The Effectiveness of the Case Method in Increasing Students' Learning Motivation

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Abstract. The case method is a student-oriented teaching approach, where students are the center of the activities of the teaching process. Case method is a way in teaching and learning process which is presented by displaying cases in the material to be studied. Tennis is the compulsory subjects that must be taken by students in Department of Coaching, UNP. This course is carried out theoritically and practically on a tennis court. The problem found in the field is the students' low learning motivation when the learning process is carried out using conventional methods (lecturing) This study aimed at seeing the effectiveness of the case method in increasing students' learning motivation in learning tennis courses at the Coaching department UNP. This is Quasi Experiment method with two group pre-test post-test control design. The subject was taken randomly (n = 32). The sample was divided into two groups using ordinally matching pairing technique with 16 people in each group. The first group was given Case Methods as the treatment, and second group was treated by lecturing method. To prove the hypothesis and the effect of the treatment given, the measurement of learning motivation was carried out before (pre) and after (post) the teaching and learning process. The data was processed by using SPSS software. To see the increasing in learning motivation in first group, a mean difference test was conducted between pre-test and post-test and the N_gain score. It was found that the sig $0.00 < 0.05$, and N_Gain 53%. To see the increasing of learning motivation of the second group, a mean difference test was carried out between pre-test and post-test to get N score. It was found that the sig $0.00 < 0.05$, and N_Gain 37%. To see the difference in the effect between groups I and II, an analysis of the mean difference test was performed the sig value was $0.00 > 0.05$. The results show that there are differences in the effect of learning by using the Case Method with the conventional method. Although the two learning methods have an effect on increasing learning motivation, the case method has a greater influence in increasing students' learning motivation in learning tennis courses compared to conventional methods. This can be seen from the N-gain scores obtained from the two groups, where group A higher than B.

Keywords: Effectiveness · Case Method · Conventional Method · Learning Motivation

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1 Introduction

Learning motivation is related to the social behavior needed to achieve learning goals. Based on the results of many studies, they indicate that the characteristics of a person's learning motivation have significant influence on academic performance and learning achievement. [1] Learning motivation is the driving force to carry out learning activities that comes from outside and within, which is able to evoke enthusiasm in learning [2].

Learning motivation is a power that is a source of energy to carry out learning activities, which is influenced by various external, internal and environmental factors and other learning facilities [3]. Learning motivation can be influenced by various environmental conditions, teachers who teach, classes and methods in learning [4] Several factors such as learning strategies and learning motivation are vital factors in supporting success in learning (Wei et al., 2022). Extrinsic and intrinsic factors can affect learning performance [6]. Learning motivation is an important element for the success of the teaching and learning process, and is a factor that is directly related to learning [7].

The case method has become popular since the 1980s. The case method has been used by teachers to improve learning outcomes. The case method is done by: showing the case that will be used as the basis for the teaching topic. The case method encourages analytical thinking [8]. The case method is a learning method that can be used for various fields and various learning situations [9]. The case method is an in-depth exploration method of a problem, which allows conducting investigative analysis [10]. The case method emphasizes the process of solving cases or problems faced scientifically, placing cases or problems as keywords in the learning process [11].

The case method is a learning design in the form of an explanation of a particular problem, then students are trying to find alternative solutions [12]. Case methods are used to provide an understanding of something that attracts attention, social processes that occur, or experiences of people who are the background of a case [13]. The case method stimulates children to think critically and practically [14, 15].

The Case method is a series of scientific activities carried out intensively to gain in-depth knowledge about the event. The case study method is a learning design based on certain problems, events or situations, then students are assigned with finding alternative solutions then this method can also be used to develop critical thinking and find new solutions to a solved topic [16].

The case method is a method that is widely used in educational setting and between researchers. The case method is derived from the research model and its components in the form of: (a) the study's questions, (b) the study's propositions, (c) the unit of analysis, (d) the logic linking the data to propositions, and (e) the criteria for interpreting the findings [17].

The case method is an active teaching technique, which has the potential to increase students' willingness to learn [19]. The case method is a teaching method based on teacher-student interactions in a group [20]. Based on research, the case method was proved to be useful in improving students' thinking skills [21, 22].

Lecture is a conventional method that is used in the learning process. This method is easy to implement because it does not require other equipment as an instrument. In addition, the lecture method only relies on the teacher's voice, so it does not require complicated preparation [23]. The lecturing method is the most traditional teaching

method and has been practiced for a long time in the history of education, and it can be said that this method is a traditional teaching method because it has always been used as a teacher communication tool in delivering subject matter.

2 Methods

This is a quasi-experimental, using the Pretest-Posttest Control Group Design. The subjects in this study were students of the Coaching department who took the Basic Field Tennis course in the July-December 2021 semester. The sampling was carried out using purposive random sampling technique, and a sample of 32 people was obtained.

The first step is to do a pre test and dividing the sample into two groups (each group consisted of 16 samples) using the Ordinally Matching Pairing technique. This was done to ensure that both groups were in balance before being given treatment. Group A was given the case method treatment, while group B was treated by the conventional method (lecturing). The treatment was given for 8 weeks, 2 times a week, and ended with a post test.

To measure the variable of Learning Motivation, an instrument is used in the form of a questionnaire with a Likert scale with 5 answer choices. The arrangement of the instrument grid is based on the theory of learning motivation proposed by the experts. Before being used, this learning motivation questionnaire was tested and validated first through expert judgment.

