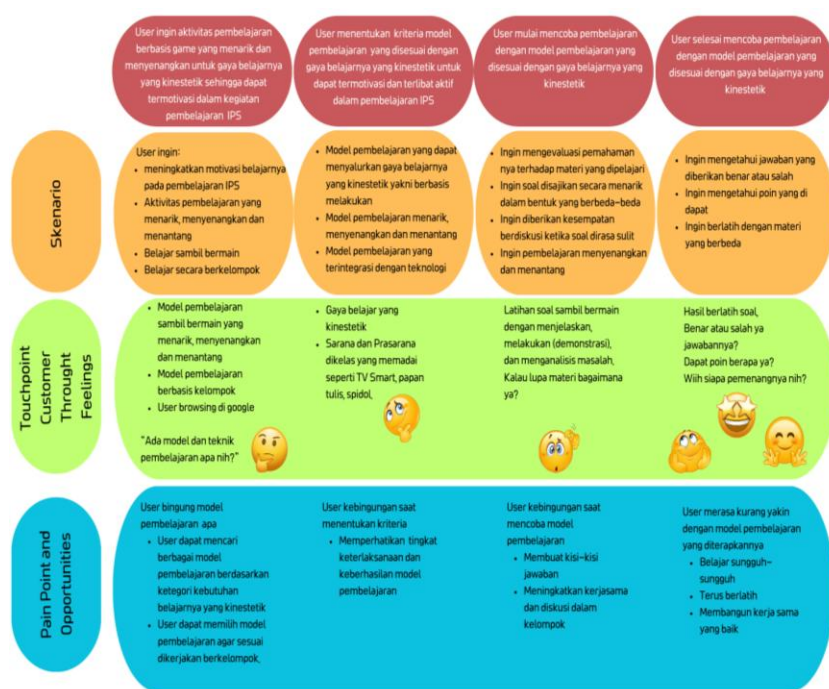


Figure 1. User Journey Map Result

Core formulation: How to design an innovative learning model that can increase kinesthetic students' learning motivation?

3. Ideate

In the Ideate phase, ideas are generated by collecting as many ideas as possible that can be a solution and choosing the best alternative solution as the problems experienced by users, in this case students in the form of low motivation to learn social studies. Ideate that exists in this study is to determine the innovation of game-based learning model or games that can be done in groups and interesting, challenging and fun. With the hope of meeting the learning needs of students who are mostly kinesthetic so that they can be motivated in learning social studies such as team games tournament models with snakes and ladders techniques, monopoly, word connect, guess the style, family hundred and treasure map as in the following table

Table 2: Some Game Techniques from Ideate

Idea 1: Integrate snakes and ladders game with the material to improve students' skills in groups to answer the questions provided if the snake goes up and prepare questions to ask if the snake goes down.	Idea 2: Monopoly game to evaluate students' understanding of the concepts learned in groups.	Idea 3: A word-joining game to improve students' cooperation skills in explaining the concept of the material learned in word order.
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Idea 4: Guess the style game to improve students' cooperation in demonstrating examples of the concepts learned based on the surrounding life.	Idea 5: Family hundred game to improve students' skills in discussing and analyzing problems related to the concept of the material studied	Idea 6: A treasure map game to encourage students to share answers or questions with other group members.
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Based on the ideas of some of the games above, the designer decided to integrate word connect, guess the style and family hundred games with a multilevel competency system by considering the learning objectives to be achieved, namely as follows:

- Through Teams Games Tournament based on Word Connect multilevel games, students are able to explain the concepts of Money, Income, Savings, Investment, Financial Literacy and Family Financial Management appropriately.
- Through Teams Games Tournament based on Guess the Style leveled games, students are able to demonstrate examples of activities related to Money, Income, Savings, Investment, Financial Literacy and Family Financial Management appropriately.
- Through Teams Games Tournament based on Family Hundred level games, students are able to analyze and solve problems related to Money, Income, Savings, Investment, Financial Literacy and Family Financial Management appropriately.

The three games selected and implemented with a multilevel system according to the competencies to be achieved above are expected to create an interesting and fun learning atmosphere. Students become more focused on learning material concepts so that they can answer every question presented in different forms by the model teacher. Students also become challenged and motivated to win each round of both games and matches as the syntax in the teams games tournament. This is in accordance with the main objective of the research in order to solve the problem of low motivation of students to learn social studies.

4. *Prototype*

Prototype development as explained by Dam & Siang (2021) is an integral part of design thinking and user-centered design, because prototypes allow us to test ideas and improve them in a short time. The type of prototype made in this research is a high fidelity prototype where the manufacturing process is close to the final product. This type was chosen because it is considered to be more interesting and everyone can imagine the final form of the product, trials will produce more accurate input, can be tested widely, and the potential for use is more clearly visible. The process of preparing the prototype in stages is as follows:

- Design

The following design approaches the final product in this study:

Word Connections

Guess the Style

Family 100



Figure 2. Approximate Design of the Final Product

b. Learning Syntax (Steps) Design

1) The Game

a) Word Connections

- The teacher explains the game system with the Word Connection technique, which is an alternating system from group 1 to group 6.
- The teacher asks the group leader to open the envelope containing the Que Card and start with the first word according to one of the concepts of the material being studied.
- The leader guides and explains the first word according to the concept learned, followed by word connection by group members.
- The teacher counts down the predetermined word connect time which is only 3 minutes.
- The teacher, group leader and all students analyze the word connection that has been done by the player group to determine whether it is right or wrong.
- Determination of points (Correct plus 20, wrong not deducted).

b) Guess the Style

- The teacher explains the game system with the Guess the Style technique, which is an alternating system from group 1 to group 6.
- The teacher asks one of the group members to open the envelope containing the Que Card and demonstrate the question about the example of the concept of the material that has been learned.
- Other group members quickly guess the force demonstrated by one of their group members in accordance with the example of the concept of the material learned.

