

Analysis of the Role of the Two Stay Two Stray Cooperative Learning Model in Forming 21st Century Skills for Elementary School Students

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Abstract

Nowadays, globalization is developing rapidly, especially in terms of science and technology, which has both positive and negative impacts on the world of education. The positive impact of the development of globalization in the field of technology makes it easier for educators to find references regarding creative and innovative learning methods or models. The negative impacts of the development of globalization are acting without thinking, being consumed by hoaxes, losing a sense of tolerance and distancing oneself from friendship groups. Therefore, the world of education plays an important role in forming 21st century 4C learning skills which are really needed in the future in facing various problems based on the times. The aim of this research is in implementing the Two Stay Two Stray learning model, students can develop creative thinking skills, critical thinking skills and problem solving, communication and collaboration. The method used is a qualitative descriptive method with data processing techniques drawing conclusions regarding the application of the learning model in forming 4C learning skills in the 21st century. The results of the research after applying the Two Stay Two Stray learning model are 1) the application of the two stay two stray learning model is in accordance with the syntax learning model and students understand the learning process well, 2) the two stay two stray learning model has an important role which unconsciously has a good impact on the formation of 21st century skills, 3) the evaluation obtained from the application of the two stay two stray learning model received praise from homeroom teacher

Keywords: The Role of Learning Models, Two Stay Two Stray, 21st Century Skills

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INTRODUCTION

Nowadays, the era of globalization has brought rapid developments in the fields of science and technology. The development of technology provides access to information that can be obtained easily. The occurrence of updates in digital matters provides developments in every sector and provides a new perspective in facing the popular era of the 21st century. With the speed of development in the era of globalization in the 21st century, it places greater demands on the world of education. The world of education has an important role in the development of science and also in shaping students' potential. In line with Law No. 20 of 2003 concerning the National Education System which states "Education is a conscious and planned effort to create a learning atmosphere and learning process so that students actively develop their abilities to have religious spiritual strength, self-control, personality, intelligence, noble character and skills needed by himself, society, nation and state." Education is a benchmark for improving the quality of a country through its human resources. According to Henderson (Alfitri & Setiani, 2018) for humans, education is a necessity so that every human being has developed abilities and personality and can then be called a complete human being.

Education should play a critical role which not only leads to increasing students' intellectual intelligence but also produces people with character and skills that are in line with developments over time. However, in reality in the field the 4C skills (critical thinking, creative, collaboration and communication) are not running smoothly. The imbalance that arises from the learning process generally prioritizes aspects of understanding concepts (Siswono, 2016). In addition, the learning process is based on a perspective that is identified as simply a lecture process in transferring knowledge. This learning phenomenon has a lasting influence on the continuity of students' subsequent education. The learning process should not only open up space for discussion and questions and answers but also eliminate standard understandings of knowledge

(Hanum & Maryani, 2023). It cannot be denied that there is still minimal competency among graduates from secondary schools, diplomas to universities regarding 4C skills.

Education currently implements a curriculum that seeks to develop 4C skills, even targeting the spiritual domain and social character of students. Based on the description above, there are efforts to develop the knowledge and character taught at school in one subject through modifying the syntax according to the model used. Efforts to handle this problem are directed at the role of the Two Stay Two Stray Cooperative learning model. The reference for cooperative learning is a teaching model where students form small groups to help each other work together in learning so that they receive prizes and recognition based on the performance of the group Foyle, Harvey C. and Lyman, 1989 (Arianti, Akib, & Saleh, 2017). So that the form of group collaboration and the way of cooperation between students provides encouragement to solve problems with critical and creative thinking, apart from that, they also have confidence in giving opinions. Cooperative relationships also make students respect friends' opinions. According to Huda (Kadiriandi & Ruyadi, 2018) which consists of stages; 1) division of groups consisting of 4 people, 2) giving problems to be discussed, 3) group cooperation 4) 2 members of each group visiting another group to look for information, 5) 2 other members staying in the group receiving members of other groups to obtain information, 6) discussing the results obtained from other groups, 6) group presentations. According to Deliyana (Kadiriandi & Ruyadi, 2018), the Two Stay Two Stray learning model has several advantages, such as; a) all classes/levels can apply it, b) students have a tendency to learn more meaningfully, c) are more oriented towards student activity, d) students are braver in creativity, e) form cooperation and students' self-confidence in communicating, f) increase student communication skills, g) increasing student interest and learning achievement.

