Journal of Educational Technology and Innovation
Homepage: http://jurnal.unipar.ac.id/index.php/jeti/
Vol 6 No 1 2022, pp 1-9 . ***P - ISSN*** 2621-2137
DOI: https://doi.org/*10.31537/jeti.v6i1.1009* *E - ISSN* 2621-2080

THE EFFECT OF THE IMPLEMENTATION OF THE JIGSAW MODEL ON STUDENTS' MOTIVATION AND LEARNING OUTCOMES IN THE SUBJECT OF ENTREPRENEURSHIP AT HIDAYATUL MUBTADIIN VOCATIONAL SCHOOL

Zaenal Fanani[1], Darsan[2], Intyas Endarwanto[3]
Smk hidayatul mubtadiin
Universitas Pgri Argopuro Jember
fananizaenal@gmail.com dr.darsanafidar@gmail.com , intyas79@gmail.com

ABSTRAK

One learning strategy that pays attention to the abilities of students and is essentially oriented towards a constructive view is cooperative learning. There are several kinds of cooperative learning, one of which is the Jigsaw cooperative learning type. The aim of the research was to find out the implementation of the jigsaw model on student motivation and learning outcomes in Entrepreneurship subjects. This research is a study that observes the significance of the effect of the independent variables on the dependent variable so that the approach to this variable is causal quantitative. The population was taken by all even semester XI class students at Hidayatul Mubtadiin Vocational School in the 2021/2022 academic year. While the sample is part of the population that will be used as research objects or respondents/representative of the population. The techniques that the authors use for data collection in this study are as follows 1) Observation Techniques, 2) Documentation Techniques, 3) Tests. In this study, descriptive analysis was used to describe the data according to each variable which includes: mean, median, mode, and standard deviation. Based on the analysis of research results and discussion, the conclusions of this study are as follows 1) There is an influence of the Jigsaw Model Implementation on student learning motivation in Entrepreneurship subjects, 2) There is an influence of the Jigsaw Model Implementation on student learning outcomes in Entrepreneurship subjects, 3) There is an influence of the influence of the implementation of the Jigsaw Model on student motivation and learning outcomes in the subject of Entrepreneurship.
Keywords: JIGSAW Method, Learning Motivation, Learning Outcomes

INTRODUCTION

Education is a form of embodiment of dynamic human culture and development requirements. Therefore, changes or developments in education are things that are supposed to happen in line with changes in the culture of life. Changes in the sense of improving education at all levels need to be continuously carried out in anticipation of future interests(Al-Tabany, 2017; Trianto, 2010)

One learning strategy that pays attention to the abilities of students and is essentially oriented towards a constructive view is cooperative learning. There are several kinds of cooperative learning, one of which is the Jigsaw cooperative learning type. Jigsaw type cooperative learning is designed to motivate students to obtain the best possible material and work hard in expert groups. The expert group is a group whose team members are responsible for studying the particular subject matter assigned to them, so that they can help other friends. This type gives great responsibility to students to learn and provide lessons to other students(Karacop, 2017; Silver, Harvey L., Strong, R.W., & Perini, 2007)

Education is a potential sector in national development so it must receive special attention and serious treatment. Effort after effort to improve Indonesian education continues to be carried out with various programs and curriculum updates. The purpose of education is the learning process both in the realm of formal, non-formal and informal education. Learning is a combination composed of human elements, materials, facilities, equipment and procedures that influence each other to achieve learning objectives (Awang, Yakob, Hamzah, & Talling, 2020; Herdiyanti, Sulaiman, Hayati, & Dedoe, 2021). The elements of learning are conditioned in such a way as to obtain and achieve learning objectives in the form of learning outcomes. Learning outcomes can be seen as an indicator of the success of a lesson, that's why it needs various ways to get better and improve.

Based on preliminary observations in this study, it was stated that the percentage of students who had difficulty learning mathematics and was caused by difficulties in solving Entrepreneurship questions was 60.45%. Difficulties in solving these problems also occur in class XI students of SMK Hidayatul Mubtadiin, it turns out that students experience difficulties in solving math problems, especially circle material. This is evident from the test results which are still below average. From the interviews, information was also obtained that in the previous learning there were still a few students who were declared complete. Only 11 students out of 32 students completed the study.(Junaidi, Duling, & Wiyogo, 2020)

Judging from the test results, the score obtained by students is 55, while the Minimum Completeness Standard (SKM) at Hidayatul Mubtadiin Vocational School is 60 with classical completeness of 75% of the total number of students. This shows that there are still many students who are not successful in learning because they are not able to master the material properly.

