Research Article

Development of A Reciprocal Learning Model with The Assistance of Hypnoteaching (SuReL) to Develop Social Attitude, Self Confidence and Mathematical Problem-Solving Ability of Students

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ARTICLE INFO	ABSTRACT
	This study aims to create a Suggestion Reciprocal Learning (SuReL) with the aid of the Hypnoteaching model to develop students' social attitudes, self-confidence and mathematical problem-solving abilities that are valid and effective at Junior High School Tarutung, North Tapanuli. The method used in this research is research and development methodology with 5 stages of development by Plomp i.e. (1) initial assessment (define), (2) design, (3) realization (construction), (4) testing, evaluation and revision (develop), and (5) implementation (experiment) by considering three product quality criteria from Nieveen, such as validity, practicality, and effectiveness. This research and development resulted in several learning tools: (1) Suggestion Reciprocal Learning (SuReL) with the aid of the Hypnoteaching SuReL model, (2) Teacher and Student Handbooks, (3) Lesson Plans, (4) Syllabus, and (5) Student Worksheet. The results showed that the learning tools developed met valid criteria and could support the application of the SuReL model. The practicality level of the SuReL model using learning tools (Lesson Plans, Teacher Handbooks, Student Manuals, Student Worksheets and Learning Outcomes Tests) in the implementation of learning in class is in the high category. The effectiveness of the SuReL model can be concluded: (i) The acquisition value of students' social attitudes is 3.50, including in the very good category. (ii) The acquisition value of self-confidence is 2.77, including in the good category. (iii) the percentage of students who have a high level of mastery is 40% of 30 students. and (iv) student responses to the components and learning activities of the SuReL Model are positive. **Keywords:** SuReL Model, Hypnoteaching, Social Attitude, Confidence, Mathematical Problem-Solving Ability

INTRODUCTION

Educators, students, the environment, various forms of learning media, and various learning models are just some of the factors that have an impact on whether or not learning goals are met during the process of learning that takes place in a school setting. According to the objectives of the national education system, the significance of the educational experience lies in the fact that it contributes to the formation of a "whole person," that is, an individual who possesses both the capacity and the personality to grow (Untari, Hasanah, Wardana & Andhita, 2022). According to Calado, Scharfenberg and Bogner (2015), the learning model is an essential component of the learning process. This is because the fact that the learning model plays a significant part in and contributes to the accomplishment of the educational objectives that are wanted. A learning model is a learning approach that is utilized by the educator in the process of instructing a specific subject (material), and when picking a model, it must be adapted in advance to the subject matter being taught (Çınar & Çepni, 2021). The level of cognitive

development of the pupils as well as the facilities or facilities offered must be in agreement with the learning objectives for the desired learning model to be correctly attained. The learning model is a framework that serves as a principal point of reference for the process of lesson and tutorial preparation. The learning model is a conceptual framework that outlines a methodical process for structuring learning experiences to accomplish particular learning goals. It also acts as a guide for instructional designers and educators in the process of developing teaching and learning activities. According to this interpretation, the learning model ultimately results in a learning strategy that consists of goals, syntax, and processing systems.

The utilization of a learning model is a strategy or method that is carried out by a teacher in the execution of teaching and learning activities. These activities involve students as the beneficiaries of knowledge gained from learning activities. The importance of utilizing a learning model cannot be overstated. The results of a survey conducted by researchers at junior high schools throughout Tarutung City show that until now learning at the junior high school level still tends to be teacher-oriented centered (Putri & Setiawan, 2022). Many teachers, especially teachers who teach mathematics, do not know about various active learning models, this can be seen from the tendency of teachers to choose the lecture method in the teaching and learning process in class. If learning like this is allowed to continue, the preparation of 21st-century skills for students will experience delays (Rohaeti, 2019).

To overcome this, a model needs to be modified and created with other models. This means flexibility needs to be developed. Moreover, the teacher's role in learning is as a facilitator. It is necessary in describing a model that it is better to allow for changes in making adjustments to existing needs.

LITERATURE REVIEW

Learning should be able to accommodate building student competence as a whole, namely knowledge, skills and attitudes (Yin, Zhang, Wang, Wang & Li, 2022). The 2013 curriculum makes attitude one of the graduate competency standards that must be achieved by every student. Social attitudes become a very important thing in living together in a society, considering that we live in the Indonesian society which has a variety of differences and of course during its life humans are not will never be separated by an interaction with other humans. The importance of social attitudes is one of the things students must develop if they want to be successful in becoming part of society and living in the future. According to Rufaida (in Taofik & Juandi, 2022), social attitudes are needed to establish relationships with other people in everyday life. Social attitude is an act of a person to live in society such as helping each other, respecting each other, interacting with each other, and so on. Social attitudes need to be developed because they can create a peaceful, harmonious, comfortable, and serene living atmosphere. Social attitudes are actions that can overcome various problems that exist in society by thinking together.

In the meantime, Rufaida stated that the low social attitudes of students may be recognized from the lack of social awareness of students with friends, lack of sensitivity to the environment, and lack of socializing and communication between students (Syamsuddin, Rama & Kasim, 2021). The lack of empowerment of social attitudes and the low mastery of social attitudes in students is also related to the many applications of the learning process that are not appropriate. Learning that is traditional, focused on the instructor, and places only emphasis on learning a low level of comprehension will not be able to create social attitudes. Traditional methods of education are unable to adequately assist students in the process of cultivating cooperative, honest, disciplined, responsible, tolerant, and democratic attitudes between different ethnicities in the context of the educational experience. Research that was carried out by Boleng et al. (2018) found a decline in the social attitudes of pupils who attended classes that studied using conventional methods. This is connected to learning activities that are dominated by the teacher and the absence of opportunities for pupils to interact with one another. As a result, the impression that students acquire in a good way about being able to socialize and work together in the classroom is diminished. According to Bustami et al. (2018) study, social attitudes are necessary in day-to-day living and can be used to place oneself. This is necessary for a person to be able to socialize and engage with others in their family, and community, as well as in their school or college. If a person can communicate with others effectively, then the life that they lead will be full of harmony and tranquility. In order to learn well, one must also possess certain social attitudes. Students will have the ability to work together effectively to accomplish their educational objectives if they have positive social attitudes. Additionally, social attitudes have an impact on the extent to which students are able to reach their learning outcomes.

One of the required subjects in junior high school is mathematics, which serves the important purpose of laying the groundwork for students' intellectual, social, cultural, and social development. This lays the groundwork for students to be able to foster responsible ways of thinking, behaving, and behaving as individuals, citizens, and citizens of the world. In addition, the study of mathematics is tasked with the development of

students' social skills in order to provide them with the ability to deal with social problems, including those that affect themselves as well as society and that are encountered in everyday life. This is something that can be accomplished if mathematics education programs in schools are carried out in an effective manner (Nurdiansyah, Syam, Amaliyah & Yahya, 2021).

In the process of learning mathematics at school, a teacher plays a very important role, including in terms of determining attitudes. As Ma & Kishor (1997) explained, a mathematics teacher must understand the relationship between students' attitudes toward mathematics, and their achievement in learning as a very large thing. The same thing was also stated by Hendler (1995) in his findings which stated that the social interaction that occurs between teachers and students at school plays an important role in terms of forming social attitudes of students. Furthermore, the findings of Wilkins state that students who have broader perceptions of mathematics and higher learning motivation are students who have a higher positive attitude compared to other students. That is, the mental activity of a student in building knowledge and attitudes is a differentiating factor that determines the level of knowledge that exists within the student himself. The findings of his research also state that students who have good social attitudes will have high learning achievement and good learning independence. The findings from Minggi (Craig, 2020) in his research also state that attitudes towards mathematics lessons at school have a positive influence on the mathematics learning achievements of class VIII SLTP students who are Islamic-oriented in the city of Makassar. Several other studies by Wahyuni examine the attitude that occurs in teaching mathematics at school, which examines the influence of attitudes on students ' mathematics learning outcomes at school. The results he got showed that there was a positive influence between attitudes towards students' mathematics learning outcomes at school. The same thing was also carried out by Hartati in her research which found the influence of attitudes in mathematics lessons on student learning outcomes. The results show that there is a significant influence between attitudes in mathematics lessons on student learning outcomes at school (Zhang et al., 2022).

According to findings published by Fitria et al. (2019), the frequency with which teachers do attitude aspect assessments is still relatively weak. It is still difficult for teachers to conduct accurate attitude assessments, and they have a lot of room for growth in terms of their ability to comprehend the personalities of their pupils. According to the findings of S. Napitupulu and F. D. Napitupulu (2019), and Kisno et al. (2022), teachers are required to continue engaging in extensive consultation with the teacher group prior to implementing student attitude evaluation. The same phenomenon was discovered in Asmarawati's research, which revealed that teachers had not merged KI-1 and KI-2 into KI-3 and KI-4. This was a finding that was consistent with what was found in the previous sentence. In contrast, the learning expectations of the curriculum for 2013 state that teachers should be able to bring students up to KI-1 and KI-2 through KI-3 and KI-4 through indirect instruction. The integration of social attitudes and spiritual attitudes in the learning that is carried out by the instructor is expected to be deeper and more developed in this learning material compared to other materials, according to the expectations that have been set. In a similar vein, research conducted by Marlina et al. (2021) discovered that educators continued to struggle when attempting to evaluate the social attitudes of their students. Constraints are expressed as still having difficulties in determining competence and displaying indicators of social attitudes, still having difficulty compiling assessment rubrics, not being careful when observing, still not being skilled in determining assessment techniques, and still having difficulties describing conclusions based on assessment data. A lack of preparedness on the part of teachers appears to be another factor contributing to the challenges of fostering empowering social attitudes in educational settings.