Several studies discuss 21st century skills as conducted by (Ardiansyah, Agung, Cahya, & Dinasari, 2022) which leads to efforts to develop 4C skills by implementing Challenge Based Learning. This research also uses literature study. The research findings show that this model is a complete model that can be implemented in the classroom so as to provide the development of 4C skills and have an influence on improving the Indonesian education system. Further research conducted by (Fajri, Ar, Prajana, Yusran, & Sanusi, 2020) aimed at describing the results of improving 4C skills through a portfolio-based project citizen learning model with the aim of analyzing the hypothetical results of improving 4C skills through this learning model. The research used a pre-experimental method with a One-Group Pretest-Posttest Design (One group pretest-posttest). The research results show that the average statistical analysis value of 4C skills before being taught with the project citizen learning model was 3.904, then increased to 4.116 after being taught with the project citizen learning model. The results of the hypothesis test from this research are that there is a significant increase in the implementation of the portfolio-based project citizen model on students' 4C skills. This is shown by the sig value. (2-tailed) is smaller than 0.05α ($0.005 < 0.05$) based on the results of analysis via the SPSS program. Based on the results of the research, it can be concluded that learning through the project citizen model can improve students' 4C skills. This research is the result of previous research collaboration with an emphasis on 4C skills. The novelty of this research is using the Two Stay Two Stray model by utilizing qualitative descriptive research methods. Another research regarding the two stay two stray cooperative learning model researched by (Mazidatulfaizah, 2021) examined increasing students' ability to understand Arabic texts by implementing the Two Stay Two Stray learning model in class X Science students at MA Al-Anwar Jombang. This research is classroom action research. The results of this research obtained after implementing the action were that students became more active and enthusiastic in participating in learning. Students show high attitudes, interest and enthusiasm. Apart from that, there is an increase in students' abilities as shown through test results. The test scores of students during pre-action met the KKM standards as many as 11 people or 31% of the total number of students. In cycle I activities, 19 students reached the KKM or 53% of the total number of students. In cycle II, 28 students reached the KKM or 78% of the total number of students. This shows that the Two Stay Two Stray learning model can improve students' ability to understand Arabic texts.

Based on the description above, the aim of this research is to determine the role of the Two Stay Two Stray cooperative learning model in forming 21st century 4C skills for elementary school students.

METHOD

Types of Data Research

This research method uses descriptive with a qualitative approach. This qualitative descriptive research is the appropriate type of research used for the research focus with the aim of obtaining a clear picture of the role of the two stay two stray cooperative learning model in forming 21st century 4C skills.

Data Collection Technique

In this research, the data collection to be obtained consists of primary data and secondary data:

1. Primary data is obtained through main information in research which includes all qualitative data through observation, interviews and documentation activities. The expected research is a description of the role of the Two Stay Two Stray cooperative learning model in forming 20th century skills for elementary school students through civic education learning.
2. Secondary data was obtained through reference books regarding understanding and theories related to the problems studied and the data sources in this research were teachers and students.

Data Collection Instruments

The data collection procedures in this research are: Observation, Interview and Documentation:

1. Observation
Observations are carried out to find out about the location and condition of the school and research in terms of students, teachers, teaching materials, learning resources, learning environment and so on.
2. Interview
Researchers conducted interviews which aimed to be an assessment tool used to determine opinions, aspirations, hopes and achievements as well as desires and beliefs in the student learning process. This interview activity was carried out directly according to the interview guide instrument to obtain information from the teacher that the researcher needed.
3. Documentation
Documentation is considered a written record and stored description of something that has happened. Documentation is considered physical evidence in the form of photos taken while conducting research, in observation activities and interviews as well as observations in the learning process.