In solving the above problems, the quality of learning mathematics really needs to be improved. One way is that the teacher can change the learning model that has been applied so far to a jigsaw cooperative learning model. This is because the jigsaw cooperative learning model will be able to motivate students to study even harder because this learning model is designed to motivate students to obtain the best material possible.(Anazifa & Djukri, 2017; Yakman & Lee, 2012)

Entrepreneurship subject is actually a lot of learning with descriptions. From this, an educator is required to be able to create a learning atmosphere that is conducive, active, creative and fun. This cannot be separated from the activeness of an educator who at Hidayatul Mubtadiin Vocational School in the Entrepreneurship learning process still uses the lecture method which of course is still guided by the old paradigm. In accordance with this, we as researchers try to conduct a study using the jigsaw method in learning (Anggraini, 2017; Colombo, Franzoni, & Rossi-Lamastra, 2015).

Success in the learning process depends on various interrelated aspects. The level of achievement in various junior high schools so far can still be said to be less than optimal, as can be seen from the readiness of students to face national exams and participation in competitions at various levels. Non-optimality can also be found in Entrepreneurship learning, at first glance students seem to think that this subject is easy and does not require special additions both in terms of time and effort in studying it. But in reality there are still many student learning outcomes in Entrepreneurship subjects that are low and far from expectations.(Michael Olufemi, Temitope Favour, & Adewale Olaosebikan, 2017)

Improving learning outcomes can be done in many ways, for example by applying models, methods, strategies and learning media. The learning model is broader in scope because it will accommodate and cover the methods to the media used. The learning model itself has various types and characteristics, for example cooperative, contextual, problem-based learning models and others. The cooperative learning model emphasizes teamwork in study groups and is often said to be cooperative learning. Cooperative learning refers to various kinds of teaching where students work together in small groups to help each other in learning subject matter (Djamarah & Zain, 2006). The existence of this study group will help students in their learning, namely students who have low ability and willingness to learn will be encouraged by other students who have a higher level.

The cooperative learning model emphasizes collaboration between members in study groups in order to complete assignments and understand learning material. The cooperative learning model has several types or types, namely Jigsaw, Think Pair Share (TPS), Numbered Heads Together (NHT), Group Investigation (GI), Two Stay Two Stray (TSTS), The Power of Two, Listening Team and Point-Counter -Point. Each type of cooperative learning model has specific stages and has a major difference, namely the existence of cooperation between group members. (Fitriah, Degeng, & Widiati, 2018; Muis & Priawasana, 2022)

The Jigsaw cooperative learning model has its own advantages and characteristics so it is very affective when applied in the learning process. Jigsaw is cooperative learning which consists of 4 to 6 students with heterogeneous characteristics. Learning material is given to students in the form of text. Each member is responsible for studying the same section and then gathers to help each other study the material (Djamarah & Zain, 2006) The division of tasks in this learning model will shape the character of student responsibility as well as students will focus on the learning material that is assigned.(Adiputra & Heryadi, 2021; Fitriah et al., 2018)

The application of the Jigsaw learning model which is cooperative learning will affect student learning outcomes. Success in the cooperative learning model is due to cooperation so that it will gain success in learning together. The purpose of cooperative learning is to create a situation where individual success is determined or influenced by the success of the group(Slavin, 2014). The purpose of cooperative learning is to minimize individual competition which is only egocentric without achieving mutual success. In cooperative learning it is hoped that all students will have equal or even learning success both in the level of understanding of learning material or solving complex tasks.

In addition to learning outcomes that need to be considered again is the element of motivation to learn. This element is closely related to student learning outcomes because with a high level of learning motivation it will generate a willingness to learn and self-resilience in students trying to complete the tasks given by the teacher. Through increasing learning motivation, students will be even more active in achieving

academically and non-academically. In general, learning motivation is divided into intrinsic and extrinsic motivation(Bell, 2010; Liao, Chen, & Shih, 2019), which can be seen as internal factors within students and external factors directly related to their motivation.