- The teacher counts down the predetermined style guessing time of 3 minutes.
- The teacher and all students pay attention to the player group if the guessing style has been successful before 3 minutes then the group gets points.
- If the time runs out the group cannot answer correctly it can be answered by another group and the points are taken by another group.
- Point Determination (Correct plus 20, wrong not deducted).

2) Match

a) Family 100

- The teacher reads out the match system with the Family Hundred technique for students to compete for the highest points and become the winner.
- The teacher reads out the competition questions.
- Students discuss in groups before answering
- Students determine the group members who will compete to 1 and so on
- Students take turns in answering each question given by the teacher so that all group members can participate.
- Group representatives quickly take the objects provided in order to answer.
- Determination of Points (Correct plus 20 and wrong minus 20)

c. Available Media

- 1) Envelopes and Que Cards containing word connect questions related to understanding the concept of the material learned.
- 2) Envelopes and Que Cards contain guess the style questions about examples of the concepts of the material studied for students to demonstrate.
- 3) Power Point Family Hundred which contains analysis questions to improve students' problem solving skills.
- 4) Used bottles (quickly taken by each group member in order to answer Family Hundred questions)
- 5) Points and Stars board to count the points

d. Resources

The resources used in making this prototype include: (1) the time needed to design and implement this prototype is 3 days; (2) the labor needed to design the prototype is close to the final design of the product being made; (3) the funds needed to build one prototype is Rp. 40,000 to print Que Cards, point boards, and stars and buy envelopes, tape, markers, (4) other media provided independently by the designer.

e. Prototyping Results

The final result of the prototype is close to the final design as the results of the validity test questionnaire filled out by the teacher and 7 PPL colleagues on Thursday, February 20, 2025 with a validity level of 75% with a valid caterogy without revision from what was planned. The components that must be present are Que Card about word connection, Que Card about guessing style along with envelopes, PPT about Family Hundred, used bottles for media to be quickly taken by each group member in order to answer Family Hundred questions. Point board and stars to count the points.

f. Test

At this test stage, the finished product was tested at the previous stage, namely the TGT model based on multilevel games, precisely on Tuesday, February 25, 2025 at

12.50-14.10 WIB. This trial was conducted to users, namely VIIF class students of UM Laboratory Junior High School. After the product test is carried out, users can provide input precisely during the reflection at the end of the learning activity and when filling out the practicality and effectiveness test questionnaire based on their experience of implementing learning with the designed product. This input by users will then be used as a review and material for product improvement in order to produce a better product. The following are the results of product trials by users.



Figure 3 Product Test Results to Users

After the product is tested or tested, a practicality test is carried out through a questionnaire filled out by 31 respondents consisting of 30 students and 1 social studies teacher on Tuesday, February 25, 2025 at 14.00 WIB until completion with a practicality result of 92% with a very practical category that does not need to be revised. The following is a diagram of the results of the practicality test in this study:

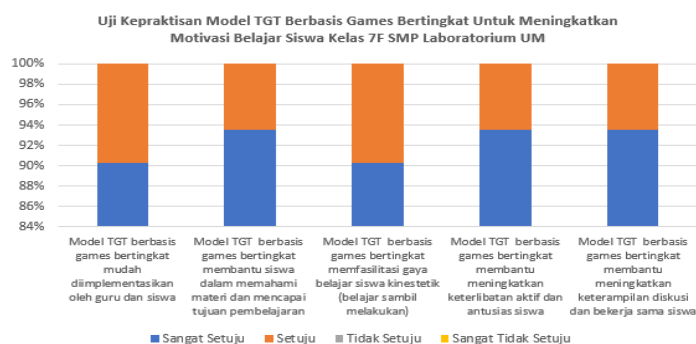


Figure 4. Practicality Test Results

In terms of student learning motivation, the results of observations made during the product test have increased. All students have full awareness to participate in learning

because they have the desire to win games and matches or have good grades, students have the desire to answer or do tasks according to the specified time, and students are not easily bored in participating in learning. This is supported by student learning outcomes which also increased based on the results of the initial cognitive diagnostic test and the results of the formative assessment at the end of learning, namely from an average learning outcome of 65 to 91 with a percentage increase of 40%. Also supported by the results of the effectiveness test questionnaire of 96% with the effective category filled in by all students on Tuesday, February 25, 2025 at 14.05 WIB until completion. During the learning activities, there were no more students who were sleepy, playing alone and chatting about other topics because what was seen was that students were interested, excited, happy and focused on the discussion to be able to answer questions with a fast-paced system.

Conclusion

Based on the results of the research and discussion above, it can be concluded that the development of the TGT (Teams Games Todurnament) model based on multilevel games in this study meets the validity test of 75% with a valid category and 92% practicality with a very practical category by users. The developed model is successful in increasing student learning motivation with indicators of students having full awareness to take part in learning because they have the desire to win games and matches or have good grades, students' desire to answer or do tasks according to the specified time, and not easily bored in participating in learning. This is supported by student learning outcomes which also increased by 40%. Also supported by the results of the effectiveness test questionnaire filled out by all students with an effectiveness result of 96% in the effective category. So that the product development that has been carried out and has been tested or tested by users, is effective in increasing the learning motivation of users, in this case students of class VIIF SMP Laboratorium UM.

Recommendation

The results of this study in the future are expected to be a reference for educators in applying learning models that can increase student learning motivation, especially in social studies learning, namely the TGT model based on multilevel games. Also in order to improve the quality of education in Indonesia

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