Data Analysis

The data analysis used in this research is according to (Miles, M. B., & Huberman, 1992) which explains that data analysis is the steps in processing research findings that have been transcribed through data reduction which is filtered and compiled then presented and verified to make conclusions.

Research Objects

This research was conducted on teachers and in one of the elementary schools in the city of Bandung. Class observations were carried out on May 15 2023 and research analyzing the role of learning models was carried out on May 16 2023. This research was carried out in accordance with the material on socio-cultural diversity in Indonesia in learning Citizenship Education. bObject Research

Time and Location of Research

The research was conducted in one of the elementary schools in Bandung City with a total of 20 students. The determination of the research location was determined deliberately by the researcher and was based on the problems faced by teachers in forming or developing 20th century skills in elementary school students. Apart from that, another consideration is that the principal of one of the elementary schools in Bandung City is willing to be used as a research site because the school has never conducted research using the Two Stay Two Stray learning model, especially on the subject of socio-cultural diversity in Indonesia for Citizenship Education. Study

RESULTS

This research is based on the formation of 21st century skills through the role of the Two Stay Two Stray cooperative learning model in one of the elementary schools in the city of Bandung which is studied through the perspective of the homeroom teacher through interviews and the researcher's perspective based on observations of teaching and learning conditions when implementing the learning model. This research produced several themes as follows: (1) the flow of activities of the learning model applied, (2) the formation of 21st century skills (Critical Thinking, Creative, Collaboration, Communication) which are sought to emerge through the role of the Two Stay Two Stray cooperative learning model, (3) Homeroom teacher's evaluation of the role of learning models in forming 21st century skills.

1. Flow of Learning Model Activities Applied

Table 1. Syntax of the Two Stay Two Stray Cooperative Learning Model (Suprijono, 2009)

| Phase | Teacher Duties |
|--|---|
| Division of study groups | Giving problems to be taught. Divide the students into several groups with members containing 4 people. Each group has the task of 2 members going to another group as guests and 2 other members staying in place as receptionists. Discuss. |
| Providing problems to discuss | The teacher provides several discussion points regarding the problem of unity and socio-cultural diversity in Indonesia |
| Group collaboration | Direct students to collaborate with their respective groups with the aim of providing active student involvement in the thinking process |
| Visit other groups | After solving the problem given, the teacher gives directions to two people from each group to go visit another group to obtain information. |
| Receive guests from other groups | The teacher directs the 2 people who live in the group to share the results of their work and information with members who visit the group. |
| Discuss again the results obtained from the group | After the students have received the information, the guest students return to the group to share the information they have received from other groups. |
| Present information from group discussions and that obtained from other groups | The teacher gives students the opportunity to summarize the information that has been obtained from other groups by presenting. |

The results obtained through the first observation when the researcher observed the learning process were that the classroom atmosphere was not effective because it only focused in one direction without involving students. The research results obtained from the application of the learning model based on the syntax of the Two Stay Two Stray cooperative learning model at the time of implementation in each phase were progressing well. Each student also listened and understood the teacher's explanation well and involved students so that the teaching and learning atmosphere became more effective from the first day the researcher made observations. The results obtained through photo documentation when implementing the learning model, in the group there were several students who looked confused and moved away from their group when solving the problems given. The results obtained from interviews with teachers turned out that in the class there was a student who was a slow learner so it was not easy for the student to adapt in each phase based on the syntax above.