Analysis of learning motivation is important because with high learning motivation it will have a positive impact on learning outcomes. Students with high learning motivation appear to be more enthusiastic about learning, adept at completing learning assignments and not easily discouraged when experiencing learning difficulties. Information about learning motivation is crucial in achieving learning outcomes, with this information the teacher as a classroom learning manager can plan learning according to the level of motivation. This means that for classes with a high average level of learning motivation, the treatment will certainly be different from classes that have a low average learning motivation.

The jigsaw cooperative learning model is also believed to be able to eliminate students' boredom with the learning method used previously. The learning environment for cooperative learning is characterized by democratic processes and the active role of students in determining what to learn and how to learn it. In addition, this jigsaw model is also useful for students to foster cooperation, think critically, and help between friends.(Bahr, 2010; Karacop, 2017)

The implementation of the jigsaw cooperative learning model if applied in learning is predicted to be strong will generate learning motivation as well as learning outcomes. Based on these circumstances and descriptions, the authors submit a research proposal with the title: "The Effect of the Jigsaw Model on Student Motivation and Learning Outcomes in Entrepreneurship Subject Class XI Even Semester at Hidayatul Mubtadiin Vocational School".

RESEARCH METHODS

This research is a study that observes the significance of the effect of the independent variables on the dependent variable so that the approach to this variable is causal quantitative. The independent variable is the application of the Jigsaw learning model to its effect on motivation and student learning outcomes in Entrepreneurship subjects. The application of the jigsaw learning model has an effect on motivation and learning outcomes carried out at the junior high school level, class XI, in the subject of Entrepreneurship. Data collection techniques used in this study were in the form of observations, documents, questionnaires and tests. After collecting the data, the next activity is coding so that the collected data can be processed using a statistical data analysis program. Researchers used the SPSS program version 22.0 for windows in processing questionnaire data. In this study, descriptive analysis was used to describe the data according to each variable which includes: mean, median, mode, and standard deviation. Regression analysis in this study was used to examine the effect of the independent variables on the dependent variable in the form of a regression equation. The regression equation used is the multiple regression equation. Partial test is used to determine the effect of independent variables on the dependent variable individually (partially).(Arikunto, 2011)

RESEARCH RESULT

A. First Hypothesis

In the first discussion, the results of the hypothesis test in Table 4.8 show the p-value of the jigsaw learning model - learning motivation of 0.004 with Ho's decision being rejected so that the working hypothesis is accepted, namely that there is an effect of implementing the jigsaw model on student learning motivation in Entrepreneurship class XI subject even semester at SMK Hidayatul Mubtadiin academic year 2021/2022.

From the results of the first hypothesis, it can be concluded that the jigsaw learning model has an effect on students' learning motivation. Certainly with the formation of study groups will make it easier to solve assignments and student burdens. This condition will give impetus to students' learning motivation so that they will always be passionate about learning. Learning motivation is a physiological and psychological condition that exists within a person that encourages him to carry out certain activities in order to achieve a learning goal (need) (Djamarah & Zain, 2006). This statement reinforces the argument that the conditioning of learning in groups will create a more comfortable psychological condition for students.

Motivation to learn which is a person's psychological condition to be passionate about learning is influenced by many factors including the formation of study groups. In the jigsaw model, student diversity is a prerequisite so that learning groupings are not based only on students with high cognitive abilities, or students with low levels of understanding, even heterogeneity of gender, ethnicity and race must be carried out. With the heterogeneity of these students will also bring diverse psychological conditions and tend to be positive, especially for increasing learning motivation. It should be remembered that this influence can come from within the student and from outside the student, therefore learning motivation is divided into two, namely intrinsic motivation and extrinsic motivation (Kadek Suartama et al., 2020). Extrinsic learning motivation is formed from the grouping of student learning.

Another analysis of the results of this first hypothesis is due to the provision of opportunities for students to learn according to their needs. . The needs of children (individuals) can be classified: 1) To do something for the activity itself, activity in itself is a pleasure, 2) To please other people, 3) To succeed or achieve results (to achieve), and 4) To overcome difficulties, the child's attitude towards difficulties depends a lot on the attitude of the environment (Capraro, Capraro, & Morgan, 2013). Through the existence of learning activities in groups, it will indirectly provide opportunities for students to carry out activities in order to achieve certain learning goals. In addition, the environment and learning partners who are the same age will be more in touch with the joy of learning.