The results of a survey conducted on mathematics teachers in junior high schools in Tarutung City show that teachers strongly agree that maturity in the development of social attitudes can help individuals develop themselves both as individual beings and social beings so that they can shape their personalities in society. However, the reality that occurs in the field shows that there are still many teachers who have not tried to create a learning climate that can develop these social attitudes. Many mathematics teachers do not know about various active learning models that can develop students' social attitudes, this can be seen from the way teachers choose learning methods. Teachers prefer to use the lecture method in the teaching and learning process in the classroom. Activities like this will certainly hinder the process of preparing 21st-century skills that must be possessed by students. Learning mathematics is very important both as a tool, as knowledge and as the formation of attitudes. After conducting more in-depth findings, it turns out that their reason is that they still don't understand and understand what indicators should be used in measuring social attitudes (Fougère, Solitander & Maheshwari,2020).

Confidence is something that is needed in the 21st century. Confidence is the basic capital of a human being in meeting various needs for himself. Confidence is also a belief that a person has that he is able to behave as needed, to obtain the expected results. Marjanti et al. (2013) says that self-confidence is the courage to face challenges because it gives an awareness that learning from experience is far more important than success or

failure. Confidence is important for participating in public life, as is the case when joining a community in which it is involved in an activity or activities, self-confidence increases effectiveness in activities or activities. Hannula, Maijah & Pohkonen (2004) states that if students have self-confidence, then they can be successful in learning mathematics. Therefore, self-confidence can support students' motivation and success in learning mathematics. Students will tend to understand, find, and fight for the mathematical problems they face for the expected solutions. According to Lauster (2007), " Self-confidence is an attitude or belief in one's own abilities so that the person concerned is not worried about his actions or actions, feels free to do everything he is interested in, and responsible". According to Sidik, Ramlah & Utami (2017) "if a person has good or high self-confidence, then the individual will also be good and will make a person successful, especially in terms of learning. This means that if the student's self-confidence is good, then he will be successful in the learning process being carried out. A student will be successful in the learning process at school if the student can achieve the learning objectives.

The importance of having self-confidence is a separate point for each individual, especially students. Having self-confidence will make it easier for them to take actions that will have a good impact on the performance of each student and vice versa. The consequences of the lack of self-confidence that students have will lead to mistakes and errors in the learning process which will have an impact on students' mental development that is not optimal. The absence of student self-confidence will eventually lead to regret, disappointment, inhibiting intellectual achievement, skills and inability to socialize (Siagan, Saragih & Sinaga, 2019). The impact that also arises from the lack of self-confidence of students is the same as not going through the process of feeling, believing and knowing a knowledge that has been obtained. in each learning process and reduce motivation and processes in developing learning abilities.

A problem related to self-confidence in students will certainly have an impact on student achievement which tends to decrease. This can be seen when students carry out activities about their ability to master the material. Students will feel embarrassed and reluctant and don't even feel confident about the abilities they have. This is because, during the learning process, the students just sit, be silent and pay attention to the directions from the teacher. Most of the conventional teaching methods like this (teacher-centered) are not effective because it is certain that only some students can master the material presented by the teacher. However, the change in the curriculum from 2006 to the 2013 curriculum at this time requires teachers to strive to improve student-centered learning (student-centered). Students are also directed to be able to develop their own thinking skills and expertise confidently with the direction of their teacher. Teachers must also have a highly professional attitude in carrying out each learning process in class so that the expected learning objectives can be realized so that student learning achievement can tend to increase (Ulandari, Amry & Saragih, 2019).

According to the findings of a study conducted by Ameliah (2016), in her research, she found that there was an influence that students' interest and self-confidence jointly had on the outcomes of studying mathematics. He went on to explain that students who have a high level of self-confidence will have a high level of motivation to always want to try to work on math problems, a sense of interest in mathematics, a sense of being challenged to solve math problems, the ability of students to study mathematics, encouragement to getting better, persistence in fighting for goals, students do not easily give up when faced with difficult problems, are confident in their own opinions and ideas, be calm, and be able to adapt.

The results of Zubaidah's research, which were published in Widada, Herawaty, Anggoro, Yudha and Hayati's article in 2019, indicated that self-confidence has a good contribution. Self-confidence can be defined as an attitude or a feeling of confidence in one's own abilities, which allows a person to act without excessive anxiety, to feel free to do things he enjoys, to take responsibility for his actions, to be warm and polite when interacting with others, to have a drive to excel, and to be aware of both his strengths and weaknesses. the research done by Furner and Kumar (2007) said that educators should work to alleviate the concerns that pupils have regarding mathematical concepts. This is necessary so that all pupils have the feeling that they are capable of doing mathematics and are confident in their abilities to do so. This is also backed by a number of earlier studies which found that there is a reasonably favorable correlation between students' self-confidence in learning mathematics and the outcomes of students' mathematics learning (Akben, 2020). This is also supported by the fact that this is the case. This indicates that one will likewise have a high self-confidence index if the mathematics learning outcomes gained are sufficiently high. Therefore, it is essential for each and every student to have and cultivate their own sense of self-confidence. The findings of Hannula, Maijala & Pehkonen (2004), among other things, that the level of belief or belief in oneself has an extraordinarily close association with the degree to which pupils are successful in the process of learning mathematics.

A similar thing was also stated by Marianti et al. (2013) in his findings which stated that the self-confidence possessed by students made a positive contribution to mathematics both when solving problems and after successfully solving problems. When solving problems, students will have the opportunity to be able to develop

their rational and realistic thinking skills. Meanwhile, the positives Another thing that is obtained when students are successful in solving problems is the existence of happiness and satisfaction in students.

Another study by Rohayati and Surdita (2017), stated that less than 50% of students were still lacking in self-confidence with symptoms such as feeling embarrassed when asked to come to the front of the class, feelings of tension and fear that suddenly came during tests, students did not believe in their abilities so that they cheat even though basically students have studied the material being tested, and are not enthusiastic when attending classes and do not like doing homework. The elements that contributed to the challenges that students had when attempting to solve arithmetic issues were a perception that the amount of time allotted was insufficient, a propensity to give up easily, a lack of thoroughness, a tendency to forget, feelings of anxiety, and a rush to complete the questions.

It is essential to recognize that the pupils' sense of self-assurance in their ability to study mathematics was not matched by an understanding of the facts. There are still a lot of pupils that don't have a very high opinion of themselves. This is demonstrated by the findings of the TIMSS survey, which says that on a global scale, just 14% of students have a high degree of confidence in their ability in mathematics. This shows that there is a significant confidence gap in this subject. While 45% of students are considered to be in the medium category, the remaining 41% of pupils are considered to be in the low category. Students in Indonesia were impacted by this issue as well. Only 3% of students have a high degree of confidence in mathematics, while 52% of students fall into the category of students with a moderate level of confidence and 45% of students fall into the category of students with a low level of confidence in mathematics.

One example of a lack of confidence experienced by students is a lack of confidence when expressing opinions in class. This can be seen when learning in class where students are nervous when appearing in front of the class, students who do not ask questions after the teacher gives an explanation of the subject matter, students who are only silent when the teacher gives questions, students who are hesitant in expressing opinions in front of the class, students who look anxious when the teacher gives quizzes/questions, and doubtful if the teacher directs students to move forward (Dwijayani, 2019).

The results of a survey conducted by researchers at junior high schools in the city of Tarutung show that mathematics teachers have not empowered their students' self-confidence. The ongoing learning process shows that the teacher has not shown enthusiasm for teaching. Students are given a number of tasks. However, after students do their work correctly, the teacher does not give praise. The selection of this model of giving praise should be used in accordance with the learning objectives, namely instilling student interest in learning, increasing self-confidence and encouraging student activity, in the form of their ability to solve problems so that their learning is more directed.

To realize an active student activity in learning mathematics, it is necessary to apply a student-centered learning model. Students must view learning as their own activity by reconstructing all subject matter material by associating it with previous knowledge of the material being studied and interacting well with fellow students and also between students and the teacher as a facilitator and motivator. Freudenthal in Wijaya teaches mathematics to students not by placing mathematics as a finished product, but mathematics is a form of activity or process which is a form of activity constructing mathematical concepts.