The formation of 21st century skills (Critical Thinking, Creative, Collaboration, Communication) which is sought to emerge through the role of the Two Stay Two Stray cooperative learning model

The research results from the application of the Two Stay Two Stray cooperative learning model apparently play an important role in forming 21st century skills for students, because through the application of this cooperative model it indirectly has an impact on students to form skills in the 21st century. Results obtained from interviews with teachers, it turns out that previously they had also implemented learning models such as team games tournaments, but they were not effective in developing 21st century 4C skills as a whole. The results of the researcher's observations when implementing the learning model, each group succeeded in forming good cooperation in providing information to other groups and obtaining information from other groups. Apart from that, each group also succeeded in presenting the results of the information they had obtained from other groups. Each group also has creative thinking in making images on paper as presentation objects. Each group has confidence in giving opinions.

Evaluation of the class teacher on the role of learning models in forming 21st century skills

The research results obtained from the application of the model to see the role of the learning model received evaluation from the homeroom teacher, namely: 1) this learning model is very effective in forming 21st century skills, 2) this learning model can also be applied to motivate children in the learning process to become more enthusiasm, 3) this learning model plays a very important role in the formation of 21st century skills.

DISCUSSION

The activities have a sequential flow in order to realize the expected results accordingly, as well as the activities implementing the learning model actually have a clear flow and are guided by the syntax of the Two Stay Two Stray learning model in forming 21st century skills. Before implementing the learning model the researcher provides an explanation regarding material on socio-cultural diversity in Indonesia, after that the researcher explained the implementation of the learning model and the objectives of the learning model. The learning syntax has 7 implementation phases, such as 1) dividing study groups, 2) Giving problems to be discussed, 3) Group collaboration, 4) Visiting other groups, 5) Receiving guests from other groups, 6) Discussing the results obtained from the group again, 7) Presenting information from group discussions and that obtained from other groups (Suprijono, 2009). In the application of this syntax, there are weaknesses in the two stay two stray cooperative learning model. It is hoped that this application will have a good impact on the formation of 21st century skills. Based on the explanation of this syntax, students appear to enjoy the learning process and understand the objectives and concepts of learning.

Teaching and learning activities using a cooperative model should be familiarized in order to develop collaboration skills between students and teachers. This is a method or model approach that is good to use to attract students' attention in the teaching and learning process. This is supported by Piaget's theory in that cooperative learning is aimed especially at students with high abilities who are able to build their own knowledge through interaction with the environment (Ali, 2021). Relationally, Nurhadi said that cooperative learning is conscious and deliberate learning to develop alternating interactions in order to avoid offense and misunderstandings which can later cause problems (Ali, 2021).

The implementation of the Two Stay Two Stray cooperative learning model is expected to have an impact on the formation of 21st century skills so that every human being can adapt to current developments. The National Education Association (n.d) (Redhana, 2019) identifies 21st century skills as "The 4Cs." "The 4Cs" include critical thinking, creativity, communication, and collaboration. Critical thinking skills are referred to as skills that can carry out various analyses, assessments, evaluations, reconstructions and decision making rationally and logically. Creativity is the skill of obtaining new things that have not existed before that are original, finding solutions to every problem, and includes the ability to find new, varied and unique ideas (Leen, Hong, Kwan, & Ying, 2014). Communication skills are skills that are able to express thoughts, knowledge, ideas and new information both verbally and in writing. Collaboration skills are the skills to work together effectively and show respect for diverse members as well as practicing decision making and making to achieve common goals (Redhana, 2019). The implications of the role of the two stay two stray cooperative learning model without realizing it play an important role in the formation of 21st century skills. Because two stay two stray cooperative learning provides memorable and funny experiences for students because students can solve together with their friends and can communicate solutions to other groups who role as guest and host (Mujasam, Renita, & Allo, 2018).

In theory, John Dewey expressed "Education as a social function" where society, education is not only a forum or intermediary for the interaction of a person's character with the environment, but also all of a person's activities, especially physical activities which will provide overall change (Yokhebed, 2019). Relationally, every individual has goals and participation in several activities, Setiyadi (Yokhebed, 2019).