The learning atmosphere between peers will create good psychological conditions and good cognition as well. There is no feeling of awkwardness or boundaries between members in the study group because they are at the same age level. Students who have the habit of being shy and relatively passive are no longer found in learning, almost all students in the study group are active and committed in completing their respective assignments. Indirectly students will be supervised and controlled by their partners in the group. This condition is one of the personal characteristics that have high motivation to learn.

This argument provides an embodiment of the research results in the second hypothesis test, namely that there is an influence of the implementation of the jigsaw model on student learning motivation in the even semester XI class Entrepreneurship subject at Hidayatul Mubtadiin Vocational School.

Second Hypothesis

The results of the hypothesis test showed that the p-value of the jigsaw learning model - learning outcomes was 0.004 with Ho's decision being rejected so that the working hypothesis was accepted, namely that there was an effect of implementing the jigsaw model on student learning outcomes in the even semester XI class Entrepreneurship subject at SMK Hidayatul Mubtadiin in the 2021/2022 academic year.

An explanation of these results can be seen in the advantages or characteristics of the jigsaw learning model itself. Jigsaw is a cooperative learning model, namely learning that includes collaboration in it. Cooperation in cooperative learning is intended to achieve success together as well. The purpose of cooperative learning is to create a situation where individual success is determined or influenced by the success of the group (Rachim, 2019; Slavin, 2009). Of course, in groups there are students with varying levels of understanding abilities. Through collaboration in learning, it will help students with low ability levels to understand learning material or solve problems. Whereas students with high abilities will have a stronger understanding because they have transferred their knowledge, which means they have understood the learning material before passing it on to their friends.

This model also has the advantage that there is learning in groups which then has a clear division of tasks for completion and joint success. Jigsaw is a type of cooperative learning model consisting of 4 to 6 students with heterogeneous characteristics. Learning material is given to students in the form of text. Each member is responsible for studying the same section and then gathers to help each other study the material (Pratiwi, Ardianti, & Kanzunnudin, 2018). This kind of learning conditioning has a very positive impact on their enthusiasm and willingness to learn because in addition to providing a pleasant atmosphere it will lighten the learning load. In detail, it can be seen in the learning steps of the jigsaw model as (Karacop, 2017)

the cooperative learning steps of the jigsaw model can be stated that there are many elements that encourage increased learning outcomes. Dividing learning material into certain sub-subjects and then assigning each member of the group will form responsibilities and lighten student learning bills when compared to having to study the entire chapter alone. After each member has studied the material according to their duties, they then gather with other group members to discuss similar sub-chapters in order to strengthen their understanding. Then in this phase it will bring up the level of students' understanding of the sub-chapter getting stronger. The next reinforcement is during presentations and discussions in the original group. This can speed up and save learning time by doing it together and dividing it based on the sub-chapters.

So it can be stated that through the jigsaw type cooperative learning model it will help student learning success. The division of sub-chapters or material divided partially and then charged to each student in the study group will be very helpful compared to the whole material being studied by one student alone. In strengthening the understanding of learning material, it is designed with a team of experts who have studied and understood the material partially, then are tasked with explaining it to members of the original group after conducting discussions and clarifications with the same team of experts in other groups. With this form of learning, the level of student learning achievement will be higher which can be seen in the increase in learning outcomes, namely Entrepreneurship learning outcomes.

This argument provides an embodiment of the research results in the second hypothesis test, namely that there is an effect of implementing the jigsaw model on student learning outcomes in the even semester XI class Entrepreneurship subject at Hidayatul Mubtadiin Vocational School in the 2021/2022 academic year.

Third Hypothesis

The results of the hypothesis test showed that the p-value of the jigsaw learning model - learning outcomes was 0.044 with Ho's decision being rejected so that the working hypothesis was accepted, namely that there was an effect of implementing the jigsaw model on student motivation and learning outcomes in Entrepreneurship class XI subject even semester at Hidayatul Mubtadiin Vocational School.

In the previous discussion it has been stated that cooperative learning of the jigsaw model can affect learning motivation and learning outcomes partially. In terms of cooperative learning, the jigsaw model can influence learning motivation as well as learning outcomes together. These results can be analyzed that the form and design of group learning in the jigsaw cooperative learning model will increase the enthusiasm for learning because there are learning partners from peers.