Taking into consideration this point of view, one of the most fundamental and important skills that kids need to have in order to be successful in learning mathematics in school is the capacity to think critically and solve problems. According to the National Council of Teachers of Mathematics (NCTM), the capacity to solve a problem should be an important concern in the learning of mathematics at every level in schools by implementing it in the mathematics curriculum. This is a recommendation that was made by the NCTM. In mathematics, a problem is described as a situation that has obvious goals but is confronted with hurdles owing to the absence of a recognized method that can break down it in order to achieve a solution. This lack of an algorithm prevents the problem from being solved. In the meanwhile, Polya divides mathematical problems into two categories, the first of which is the problem of finding (also written as a problem to find). The search problem is a type of issue in which the goal is to locate, determine, or obtain the value of a specific object that is not known in the problem while also providing the necessary criteria. While the proving problem is a difficulty with a technique to decide whether a statement is true or not true, the problem with the procedure is that it cannot prove anything. When someone is confronted with a dilemma, they are more likely to make an effort to find a solution to the issue that they are dealing with. Therefore, in order to address the issue, he will need to employ a variety of strategies, such as thinking, attempting, and asking.

The process of trying to discover a solution to a problem is known as problem-solving. In the meantime, Maryam et al. (2021) discovered, through the findings of her research, that the presence of a problem-solving

process is an essential component in the act of merging real-life issues. Students confront a number of obstacles while they are attempting to solve mathematical problems, such as difficulties in grasping the problem itself. This is due to the fact that the problems that these students are attempting to solve have never been encountered before. According to Cooney, the ability to solve mathematical issues is a component of higher-order thinking skills, as is the process of acknowledging the existence of problems and working to identify potential solutions to those problems. According to Solso (quoted in Ulandari et al., 2019), problem-solving ability is defined as a capacity that may be immediately used for the creation of a solution or an exit strategy for a particular situation. In the meantime, Bell (1978) believes that the ability to solve issues is a talent that must be held by students in order for pupils to be able to strengthen their analytical skills and use them in a variety of contexts. In addition, problem-solving helps students learn about facts, skills, concepts, and principles by providing illustrations of the application of mathematical objects and the relationships between these items, as mentioned by Bell. In the meanwhile, the following Table 1 provides a comparison of the stages of problem resolution according to Polya (1973) and Carson (1997).

Table 1. Stages of problem-solving viewed from 3 theory perspectives

Stages in problem-solving		
Polya	Krulik & Rudnick	Dewey
Understanding the problem	Read	Face a problem
Make plans	Explore	Defining and Formulating the problem
Carry out the plan	Choose a strategy	Find a solution
Recheck	Solve the problem	Consequences with solutions
	Review and discuss	Testing consequences

One of the goals in terms of the curriculum that must be achieved during the learning process is the acquisition by each student of the important problem-solving abilities that are necessary. The National Council of Teachers of Mathematics (NCTM) also emphasized how important it is for students to be able to solve problems as a part of their education. According to NCTM (2000), the act of thinking mathematically in the context of learning mathematics encompasses the following five primary standard competencies: the ability to reason mathematically, the ability to link mathematical ideas, the ability to communicate mathematical ideas, and the ability to portray mathematical ideas. This low ability will result in low-quality human resources, which will be demonstrated by low problem-solving abilities. This is due to the fact that the learning that has been going on has not offered students with opportunity to improve their capacity to solve issues as part of their education.

In his research, Zulfitri (2020) also explained that problem-solving abilities must be owned by every student so that they can be trained to deal with problems both problems in mathematics and problems in the field of everyday life. Every student who is able to solve mathematical problems is also able to understand, choose the right strategy, and then apply it in problem-solving. Thus, problem-solving abilities can also be said to be the first step for each student in developing ideas that aim to build new knowledge and develop mathematical skills. This is because solving a mathematical problem certainly requires some abilities or other mathematical skills so that a solution to the problem itself is obtained.

The results of a survey conducted by researchers at junior high schools throughout Tarutung City showed that out of 15 junior high school mathematics teachers, both public and private school teachers, only 20% of teachers developed students' problem-solving skills in the learning process. Students' problem-solving abilities need to be prepared in order to fulfill competencies in the 21st-century so it is appropriate for teachers to choose and develop mathematics learning processes that can improve students' problem-solving abilities.

All data obtained from all the survey results is strong evidence that teachers still do not pay attention to measuring social attitudes, self-confidence, and students' problem-solving abilities in the learning process. The implementation of learning must always be pursued so that the teacher does not only bear the main responsibility in transforming the orientation of students from ignorance to knowing but always refers to skills in dealing with problems and being able to solve problems related to their lives so they can compete globally.

Because of the issues that have been outlined in the previous sections, it is critical for instructors to select an instructional approach that is suitable for their students. Teachers are responsible for not just imparting their own body of knowledge to their charges, but also for creating environments in which pupils can unearth or put into practice concepts of their own devising, as well as for instructing pupils in how to recognize and make conscious use of many methods at their disposal for acquiring new information. Teachers are able to present students with rungs that raise students to a higher level of comprehension by having students write their own student notes in their own words and language. This learning is consistent with the constructivist learning approach, which

maintains that all knowledge is constructed (built) rather than being directly perceived by the senses (smell, touch, hearing, touch, and so on), that the learner actively participates in the construction of his or her own knowledge, and that social interaction is an essential component of the knowledge-building process (Kusuma et al., 2020).

Reciprocal Learning assisted by Hypnoteaching or SuReL (Suggestion and Reciprocal Learning) is learning that is based on the philosophy of constructivism which refers to several principles (Suparno, 2018), namely knowledge is actively built by students themselves, the emphasis on the learning process lies on students, learning emphasizes more on the process not on the final result. In this view, students are individuals who actively build their own knowledge in an atmosphere of interaction with their environment through association and accommodation. The same thing was said by Sundahry et al. (2018) in their research that the Reciprocal model is a learning strategy that is considered appropriate to empower students' critical thinking skills because, in the application, syntax from Reciprocal supports and complements each other in empowering students' critical thinking skills.

The weaknesses of reciprocal lie in students who are weak in reading the meaning of a text, they feel uncomfortable or embarrassed when working in groups involved in the learning process (Andriani, Ningsih, Shara & Shinoda, 2022). Rikza & Santi (2019) also mentioned that one of the challenges that must be faced in reciprocal learning is the importance of encouraging and motivating students when making predictions and increasing self-confidence when asking questions. Meanwhile, Nur Efendi (2022) states that the weaknesses of the Reciprocal Teaching learning model among others: takes a long time, is very difficult to apply if students' knowledge of the prerequisite material is lacking and Sometimes students who are not able will increasingly dislike the learning. But the problem that often arises is the activeness of students, both asking and arguing, which is more dominated by students who are confident. Those who lack confidence are less active in expressing their opinions and ideas. And that is a task that must be answered by us if learning is to be carried out optimally.

The weakness of reciprocal can be overcome by maximizing the subconscious mind, namely through Hypnoteaching. Hypnoteaching is an effort to reduce the frequency of brain waves so that students become relaxed and more suggestive in capturing the positive values of teaching. The findings from Asteria (2022) in their research stated that the Hypnoteaching method can improve mathematics learning outcomes and students' confidence in mathematics. The same thing was also stated by Asteria (2022) in his research that the hypnoteaching method can be done by facilitating student involvement in each teaching and learning process so that they can improve their self-concept about mathematics and produce positive changes in their attitudes and perceptions about mathematics. Furthermore, Ja'faruddin (2023) stated his findings, that Hypnoteaching can increase student motivation and can also facilitate students to build their mathematical knowledge by providing an appropriate environment for learning forms that are meaningful and lead to positive emotional levels that can lead to achievement in learning mathematics.

Integrating reciprocal learning with hypnoteaching in the learning process is through the formation of study groups where each group of students in the class will receive the same treatment, namely hypnotherapy. The formation of groups in learning is known as cooperative learning. Research related to cooperative learning with a reciprocal approach reports that it can improve student learning outcomes (Samili et al., 2022). The findings of Qohar in his research stated that reciprocal teaching learning makes a positive contribution to the achievement of mathematical communication skills and student learning independence. Furthermore, the findings of Sundahry in his research stated that the critical thinking skills of students whose learning used the Reciprocal learning strategy higher than the critical thinking skills of students who received conventional learning in integrated thematic learning in class V, so the Reciprocal strategy Teaching can improve the critical thinking skills of elementary school students.

Based on the description above, it is necessary to do research on the development of the Reciprocal learning model Hypnoteaching assisted learning or SuReL (Suggestion and Reciprocal learning). This learning model was developed to equip students to have social attitudes, self-confidence and problem-solving skills that are needed to fulfill skills in the 21st century. The SuReLl model has several advantages compared to other learning models namely: (a) motivating students, increasing the ability to concentrate, self-confidence, discipline, and organizational as well as social attitudes. b) Teachers can control the class well because students tend to follow what is asked by the teacher, c) The psychological condition of the students is more organized, not crowded or disturbing their friends. d) Lesson material is delivered quickly. e). Students easily understand the subject matter presented. f) Students can see the level of understanding ability.