The two stay two stray cooperative learning model plays an important role in the formation of 21st century skills because the two stay two stray cooperative learning model is a model that is set up in groups to exchange information with members of the guest group and members of the reception group (Budiyanto, 2016). In line with the opinion of (Faturrohman, 2015) that through cooperative learning it is hoped that social interaction will be created so that a learning community can be formed. Theoretically, Schunk (Suci, 2018) emphasized that the historical cultural aspect of Vygotsky's theory displays the idea that learning and development cannot be separated from the context. How students interact with their world, the people around them, objects and the intuition that exists within them can change their way of thinking. Relationally (Harianja, Joko Krismanto, Hani Subakti, Akbar Avicenna, Shopiah Anggraini Rambe, Muhammad Hasan, Yulia Rizki Ramadhani, Sri Hardianti Sartika, Betanika Nila Nirbita, Dina Chamidah, 2022) explains that teachers as facilitators must create a good environment so that they can develop holistically and not just cognitively but also character and ability, not just intellectually physically, not just learning alone but cooperatively and collaboratively. Also in line with the opinion of (Wahidin, Sarbini, & Tabroni, 2022) cooperative learning is a learning process that involves 5 elements of the same learning model that must be determined; 1) positive dependence, 2) individual responsibility, 3) face to face, 4) communication between members, 5) group evaluation process.

CONCLUSION

This research found that the role of the two stay two stray learning model can form 21st century skills (Critical thinking, creative, collaboration, communication). The findings of this research can be used as a reference that the role of the two stay two stray model indirectly trains 21st century skills students. As an effort to implement advanced learning, the role of teachers is also very necessary in facilitating students. This research has limited time (relatively short) and the research subject is only focused on one class. The recommendation for further research is to carry out research involving more diverse students. and the scope of research expanded again.