When learning partners are peers, a comfortable learning atmosphere will automatically be formed because there is no learning divider between students. This will increase student learning motivation by showing increased learning activity with each active student according to their respective tasks.

Encouraged learning motivation will also have an impact on student learning outcomes because in essence learning motivation is the willingness to learn. Each student has been motivated to learn and then strengthened by the existence of learning settings in the form of study groups which are increasingly assisted by the presence of a team of experts in each small group.

This argument provides knowledge of the research results in the second hypothesis test, namely that there is an influence of the implementation of the jigsaw model on motivation and student learning outcomes in the even semester XI class Entrepreneurship subject at Hidayatul Mubtadiin Vocational School.

CONCLUSION

Based on the analysis of research results and discussion, the conclusions of this study are as follows a) There is an influence of the implementation of the jigsaw model on student learning motivation in Entrepreneurship subjects, b) There is an influence of the implementation of the jigsaw model on student learning outcomes in Entrepreneurship subjects, c) There is the influence of the implementation of the jigsaw model on motivation and student learning outcomes in Entrepreneurship subjects.

References

Adiputra, D. K., & Heryadi, Y. (2021). Meningkatkan Hasil Belajar Siswa Melalui Model Pembelajaran Kooperatif Tipe Tgt (Teams Games Tournament) Pada Mata Pelajaran IPA Di Sekolah Dasar. *Holistika:Jurnal Ilmiah PGSD*, *5*(2), 104–109. Retrieved from jurnal.umj.ac.id/index.php/holistika

Al-Tabany, T. I. B. (2017). *Mendesain Model Pembelajaran Inovatif, Progresif, dan Intelektual: Konsep, Landasan, dan Implementasi pada Kurikulum 2013 (Kurikulum Tematik Integratif/KTI)*. Jakarta: Kencana.

Anazifa, R. D., & Djukri, D. (2017). Project- Based Learning and Problem-Based Learning: Are They Effective to Improve Student's Thinking Skills? *Jurnal Pendidikan IPA Indonesia*, *6*(2), 346. https://doi.org/10.15294/jpii.v6i2.11100

Anggraini, N. (2017). Vocational Skills Development for People With Intellectual Disabilities By Institution Bbrsbg Kartini Temanggungcentral Java. *IMC 2016 Proceedings*, 872–875. Retrieved from https://jurnal.umj.ac.id/index.php/IMC/article/view/1282

Arikunto, S. (2011). *Prosedur Penelitian: Suatu Pendekatan Praktik* (Revisi VI,). Jakarta: Rineka Cipta.

Awang, Z., Yakob, N., Hamzah, A., & Talling, M. M. (2020). Exploring steam teaching in preschool using fred rogers approach. *International Journal of Evaluation and Research in Education*, *9*(4), 1071–1078. https://doi.org/10.11591/ijere.v9i4.20674

Bahr, N. (2010). Thinking Critically about Critical Thinking in Higher Education. *International Journal for the Scholarship of Teaching and Learning*, *4*(2). https://doi.org/10.20429/ijsotl.2010.040209

Bell, S. (2010). Project-Based Learning for the 21st Century: Skills for the Future. *The Clearing House: A Journal of Educational Strategies, Issues and Ideas*, *83*(2), 39–43. https://doi.org/10.1080/00098650903505415

Capraro, R. M., Capraro, M. M., & Morgan, J. R. (2013). STEM project-based learning an integrated science, technology, engineering, and mathematics (STEM) approach. In *STEM Project-Based Learning an Integrated Science, Technology, Engineering, and Mathematics (STEM) Approach*. https://doi.org/10.1007/978-94-6209-143-6

Colombo, M. G., Franzoni, C., & Rossi-Lamastra, C. (2015). Internal social capital and the attraction of early contributions in crowdfunding. *Entrepreneurship: Theory and Practice*, *39*(1), 75–100. https://doi.org/10.1111/etap.12118

Djamarah, S. B., & Zain, A. (2006). *Strategi Belajar Mengajar* (3rd ed.). Jakarta: Rineka Cipta.