SuReL model is carried out to produce product specifications in the form of valid, practical, and effective SuReL models which are actualized through (1) assisted SuReL model books hypnoteaching which contains rational model development, supporting theory, and syntax of the SuReL model, (2) syllabus whose learning experience uses the SuReL model. (3) Lesson Plans using the SuReL model. (4) Student worksheets using the

SuReL model. (5) The measurement instrument is in the form of an integrated test with social attitudes and self-confidence, and students' mathematical problem-solving abilities and other instruments related to the needs of this development research. This study aims to develop a SuReL model with the help of Hypnoteaching to improve students' social attitudes, self-confidence and mathematical problem-solving abilities.

METHODOLOGY

Types of Research

This type of research is a type of development research that uses Plomp's research model (Vasconcellos et al., 2020). The stages of this type of design research in developing a learning model are (1) Preliminary research (Introduction/Initial Study), (2) Prototyping Phase (Design Stage), and (3) Assessment Phase (Assessment Stage). The learning model developed is based on the product quality criteria by Nieveen, namely; (1) validity, (2) practicality, and (3) effectiveness. Development of the SuReL model helps Hypnoteaching is also supported by developing learning tools, namely syllabus, lesson plans, student worksheets, teacher books and student books and the instruments from this research support in achieving the research objectives of developing the Reciprocal model. Learning helps Hypnoteaching or SuReL which are expected.

Research Subjects and Objects

The subjects in this study were class VIII students of the SMP Negeri 2 Tarutung district as individual trial groups, small groups and field tests. Grade VIII students of SMP Sipahutar sub-district are subject to field trials in the wider use stage of the product being developed. The objects observed in this study are the process of developing the Reciprocal learning model Learning assisted by Hypnoteaching (SuReL), teacher activity in implementing the Reciprocal learning model Learning assisted by Hypnoteaching (SuReL), student activities in the implementation of learning with the Reciprocal model Learning help Hypnoteaching (SuReL) to develop students' social attitudes, self-confidence and mathematical problem-solving abilities (Asosega, Iddrisu, Tawiah, Opoku & Okyere, 2022).

Procedure and Research Design

The flow of the procedure for developing the SuReL model, learning tools, and supporting instruments from this study can be seen in Figure 1 below.
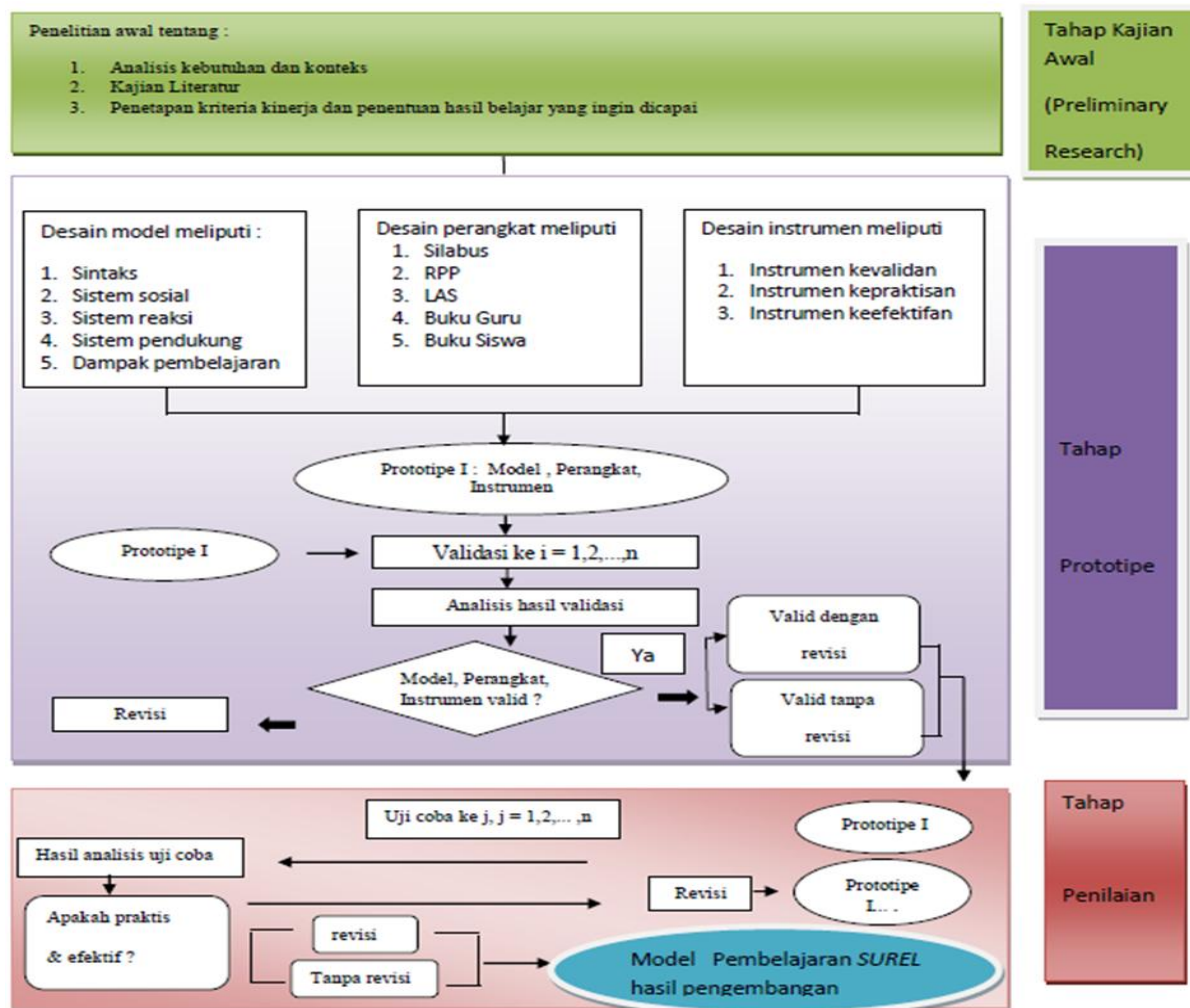
Gambar 3.1. Tahap Pengembangan Model Pembelajaran *Reciprocal Learning* berbantuan *Hypnoteaching* (SUREL)

(Diadaptasi dari Maimunah, 2016:63)

Figure 1. Model development stage

Data Collection Instruments and Techniques

The assessment sheets or validation sheets in this study consisted of Validation sheets for SuReL, A learning device validation sheet that uses SuReL, model implementation observation assessment sheets, Observation validation sheets and student social attitude questionnaires, Validation sheets for integrated test instruments between mathematical problem-solving abilities and student self-confidence, Validation sheets for observing student activities, and students' response questionnaire validation sheets.

Data Collection Technique

The data collection technique used in this study was a test measuring the level of students' mathematical problem-solving abilities, social attitudes, self-confidence, student activity sheets, and student responses to learning.

Data Analysis Technique

The data analysis performed included preliminary data analysis research, data analysis in the prototyping stage, and data analysis in the assessment stage

Preliminary Stage Data Analysis Research

The data at this stage will be analyzed descriptively qualitatively, namely describing the results of the needs analysis conducted in Public and Private Junior High Schools in North Tapanuli Regency, describing the results of curriculum analysis, and describing the results of the study of learning theory that supports the SuReL model.

Prototyping Stage Data Analysis

Prototyping stage In this case, the data will be analyzed descriptively qualitatively on the validity test. Good data analysis for validity is divided into the validity of SuReL and the validity of learning devices. The number of expert validators that will be used for the validity of SuReL was 2 people, the validity of the learning device was obtained from 4 validators, and the validity of other research instruments was validated by 2 validators.

Table 2. Validity category

Coefficient	Category
$1 \leq Va < 2$	Invalid
$2 \leq Va < 3$	Invalid
$3 \leq T < 4$	Fair
$4 \leq T < 5$	Valid
$Va = 5$	Very Valid

According to the criterion (Table 2), the model and the learning device have a fair degree of validity if they reach a valid level of validity at a minimum, which is what the criterion requires. It is important to amend it based on the input (corrections) of the validators if the level of attainment of validity is lower than valid. After that, the validation is carried out once more, and this process will continue until the perfect learning model and device have been derived from the validity measure.

Practicality Data Analysis

The reciprocal model practicality of SuReL was obtained by observing the implementation of the learning model in mathematics with reference to the syntax of SuReL and using supporting learning tools. Data analysis was carried out on the assessment of two observations observing the implementation of SuReL in a pilot class.

Observations were made on the implementation of each aspect of SuReL such as syntax, social systems, reaction principles, and instructional impact as well as the availability of support systems. The results of the assessment of the two observers determined the average value of O from O 1 and O 2 with O 1 = the average value of the observed implementation of the first observer and O 2 = the average value of the observed results of the implementation of the second observer. The feasibility category interval of applying the Reciprocal model Learning help Hypnoteaching (SuReL) help hypnoteaching refers to Maimunah (Alzeebaree & Zebari, 2021)and can be seen in Table 3.