REFERENCES

- Alfitri, P. A. A., & Setiani, A. (2018). Model Two Stay Two Stray Sebagai Alternatif Model Pembelajaran untuk Meningkatkan Hasil Belajar Matematika Siswa di Sekolah. *Jurnal Peka*, 2(1), 1–6. <https://doi.org/10.37150/jp.v2i1.1115>
- Ali, I. (2021). Pembelajaran Kooperatif Dalam Pengajaran Pendidikan Agama Islam. *Jurnal Muftadiin*, 7(1), 247–264. Retrieved from <http://journal.an-nur.ac.id/index.php/muftadiin/article/view/82>
- Ardiansyah, A. S., Agung, G. H., Cahya, N. D., & Dinasari, A. (2022). Upaya Mengembangkan Keterampilan 4C melalui Challenge Based Learning. *PRISMA, Prosiding Seminar Nasional Matematika*, 5, 627–637. Retrieved from <https://journal.unnes.ac.id/sju/index.php/prisma/>
- Arianti, R., Akib, H., & Saleh, S. (2017). Penggunaan Model Pembelajaran Kooperatif Tipe Two Stay Two Stray (TSTS) pada Jurusan Administrasi Perkantoran di SMK Negeri 1 Pinrang The Use of Cooperative Learning Type Two Stay Two Stray (TSTS) in Office Administration Program at State Vocational S. *Journal Office*, 3(2), 97–106.
- Budiyanto, A. . (2016). *Sintaks 45 Metode Pembelajaran dalam Student Centered Learning (SCL)*. Malang: UMM Press.
- Fajri, I., Ar, K., Prajana, A., Yusran, & Sanusi. (2020). Peningkatan Keterampilan 4C melalui Model Pembelajaran Berbasis Portofolio. *Jurnal Dedikasi Pendidikan*, 4(2), 371–380. Retrieved from <http://jurnal.abulyatama.ac.id/index.php/dedikasi>
- Faturrohman, M. (2015). *Model-Model Pembelajaran Inovatif: Alternatif Disain Pembelajaran Yang Menyenangkan*. Yogyakarta: Ar Ruzz Media.
- Hanum, C. B., & Maryani, E. (2023). Pendidikan Karakter melalui Kegiatan Morning Activity di Salah Satu Sekolah Dasar Islam di Kota Bandung. *Jurnal Basicedu*, 7(1), 421–431. <https://doi.org/10.31004/basicedu.v7i1.4356>
- Harianja, Joko Krismanto, Hani Subakti, Akbar Avicenna, Shopiah Anggraini Rambe, Muhammad Hasan, Yulia Rizki Ramadhani, Sri Hardianti Sartika, Betanika Nila Nirbita, Dina Chamidah, and I. R. (2022). *Tipe-Tipe Model Pembelajaran Kooperatif*. Yayasan Kita Menulis.
- Kadiriandi, R., & Ruyadi, Y. (2018). Pengaruh Penerapan Model Pembelajaran Model Two Stay Two Stray (Tsts) Terhadap Peningkatan Keaktifan Dan Hasil Belajar Sosiologi Di Sma Pasundan 3 Bandung. *Sosietas*, 7(2), 429–433. <https://doi.org/10.17509/sosietas.v7i2.10362>
- Leen, C. C., Hong, H., Kwan, F. N. H., & Ying, T. W. (2014). Creative and Critical Thinking in Singapore Schools. In *An Institute of Nanyang Technological University* (Vol. 2). Retrieved from <http://hdl.handle.net/10497/17709>
- Mazidatulfaizah, M. (2021). Penerapan Model Pembelajaran Two Stay Two Stray Untuk Meningkatkan Kemampuan Memahami Teks Naratif Berbahasa Arab. *Edudeena : Journal of Islamic Religious Education*, 5(2), 136–147. <https://doi.org/10.30762/ed.v5i2.3927>
- Miles, M. B., & Huberman, A. M. (1992). *Analisis data Kualitatif: Buku Sumber Tentang Metode-Metode Baru/Matthew B. Miles Dan A. Michael Huberman*.
- Mujasam, Renita, S. G. M., & Allo, A. Y. T. (2018). Activity and progress of learning with two stay two stray (TS-TS) cooperative model on harmonic vibration. *Journal of Turkish Science Education*, 15(Special Issue), 59–66. <https://doi.org/10.12973/tused.10257a>
- Redhana, I. W. (2019). Mengembangkan Keterampilan Abad Ke-21 Dalam Pembelajaran Kimia.

- Jurnal Inovasi Pendidikan Kimia*, 13(1).
- Siswono, T. Y. E. (2016). Berpikir Kritis dan Berpikir Kreatif sebagai Fokus Pembelajaran Matematika. *Seminar Nasional Matematika Dan Pendidikan Matematika*, 5(2), 11–26.
- Suci, Y. T. (2018). Examining Vygotsky's Theory and Social Interdependence as The Theory of the Theory in the Implementation of Cooperative Learning in Primary Schools. *NATURALISTIC: Journal of Education Research and Learning Studies*, 3(1), 231–239.
- Suprijono, A. (2009). *Cooperatif Learning: Teori dan Aplikasi PAIKEM*. Yogyakarta: Pustaka Belajar.
- Wahidin, U., Sarbini, M., & Tabroni, I. (2022). Evaluasi Penggunaan Media Pembelajaran Dalam Praktik Pengalaman Lapangan Mahasiswa Program Studi Pendidikan Agama Islam. *Edukasi Islami: Jurnal Pendidikan Islam*, 11(03), 831. <https://doi.org/10.30868/ei.v11i03.3175>
- Yokhebed, Y. (2019). Profil Kompetensi Abad 21: Komunikasi, Kreativitas, Kolaborasi, Berpikir Kritis Pada Calon Guru Biologi Profile of 21st Century Competency: Communication, Creativity, Collaboration, Critical Thinking at Prospective Biology Teachers. *Bio-Pedagogi*, 8(2), 94. <https://doi.org/10.20961/bio-pedagogi.v8i2.36154>