Fitriah, R., Degeng, I. N., & Widiati, U. (2018). Efforts to Develop Children Fine Motor Skills Through Sticking Picture Properly by Using Combination of Explicit Instruction Model and Assignment Media Utilizing Natural Materials. *Journal of K6, Education, and Management*, *1*(2), 25–30. https://doi.org/10.11594/jk6em.01.02.05

Herdiyanti, H., Sulaiman, A., Hayati, L., & Dedoe, A. (2021). The Role of Social Capital on the Livelihood Strategy of the Pengkalen Batu Community, Payung Sub-district, South Bangka Regency. https://doi.org/10.33019/society.v9i1.306

Junaidi, L., Duling, J. R., & Wiyogo. (2020). Pengaruh Model Pembelajaran Inkuiri Terhadap Hasil Belajar Pada Materi Bubut Dasar Siswa Kelas X TMP SMK Negeri 1 Palangka Raya. *STEAM Engineering (Journal of Science, Technology, Education And Mechanical Engineering)*, *1*(2), 97–103. https://doi.org/10.37304/jptm.v1i2.867

Kadek Suartama, I., Usman, M., Triwahyuni, E., Subiyantoro, S., Abbas, S., Umar, … Salehudin, M. (2020). Development of E-learning oriented inquiry learning based on character education in multimedia course. *European Journal of Educational Research*, *9*(4), 1591–1603. https://doi.org/10.12973/EU-JER.9.4.1591

Karacop, A. (2017). *The Effects of Using Jigsaw Method Based on Cooperative Learning Model in the Undergraduate Science Laboratory Practices Universal Journal of Educational Research 5(3): 420-434, 2017 http://www.hrpub.org DOI: 10.13189/ujer.2017.050314. Diakses 22 Januari* .

Liao, C. W., Chen, C. H., & Shih, S. J. (2019). The interactivity of video and collaboration for

learning achievement, intrinsic motivation, cognitive load, and behavior patterns in a digital game-based learning environment. *Computers and Education*, *133*(July 2018), 43–55. https://doi.org/10.1016/j.compedu.2019.01.013

Michael Olufemi, A., Temitope Favour, J., & Adewale Olaosebikan, O. (2017). Efficacy of Vocational Training as an Integral Part of Entrepreneurship Education as a Transition Programme for Persons with Intellectual Disability in Oyo State. *Advances in Economics and Business*, *5*(12), 663–669. https://doi.org/10.13189/aeb.2017.051202

Muis, A., & Priawasana, E. (2022). The effect of learning Think Talk Write model with Powerpoint assistance on students' mathematics learning outcomes. *International Journal of Trends in Mathematics Education Research*, *5*(3), 236–243. https://doi.org/10.33122/ijtmer.v5i3.122

Pratiwi, I. A., Ardianti, S. D., & Kanzunnudin, M. (2018). Peningkatan Kemampuan Kerjasama melalui Model Project Based Learning (PjBL) berbantuan Metode Edutainment pada Mata Pelajaran Ilmu Pengetahuan Sosial. *Refleksi Edukatika: Jurnal Ilmiah Kependidikan*, *8*(2), 177–182. https://doi.org/https://doi.org/10.24176/re.v8i2.2357

Rachim, F. (2019). *How to STEAM Your Classroom: Revo 4.0 Model - Outside The Box* (1st ed.; D. Hadiana, Ed.). DPP Asosiasi Guru Teknologi Informasi Indonesia (AGTIFINDO).

Silver, Harvey L., Strong, R.W., & Perini, M. J. (2007). *The Strategic Teacher: Selecting the Right Research-based Strategy for Every Lesson*. Retrieved from www.ascd.org/write

Slavin, R. E. (2009). *Cooperative Learning Teori, Riset dan Praktek*. nusa media.

Slavin, R. E. (2014). Making cooperative learning powerful. *Educational Leadership*, 22–26. https://doi.org/10.1080/00405849909543834

Trianto. (2010). *Model Pembelajaran Terpadu: Konsep, Strategi, dan Implementasinya dalam Kurikulum Tingkat Satuan Pendidikan (KTSP)*. Jakarta: Bumi Aksara.

Yakman, G., & Lee, H. (2012). Exploring the Exemplary STEAM Education in the U.S. as a Practical Educational Framework for Korea. *Journal of The Korean Association For Science Education*, *32*(6), 1072–1086. https://doi.org/10.14697/jkase.2012.32.6.1072