Table 3. Assisted SuReL model practicality criteria

Implementation Average (T)	Criteria
$T < 1.5$	No Implementation
$1.5 \leq T < 2.5$	Less Implementation
$2.5 \leq T < 3.5$	Much Implementation
$3.5 \leq T < 4$	Complete Implementation

Effectiveness Data Analysis

Analysis of the effectiveness of the Reciprocal learning model Learning help Hypnoteaching (SuReL) is supported by the results of data analysis of 3 components of effectiveness, namely: student learning outcomes, student activities, and student responses to Reciprocal Assisted Hypnoteaching Learning Model (SuReL).

Analysis of Student Learning Outcomes

Student learning outcomes data consist of social attitudes (Table 4), self-confidence (Table 5), and students' mathematical problem-solving abilities (Table 6).

Table 4. Social attitude assessment criteria

Score Intervals	Criteria
2.00 - 2.49	Poor
2.50 - 2.99	Fair
3.00 - 3.49	Good
3.50 - 4.00	Excellent

Table 5. Confidence assessment criteria

Score Intervals	Criteria
Score ≤ 1.33	Poor
1.33 < Score ≤ 2.33	Fair
2.33 < Score ≤ 3.33	Good
3.33 < Score ≤ 4.00	Excellent

Data Analysis of Students' Mathematical problem-solving Ability

Table 6. Criteria for achieving ideal student activity time

No	Student Activity Category	Ideal Time	Tolerance Intervals	Criteria
1	Listen to the teacher's explanation	15% of WT	10% - 20%	Three of the student activity categories are met, and Categories 2,4 and 5 must be met.
2	Reading Student Activity Sheets	15% of WT	10% - 20%	
3	Responding to the teacher's explanation, either through questions, giving suggestions, giving answers or responding or giving comments	20% of WT	15% - 25%	
4	Doing the tasks contained in the student's activity sheets	30% of WT	25% - 35%	
5	Ask or ask for help or provide assistance to group mates	20% of WT	15% - 25%	
6	Activities that are not linked to teaching and learning activities, such as not paying attention to the instructor when they are explaining something, or doing other activities that are not related to the tasks that have been given.	0% of WT	0% - 5%	

Data Analysis of Student Responses to SuReL

Data collection was carried out on each student. Each student was asked to fill out a response questionnaire after the lesson was completed. The overall average value of student responses (SR) is then converted based on the criteria in Table 7 The criteria set to state that the students have a positive response to learning SuReL is when more than 80% of students gives a positive response classically.

Table 7. Student response criteria

No	Average Student Activity	Criteria
1	SR < 0.25	Very Negative
2	0.25 ≤ SR < 0.5	Negative
3	0.5 ≤ SR < 0.75	Positive
4	0.75 ≤ SR ≤ 1	Very Positive

The learning model is said to be effective if it meets all the criteria for effectiveness, namely a) the social attitude of students obtained, namely the average of all aspects of social attitudes of students obtains a minimum good category, b) the level of self-confidence of students obtained is the average of all aspects of the level of self-confidence students get the minimum good category, c) student problem-solving abilities obtained, namely 80% of students are in the moderate minimum category, d) student activity in learning with categories, namely three of the student activity categories described above are fulfilled, namely categories 2, 4 and 5 must be met, and student responses to the model are in a positive category.

RESULTS

SuReL Model Validation Results

SuReL model that has been designed in the form of a model book product is then validated by model experts and mathematics subject experts. The results of the validation of the SuReL model can be seen in the attachment. A summary of the validation results of the SuReL model is shown in Table 8.

Table 8. Summary of SuRel model validation results (model book)

No	Aspect	Validators		Average
		I	II	
1	Supporting Theory	5.0	5.0	5.0
2	Syntax	4.8	4.5	4.6
3	Social System	5.0	4.2	4.6
4	Management Reaction Principle	4.7	5.0	4.8
5	Support System	5.0	4.2	4.6
6	Instruction Impact and Accompanying Impact	4.5	4.5	4.5
	SuReL Model Content Validations Score			4.7

The validation results in Table 8 show that the acquisition of the validity value of the SuReL model through the book is model is valid based on the validity criteria. What is meant by validity is that there is support for broad theories and there are links between theories that are quite broad and there are links between theories that are used as a single entity in achieving a goal in the SuReL model that has been developed.

Practicality Results

SuReL model can be seen from the level of implementation of the model obtained from the results of observations by two observers. The results of observing the implementation of the SuReL model can be seen in Table 9.

Table 9. Summary of observation results of implementation

No	Observed aspect	Rating Average meeting to -				Average
		1	2	3	4	
1	Syntax execution	2.57	2.80	3.00	3.33	2.92
2	The implementation of the social system	2.90	3.00	3.25	3.25	3.10
3	Implementation of the management reaction principle	3.00	3.00	3.38	3.50	3.22
4	Support system implementation	4.53	4.70	4.88	4.88	4.74
	Score					3.49

The overall average acquisition of the SuReL model observed by two observers is o = 3.49. Therefore, by the criteria, the level of implementation of the SuReL model in mathematics is that it has been fully implemented.

Effectiveness Results

SuReL model in this study was assessed from aspects of student learning outcomes which consisted of (a) social attitudes, (b) self-confidence, (c) mathematical problem-solving skills, (d) student activity in learning, and (e) student responses to the learning process learning using the SuReL model The following is an explanation of the analysis of each aspect of student learning outcomes.

Social Attitudes

Data on social attitudes were obtained from observation sheets filled in by observers through student self-assessment. The indicators of social attitudes in this study were responsibility, cooperation, tolerance and courtesy. The recapitulation of the acquisition of social attitudes in trial II of the learning process using the SuReL model can be seen in Table 10.

Table 10. The result of the acquisition of social attitudes

No	Aspects of Student Social Attitudes	X a	X o	X
1	Responsibility	3.30	3.73	3.52
2	Cooperation	3.62	3.53	3.58
3	Tolerance	3.23	3.50	3.37

No	Aspects of Student Social Attitudes	X a	X o	X
4	Be polite	3.62	3.53	3.58
	Average Score			3.50

Description: X a = average acquisition of students' social attitude questionnaires

X o = Average acquisition of social attitude observation of students

X = Average social attitude of students

The average gain for the responsibility indicator is 3.52. This score shows that the average student responsibility classically is included in the very good criteria. The cooperation aspect has met the good criteria with an average score of 3.58. The tolerance and courtesy aspects have also obtained very good criteria with an average for each aspect of 3.37 and 3.58. The social attitude in trial II has increased. The results of this student's social attitude are based on the criteria for the effectiveness of the model for social attitudes meets the criteria of effective.

Confidence

Observations of pupils as well as a questionnaire they filled out themselves provided the basis for the data on their levels of confidence. Having confidence in one's talents, acting independently when making judgments, having a positive self-concept, and having the bravery to speak opinions were the markers that were used. You can see in the appendix the results of experiment II on the pupils' levels of self-confidence. Table 11 presents a recapitulation of the students' increases in self-confidence that they experienced during trial II of the learning process utilizing the SuReL paradigm.

Table 11. Gaining student confidence in trial ii

No	Aspects of Student Confidence	X a	X o	X
1	Have confidence in your own abilities	2.60	2.85	2.72
2	Act independently in making decisions	2.55	2.80	2.67
3	Have a positive self-concept	2.76	2.90	2.78
4	Have the courage to express an opinion	2.86	3.00	2.93
	Average Score			2.77

Description: X a = The average acquisition of the student's self-confidence questionnaire

X o = Average gain of observation of student confidence

X = average student confidence

The average gain for the indicator of responsibility is 2.77. The score shows that the average student who has self-confidence is classically included in the good criteria, acts independently in making decisions is included in the good criteria, has a positive self-concept which is included in the good criteria, and has courage in expressing opinions. in good criteria. Student confidence in trial II has increased. The results of this student's self-confidence based on the effectiveness criteria of the model for self-confidence have met the effective criteria.

Students' Mathematical Problem-Solving Ability

The data on students' abilities to solve mathematical problems were gathered through the administration of assessments of students' abilities to solve mathematical problems, and the results were examined using criteria for evaluating students' problem-solving skills. Table 12 provides a data recapitulation of the students' capabilities in terms of their ability to solve mathematical problems.

Table 12. Students' mathematical problem-solving ability

No	Value Intervals	The number of students	Percentage (%)	Category
1	90 − 100	5	17	Very high
2	80 − 89	12	40	Tall
3	65 − 79	8	27	Enough
4	55 − 64	3	10	Low
5	0 − 54	2	6	Very low
	Total	30	100	

From Table 12 the ability of students to solve mathematical problems in the second trial above, it was found

that the number of students who had very high grades was 5 people or 17%, who had grades in the high category were 12 people or 40%, who had scores with enough category as many as 8 people or 27 people, who have a low category value of 3 people or 10%, and who have a very low category value of 2 people or 6%. From the description above, it is found that students who have scores that are in the minimum category are enough for 25 students and those who have scores below the sufficient category are 5 people. Classically the level of students' mathematical problem-solving ability was obtained at 84%. Thus, it can be concluded that the SuReL model is declared effective for increasing students' mathematical problem-solving abilities.

Student Responses to the SuReL Model

The results of student response data in trial II were obtained through giving response questionnaires to students and the results of these data can be seen in the appendix. A recapitulation of the results of the questionnaire for student responses can be seen in Table 13.

Table 13. Recapitulation of students' response results

No	Observed indicators/aspects	Frequency	Percentage (%)
	Feelings of students happy with the components:		
	a. Subject matter	30	100
1	b. Student Book	28	94
	c. Student Worksheets	28	94
	d. Classroom Learning Atmosphere	29	96
	e. How Teachers Teach	30	100
	Average		97.00
	Students' opinions stated that they were new to the components:		
	a. Subject matter	30	100
2	b. Student Book	29	96
	c. Student Worksheets	29	96
	d. Learning atmosphere in class	30	100
	e. How Teachers Teach	29	96
	Average		98.00
3	Are you interested in taking further studies like the one you are following now?	28	96
	What do you think about Student Books and Students' Worksheets?		
4	a. Can you understand the language used in the Student Book/LKPD?	30	100
	b. Are you interested in the appearance (writing, illustrations, pictures and the location of the pictures) in the Student Book	30	100
	Average		100

From Table 13 above it can be seen that the average percentage of students expressing feelings of pleasure towards the learning component is 97.00%, the average percentage stating that they are new to the learning component is 98.00%, expressing interest in participating in the next learning activity is 96% or 29 out of 30 students those who are interested in taking the next lesson understand the language in the student worksheet by 100% or 30 students, and those who express interest in the appearance of the student worksheet are 100% or all students in the class. From the subject matter component, those who expressed feelings of pleasure were 100% and those who stated new were also 100%. From the component of the teacher's way of teaching, the response of students who stated that it was only 96% and stated that they were happy with the teacher's way of teaching was 96%. This may be due to the teacher's habit of teaching in class by applying conventional learning patterns.

Furthermore, the average percentage of student responses from all learning components, namely to learning materials, student books, student worksheets, learning atmosphere, and the way the teacher teaches in SuReL is 97.00%. Based on the effectiveness achievement criteria applied, namely student responses are said to be positive if the average percentage of all student response components is greater than or equal to 80%. From the description above, student responses to SuReL have met the criteria for effectiveness.

This research begins with the problem of low social attitudes, self-confidence and the quality of students' mathematical problem-solving abilities at SMP Negeri 2 Tarutung, North Tapanuli, specifically the inability of students to master mathematical concepts and convert understanding of these concepts into the ability to solve mathematical problems. Efforts are being made to overcome these problems by developing a SuReL model that meets the criteria of validity, practicality and effectiveness. This model is designed in a way to empower students' subconscious minds. This model is the result of a combination of the science of hypnosis with the reciprocal learning model. The learning process of reciprocal learning is to make students accustomed to group division so

that students can be responsible for tasks or roles in their groups. The SuReL model can facilitate students in developing social attitudes, self-confidence and students' mathematical problem-solving abilities.

The SuReL model is built on the constructivism paradigm. According to Oktaweri, Festiyed and Djamas's research from 2019, learning is a series of processes that are internal to each individual and are the outcome of the transformation of stimuli that originate from external occurrences in the individual's environment. A variety of educational theories have been proposed by specialists in an effort to explain how the process of learning actually takes place. Constructivism is one of the various learning theories that have been proposed. According to Yusnita et al. (2018), constructivism is a psychological and philosophical perspective view that holds the belief that the majority of what an individual learns and understands is formed or constructed by the individual themselves. Knowledge, in the eyes of constructivists, is not the same thing as reality but rather a working hypothesis. The formation of human knowledge does not depend on the human body's external components but rather on the human mind itself. Children will not find any value in educational content that cannot be integrated into their developing cognitive structure. On the other side, material can also be entirely digested; however, this means that there will be no learning process that takes place. It is necessary for the content to be both partially known and partially unknown in order for the learning process to take place. The child's cognitive structure will undergo modification as a result of the elements that are not yet known to it, while the parts that are already known will be assimilated. This adjustment is referred to as accommodation, and it can be compared to learning in some ways. According to Piaget's thesis, students need to go through experiences that are difficult for them in order for the process of assimilation and adaptation to lead to intellectual development. When the instructor is aware of the student's current level of cognitive functioning, they will be better equipped to make use of this experience. Therefore, Piaget, who is considered to be a representative of the cognitive paradigm, and the behaviorists arrive at the same conclusion regarding education, namely, that education needs to be individualized. Piaget came to the conclusion that a kid's capacity for assimilation would differ from that of another child and that educational material needed to be modified to accommodate the child's unique cognitive structure.

One of the abilities that must be possessed by students is the ability to solve problems (problem-solving ability). The ability to solve mathematical problems is basically a form of mathematical ability that really needs to be mastered by every student who studies mathematics. problem-solving ability is part of a complex cognitive ability which requires a number of strategies and higher mental thinking processes to solve it. Problem-solving ability is a thought process directed at obtaining solutions to problems (Kisno et al., 2022). Thinking is a process so problem-solving can be viewed as a process. Thus, the process of students in obtaining answers in problem-solving is more concerned than the answers (Rostini, Zaeni Achmad Syam & Achmad, 2022).

Theoretically, the foundation of the science of Hypnosis is the theory of Psychoanalysis by Freud (1981) in 1890. Hypnosis is the ability to bring someone inside the hypnosis stage (hypnosis). Hypnos is a state of consciousness of consciousness) where a person can easily accept various suggestions/suggestions. That is, in this condition, the role of critical areas (temporary data containers to be processed based on analysis, logic, aesthetics and other activities that differ from person to person) is increasingly minimal. Thus, a person will be more easily motivated and this motivation will be embedded and last a long time. Learners who are in a hypnotic state will very easily accept suggestions (suggestions) so hypnosis can be a very powerful and very meaningful tool for students in helping them make positive changes in their development. The leading hypnosis expert, William W. Hewitt, also stated that hypnosis is a tool that a person can use to improve himself or others.

Bandura explained that self-confidence is a belief that a person has that he is able to behave as needed to obtain the expected results and argued that self-confidence is included in basic needs or basic human needs. Confidence is part of the fourth basic need, namely the need for self-esteem or self-esteem. One's need for self-esteem can be through oneself (self-respect) and through others. Disproportionate self-confidence in students is a problem caused by various things. Starting from past experiences of having been laughed at when talking, excessive anxiety or lack of experience. The place where memories of past experiences are stored is a function of the subconscious. In addition, the subconscious also functions as an emotional center and as a control over habits. By using the hypnosis method in the SuReL model which is oriented towards the subjects' subconsciousness, they will be free to explore negative past experiences and find the root of the problem such as being laughed at when speaking in front of many people, being ignored, being bullied. Thus, these negative emotions are managed by the subject in a more positive direction and then in the end more productive habits are instilled. Various previous studies have proven that the Hypnosis method is effective for reducing or solving psychological problems. Hypnosis is a counterweight to a person's Internal Drive, Ego and Super Ego, anxiety and stress after facial surgery (Mekwong & Chamrat, 2021).

The indicators of social attitudes in the development of the SuReL model refer to the attitude demands used in the 2013 Curriculum, namely responsibility, cooperation, tolerance and courtesy. The results of the data

analysis on average of all aspects of students' social attitudes in the first trial were 2.93 students achieving the sufficient criteria, while in the second trial it was 3.50 which had reached the very good category. This shows that there is an increase in students' social attitudes. SuReL uses emotional factors in the form of a learning environment with a Reciprocal Learning approach, namely there are divisions into groups that provide opportunities for students to have a responsible attitude towards their role in the group. Selumlers and Wannapiroon (2021) stated that each member in the group has a responsibility to learn and also help friends, as well as create an atmosphere of achievement. So, learning that involves collaboration or study groups can develop attitudes and responsibilities in students both towards groups and individuals.

The syntax of giving scaffolding to students can form a polite attitude because of the interaction between young and older individuals, namely between students and teachers, courtesy is also formed through the syntax of the percentage of problem-solving results, because in presenting the results students carry out large group discussion activities where the audience come from other groups that allow for differences of opinion. The learning experience can create harmony between attitudes and values obtained by students.

SuReL model which are considered to contribute and can be followed include: (a) maximizing the subconscious mind of each student used in learning mathematics at school, (b) the learning process makes students accustomed to group learning so that students can be responsible for assignments or role in the group, (c) with the role of each student, each student is required to play an active role and work together, in contrast to the usual study groups where passive students are often found in the group, (d) the SuReL model facilitates students in develop social attitudes, self-confidence and problem-solving skills, this can be seen from the syntax of providing motivation in the form of hypnotherapy and problem-solving with reciprocal learning steps, (e) the SuReL model also provides space for teachers to actively provide scaffolding to each group of students who experience difficulties, and this prevents students from being passive in their groups, (f) students are also trained in communicating the results of solving their problems, and (g) there is the last syntax, where the teacher re-motivates in the form of hypnotherapy. Proponents of the group model believe that learning experiences involving the development of students' reflective, critical and collaborative skills can help improve the quality of learning (Permana, Subarkah, & Irwansyah, 2021). Lavasani et al (2011) stated that implementing group learning by the teacher in the class it can encourage social interaction between students and reduce impulsive behavior among students.

Other advantages possessed by this research product are (a) the existence of a model book that describes the basis of the formation of the SuReL model, supporting learning theory to the stages of the model. In addition (b) there are learning tools and instruments to measure social attitudes, self-confidence and students' mathematical problem-solving abilities.

CONCLUSION

SuReL model can be used in schools for teachers and students. The product of the Suggestion of Reciprocal Learning (SuReL) model provides a practical contribution, especially in the implementation of the mathematics learning process for teachers where the results of the development of this learning model make it easier for teachers to organize mathematics learning in class which has an impact on the effectiveness of the learning process and can improve social attitudes, self-confidence, and student learning outcomes in the form of students' mathematical problem-solving abilities. In addition, the use of the product of the Suggestion of Reciprocal Learning (SuReL) model is able to develop students' abilities in the inquiry learning process in obtaining their knowledge. Using the product of the Suggestion of Reciprocal Learning (SuReL) model can provide opportunities for students to develop cooperative skills and high self-confidence in an effort to deepen subject matter that can be applied in everyday life.

SUGGESTIONS

The Suggestion of Reciprocal Learning (SuReL) model that has been developed has only reached the development stage and has not been widely implemented in other schools. Therefore, to find out the effectiveness of the product on a wider scope, it is suggested to interested parties to implement it in several schools. Broader product implementation is expected that teachers can develop their own learning tools that are in accordance with the characteristics and components of the SuReL model. Further research is needed regarding the effectiveness of the SuReL model with an experimental approach so that the differences between classes using the SuReL model and other conventional classes can be seen. Teachers who are trying to apply the SuReL model are required to

take part in fundamental hypnosis training so that the expected results can be maximized. However, if the teacher does not take part in the training, the teacher must hone himself by learning independently how to apply the science of hypnosis through the art of communication which can influence students such as voice intonation, persuasive full of persuasion, vocal quality, good improvisational techniques, choice of words and so on. etc. In order for student activities in SuReL to be more effective, students must listen to the teacher's explanation in the introductory activities and closing activities. Thus, the teacher can maximize hypnotherapy activities for students. For researchers in the field of education who are interested in continuing this research, it is hoped that they will examine all the weaknesses and limitations of this research so that research results can be obtained that can improve the results of previous studies.

REFERENCES

Akben, N. (2020). Effects of the problem-posing approach on students' problem solving skills and metacognitive awareness in science education. *Research in Science Education*, *50*(3), 1143–1165.

Alzeebaree, Y., & Zebari, I. (2021). What makes an effective EFL teacher: High school students' perceptions. *The Asian ESP Journal*. Retrieved from https://ssrn.com/abstract=3887039

Ameliah, I. H. (2016). The influence of students' curiosity and self-confidence on mathematics learning outcomes for class VII MTs Negeri I Cirebon City. *Eduma: Mathematics Education Learning and Teaching, 5*(1). Retrieved from https://www.syekhnurjati.ac.id/jurnal/index.php/eduma/article/view/598

Andriani, D., Ningsih, A. W., Shara, A. M., & Shinoda, K. (2022). The nexus between reading visual texts and scientific non-visual texts in a High School in Indonesia: The nexus between reading visual texts and scientific non-visual texts. *International Journal of Curriculum and Instruction*, *14*(1), 183-195.

Asosega, K. A., Iddrisu, W. A., Tawiah, K., Opoku, A. A., & Okyere, E. (2022). Comparing bayesian and maximum likelihood methods in structural equation modelling of university student satisfaction: an empirical analysis. *Education Research International*, *2022*, 1–12.

Asteria, D. (2022). Application of hypnoteaching in mathematics learning regarding algebra limits to improve learning outcomes for students in class 12 science and science at SMA Negeri 12 Surabaya. *JagoMIPA: Journal of Mathematics and Science Education, 2*(2), 118-125.

Bell, P. (1978). On the theoretical breadth of design-based research in education. *Educational psychologist, 39*(4), 243-253

Boleng, D. T., & Maasawet, E. T. (2018). The effectiveness of problem-based learning on biology concept gaining of senior High school multiethnic students in Samarinda, Indonesia. *Advances in Intelligent Systems Research, 224*, 94–98. doi: 10.2991/esic-18.2019.22

Bustami, Y., Syafruddin, D., & Afriani, R. (2018). The implementation of contextual learning to enhance biology students' critical thinking skills. *Jurnal Pendidikan IPA Indonesia, 7*(4), 451-457.

Calado, F., Scharfenberg, F.-J., & Bogner, F. (2015). To what extent do biology textbooks contribute to scientific literacy? Criteria for analysing science-technology-society-environment issues. *Education Sciences*, *5*(4), 255–280.

Carson, R. N. (1997). Why science education alone is not enough. *Interchange, 28,* 109-120.

Çınar, S., & Çepni, S. (2021). The impact of science teaching based on science-technology-society (sts) approach to elementary school students. *Educational Policy Analysis and Strategic Research*, *16*(4), 198–217.

Craig, C. J. (2020). *Curriculum making, reciprocal learning, and the best-loved self.* New York, NY: Palgrave Macmillan.

Dai, Y., Song, W., Li, Y., & Di Stefano, L. (2022). Feature disentangling and reciprocal learning with label-guided similarity for multi-label image retrieval. *Neurocomputing*, *511*, 353–365.

Dwijayani, N. M. (2019). Development of circle learning media to improve student learning outcomes. *Journal of Physics: Conference Series*, *1321*(2), 22099.

Fitria, H., Kristiawan, M., & Rasyid, A. (2019). The educational character on instruction. *Opción: Revista de Ciencias Humanas y Sociales,* (21), 964-979

Fougère, M., Solitander, N., & Maheshwari, S. (2020). Achieving responsible management learning through enriched reciprocal learning: Service-learning projects and the role of boundary spanners. *Journal of Business Ethics*, *162*, 795–812.

Freud, S., (1981). Freud and hypnosis: Report of post-rejection use. *Journal of the History of the Behavioral Sciences, 17(1)*, 68-74.

Furner, J. M., & Kumar, D. D. (2007). The mathematics and science integration argument: A stand for teacher education. *Eurasia Journal of Mathematics, Science and Technology Education, 3*(3), 185-189.

Haataja, E., Moreno-Esteva, E. G., Salonen, V., Laine, A., Toivanen, M., & Hannula, M. S. (2019). Teacher's visual attention when scaffolding collaborative mathematical problem solving. *Teaching and Teacher Education*, *86*, 102877.

Hannula, M. S., Maijala, H., & Pehkonen, E. (2004). Development of Understanding and Self-Confidence in Mathematics: Grades 5-8. *International Group for the Psychology of Mathematics Education*. Retrieved from https://files.eric.ed.gov/fulltext/ED489565.pdf

Hendler, S. (1995). *Planning Ethics: A Reader in Planning Theory. Practice, and Education*. New York, NY: Routledge.

Jafaruddin, J., (2023). Fostering Ethnomathematics in Projective Geometry: A Hypnoteaching Framework for Effective Distance Learning. *Southeast Asian Mathematics Education Journal, 13*(2). doi: 10.46517/seamej.v13i2.240

Kisno, K., Gultom, S., Purba, S., Darwin, D., Sumaryanto, S., & Sherly, S. (2022). Agile methodology in educational leadership: Scrum. *Proceedings of the 7th Annual International Seminar on Transformative Education and Educational Leadership, AISTEEL 2022*. doi: 10.4108/eai.20-9-2022.2324591

Kusuma, J. W., Jefri, U., Hidayat, A., & Hamidah, H. (2020). Application of treffinger learning model to improve creative reasoning and mathematical problem solving skills as well as student learning interests. *JTAM (Jurnal Teori Dan Aplikasi Matematika), 4*(2), 204–213.

Lauster, M. (2007). Sketches of the Nineteenth Century. *European Journalism and its Physiologies*, 1830-1850. doi: 10.1057/9780230210974

Lavasani, M. G., Mirhosseini, F. S., Hejazi, E., & Davoodi, M. (2011). The effect of self-regulation learning strategies training on the academic motivation and self-efficacy. *Procedia-Social and Behavioral Sciences, 29*, 627-632

Liu, Q., Chen, Y., & Cao, W. (2023). Dual-domain reciprocal learning design for few-shot image classification. *Neural Computing and Applications*, *35*, 1–14.

Macias-Silva, E. C., Aquino-Rojas, M. A., Heredia-Arboleda, E. E., & Lara-Velarde, A. C. (2021). Reciprocal learning for listening comprehension. *Domino de Las Ciencias*, *7*(1), 1096–1105.

Ma, X., & Kishor, N. (1997). Assessing the Relationship between Attitude toward Mathematics and Achievement in Mathematics: A Meta-Analysis. *Journal for Research in Mathematics Education, 28*, 26-47.

Majeed, B. H., Jawad, L. F., & AlRikabi, H. (2021). Tactical thinking and its relationship with solving mathematical problems among mathematics department students. *International Journal of Emerging Technologies in Learning (IJET)*, *16*(9), 247–262.

Mekwong, S., & Chamrat, S. (2021). The development learning activities using three levels of chemical representation for enhance upper secondary students ' organic chemistry concepts. *Journal of Physics: Conference Series*, *1835*(1), 12027.

Marianti, A., Christijanti, W., & Isnaeni, W. (2013). Project-Based Learning Using an Environmental Exploration Approach as a Lecture Model in Animal Physiology. *Proceedings of Biology Education Conference: Biology, Science, Environment, and Learning, 10*(1). doi: 10.1088/1742-6596/1567/3/032061

Marlina, E., Tjahjadi, B., & Ningsih, S. (2021). Factors affecting student performance in e-learning: A case study of higher educational institutions in Indonesia. *The Journal of Asian Finance, Economics and Business, 8*(4), 993-1001

Maryam, A., Mohammadreza, D., Abdolhussein, S., Ghobad, R., & Javad, K. (2021). Effect of concept mapping education on critical thinking skills of medical students: a quasi-experimental study. *Ethiopian journal of health sciences, 31*(2). doi: 10.4314/ejhs.v31i2.24

Napitupulu, S., & Napitupulu, F. D. (2019). *Professional development for teachers of English (prodevet) in 4.0 era*. Yogyakarta, Indonesia: Deepublish.

Nurdiansyah, A., Syam, R., Amaliyah, R., & Yahya, A. (2021, December). The influence of reciprocal learning model on mathematics learning achievement of grade x students at SMAN 1 Tinambung. In *International Conference on Educational Studies in Mathematics (ICoESM 2021)* (pp. 107-111). Dordrecht, Netherlands: Atlantis Press.

Nur Efendi. (2022). Implementation of Total Quality Management and Curriculum on the Education Quality. *Journal of Social Studies Education Research, 13*(3), 120-149.

Oktaweri, S., Festiyed, & Djamas, D. (2019). Curriculum analysis in developing interactive multimedia teaching materials scientific model assisted games for physics learning. *Journal of Physics: Conference Series*, *1185*(1), 012118.

Peng, A., Cao, L., & Yu, B. (2020). Reciprocal learning in mathematics problem posing and problem solving: An interactive study between Canadian and Chinese elementary school students. *EURASIA Journal of Mathematics, Science and Technology Education*, *16*(12), em1913.

Permana, A. S., Subarkah, C. Z., & Irwansyah, F. S. (2021, August). Development e-module on The Concept of reduction-oxidation (redox) Oriented Towards Chemical Literacy. In *2021 7th International Conference on Wireless and Telematics (ICWT)* (pp. 1-4). New York, NY: IEEE.

Polya G. (1973). *How to solve it: A new aspect of mathematical method*. Princeton, NJ: Princeton University Press.

Putri, N. K. R., & Setiawan, C. (2022). What islamic education teachers need to know and be able to do to teach students higher-order thinking skills?. *Afkaruna: Indonesian Interdisciplinary Journal of Islamic Studies*, *18*(2), 308–323.

Rahayu, S. H., Hajar, I., & Hidayat, H. (2019). The effect of reciprocal learning model assisted by it media and social skills towards student learning outcomes. *Budapest International Research and Critics in Linguistics and Education (BirLE) Journal*, *2*(3), 106–117.

Rikza, A, & Santi, P. (2019). *Implementation of geogebra-assisted reciprocal teaching to improve the mathematical communication skills of students in class XI TKJ SMK Al-Amin Gresik/Moh. Rikza Muqtada*. (Doctoral dissertation, State University of Malang, Malang, Indonesia). Retrieved from https://media.neliti.com/media/publications/477548-reciprocal-teaching-assisted-by-geogebra-72d46dca.pdf

Rohaeti, E. E. (2019). Building students' hard and soft skills through innovative teaching approaches to mathematics. *Journal of Southwest Jiaotong University*, *54*(5).

Rohayati, A., & Sudita, M. R. (2017). The Relationship Between Self-Confidence and Mathematical Communication Skills of Middle School Students. *Proceedings of the National Seminar on Mathematics and Mathematics Education (SESIOMADIKA)*, 222–226. doi: 10.32939/ejrpm.v4i2.770

Rostini, D., Zaeni Achmad Syam, R., & Achmad, W. (2022). The significance of principal management on teacher performance and quality of learning. *Al-Ishlah: Jurnal Pendidikan*, *14*(2), 2513–2520.

Samili, A. O., Robo, T., Ibrahim, F., Hasim, J., Ikhsan, M., & Saibi, N. (2022). Upaya meningkatkan hasil belajar peserta didik melalui penerapan model reciprocal learning pada materi hubungan desa dan perkotaan kelas VII SMP 31 Halmahera Barat. *Jurnal Geocivic*, *5*(1). doi: 10.5281/zenodo.8172109

Selumlers, A., & Wannapiroon, P., (2021). The Virtual Learning Resource Center for the Digital Manpower. *International Education Studies, 14*(9), 28-43.

Sundahry, S., Fitria, Y., & Rakimahwati, R. (2018). The Effect Reciprocal Teaching Strategy of Critical Thinking Skills in Learning Tematic Class V. *Proceeding International Conferences on Education, Social Sciences and Technology*. Retrieved from https://pdfs.semanticscholar.org/7a69/8955816ae51e52df5939472763477c3962e1.pdf

Suparno, S. (2018). Investigating the integration level of information and communication technology (ICT) in the English language teaching. *International Journal of Language Teaching and Education, 2*(3), 259-274.

Siagan, M. V, Saragih, S., & Sinaga, B. (2019). Development of learning materials oriented on problem-based learning model to improve students' mathematical problem solving ability and metacognition ability. *International Electronic Journal of Mathematics Education, 14*(2), 331–340.

Sidik Anwar., Ramlah & Utami, MR. (2017). The Relationship Between Self-Confidence with the Mathematics Communication Ability of Junior High School Students. Proceedings Seminar National Mathematics and Education Mathematics. *Jurnal Pembelajaran Matematika Inovatif (JPMI), 1*(4), 479-486.

Syakur, A., & Azis, R. (2020). Developing reading learning model to increase reading skill for animal husbandry students in higher education. *Britain International of Linguistics Arts and Education (BIoLAE) Journal, 2*(1), 484–493.

Syamsuddin, F., Rama, B., & Kasim, A. (2021). Hypnohappy learning model development in state Madrasah Alyah 2 Barru District. *NVEO-NATURAL VOLATILES & ESSENTIAL OILS Journal| NVEO*, *8*, 1779–1791.

Taofik, A. I., & Juandi, D. (2022). Description of mathematical representation ability through hots-oriented learning model: A systematic literature review. *Jurnal Analisa*, *8*(1), 46–56.

Telaumbanua, A. (2022). Effect of method reciprocal learning, student learning interest on learning outcomes construction management. *Edumaspul: Jurnal Pendidikan*, *6*(2), 3211–3216.

Ulandari, L., Amry, Z., & Saragih, S. (2019). Development of learning materials based on realistic mathematics education approach to improve students' mathematical problem solving ability and self-efficacy. *International Electronic Journal of Mathematics Education*, *14*(2), 375–383.

Untari, R. S., Hasanah, F. N., Wardana, M. D. K., & Andhita, K. (2022). Effect of augmented reality (ar) on problem solving ability in 3d spatial modeling in elementary schools. *Procedia of Social Sciences and Humanities*, *3*, 1476–1480.

Vasconcellos, D., Parker, P. D., Hilland, T., Cinelli, R., Owen, K. B., Kapsal, N., . . . Ryan, R. M. (2020). Self-determination theory applied to physical education: A systematic review and meta-analysis. *Journal of Educational Psychology*, *112*(7), 1444.

Widada, W., Herawaty, D., Anggoro, A. F. D., Yudha, A., & Hayati, M. K. (2019). Ethnomathematics and outdoor learning to improve problem solving ability. In *International Conference on Educational Sciences and Teacher Profession (ICETeP 2018)* (pp. 13–16). Dordrecht, Netherlands: Atlantis Press.

Yin, H., Zhang, M., Wang, Y., Wang, J., & Li, P. (2022). Algorithm and system co-design for efficient subgraph-based graph representation learning. *Proceedings of the VLDB Endowment*, *15*, 2788–2796.

Yusnita, Y., Eriyanti, F., Engkizar, E., Anwar, F., Putri, N. E., Arifin, Z., & Syafril, S. (2018). The effect of professional education and training for teachers (PLPG) in improving pedagogic competence and teacher performance. *Tadris: Jurnal Keguruan Dan Ilmu Tarbiyah*, *3*(2), 123.

Zhang, L., Li, X., He, D., Li, F., Wang, Y., & Zhang, Z. (2022, October). Rrsr: Reciprocal reference-based image super-resolution with progressive feature alignment and selection. In *European Conference on Computer Vision* (pp. 648-664). Cham, Switzerland: Springer Nature Switzerland.

Zulfitri, Z. (2020). Teacher Professional Development. *JADEs Journal of Academia in English Education, 1*(1), 1-18.