3 Results and Discussion

In this study, before being given treatment to all test subjects, the subjects were divided into two groups through ordinally matching pairing. This was done to ensure that both group were balance. To ensure that both groups were in the same condition, a mean difference test was conducted for the two groups, and the following results were obtained (Fig. 1).

Based on data analysis (the sig value is 0.978 > 0.05), the results indicate that there is no significant difference in the results of the pre-test of the two groups after dividing the groups using the ordinally matching pairing technique. Thus, the two groups were in a balanced state, and were ready to receive the treatment that had been prepared.

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Tes_Awal	Equal variances assumed	.001	.978	.110	30	.913	.25000	2.26293	-4.37151	4.87151
	Equal variances not assumed			.110	29.998	.913	.25000	2.26293	-4.37152	4.87152

Fig. 1. Different Test of Mean Score (Groups A and B Pretest)

Tests of Normality

	KELOMPOK	Kolmogorov-Smirnov[a] Statistic	df	Sig.	Shapiro-Wilk Statistic	df	Sig.
MOTIVASI BELAJAR	Pre_Test_KLP_CM	.131	16	.200*	.968	16	.801
	Post_Test_KLP_CM	.192	16	.116	.905	16	.097
	Pre_Test_KLP_Kontrol	.146	16	.200*	.962	16	.697
	Post_Test_KLP_Kontrol	.191	16	.121	.908	16	.106

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Fig. 2. Data Normality Test

Paired Samples Test

		Paired Differences Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper	t	df	Sig. (2-tailed)
Pair 1	Pre_KLP_A - Post_KLP_A	-31.81250	8.99050	2.24763	-36.60320	-27.02180	-14.154	15	.000

Fig. 3. Different Tests of Mean Pretest and Posttest Group A

Before the data is processed, the analysis requirements test is carried out, namely the normality test. This is done to ensure that the data is normally distributed. The results of the normality test carried out can be seen in Fig. 2.

From the data above, the results show that: (1) For group A pretest, the sig value is $0.200 > 0.05$ which means that the data is normally distributed. (2) For the posttest group A, the value of sig was $1.16 > 0.05$ which means that the data is normally distributed. (3) For group B pretest, the sig value is $0.200 > 0.05$ which means that the data is normally distributed. For the posttest group B, the value of sig $1.21 > 0.05$ was obtained which also means that the data is normally distributed.

After 8 weeks of treatment with 2 meetings perweek, a significant increase in learning motivation was obtained. This can be seen in the increasing average score from the pretest to the post test. To see the significance of the increasing in group A's learning motivation after receiving 8 weeks of learning using the case method, a mean difference test was conducted between the pretest and posttest scores. The results can be seen in Fig. 3.

Based on the data analysis, it was obtained that the value of sig is $0.00 < 0.05$. It means that there is a significant difference in the pretest and posttest scores of group A after following the learning process using the Case Method. This data also shows that the Case Method has significant effect in increasing the learning motivation of students who learned Basic Tennis courses.

For group B who received learning treatment using the Conventional Method, after 8 weeks of treatment, 2 times a week, a significant increase in learning motivation was also obtained. This can be seen from the increase in the average score from the pretest to the post test. To see the significance of the increase in learning motivation in group B after receiving 8 weeks of learning using the Conventional Method, a mean difference

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
					95% Confidence Interval of the Difference				
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper			
Pair 1	Pre_KLP_B - Post_KLP_B	-22.43750	8.35040	2.08760	-26.88711	-17.98789	-10.748	15	.000

Fig. 4. Mean Different Tests of Group B Pretest and Posttest

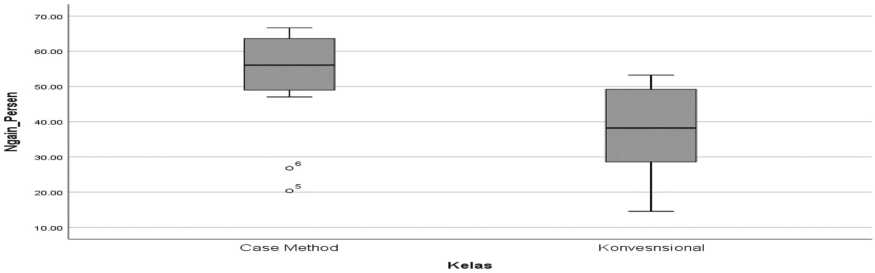

Fig. 5. Increasing Learning Motivation of Groups A and B

test was conducted between the pretest and posttest scores. The results can be seen in Fig. 4.

The data shows that the value of sig is 0.00 < 0.05. It means that there is significant difference in the pretest and posttest scores of group B after following the learning process using the Conventional Method. This data also shows that the Conventional Method also has a significant effect in increasing the learning motivation of students who took Basic Tennis courses.

To see if there is an increase in learning motivation caused by the treatment between learning using the Case Method in group A and the Conventional Method in group B, the N score was calculated. It was intended to see an increase in learning motivation after being treated with Case Method and Conventional Method. The description of the increase can be seen in Fig. 5.

Based on the box plot diagram above, it can be seen that group A who learned using the case method experienced a greater increase in learning motivation, which was 53%. Meanwhile, group B who learned using conventional methods experienced an increase of 37%.

To see if there is a significant difference in learning motivation between learning using the Case Method in group A and the Conventional Method in group B, a mean difference test was conducted. It was intended to see if there was a significant difference in learning motivation between group A and group B after being treated with Case Method and Conventional Method. The results of the analysis are as follows (Fig. 6).

From the data obtained, it was found that the value of sig is 0.00 < 0.05. It means that there is a significant difference in posttest scores between groups A and B after following the learning process using Case Method and Conventional Method. It also means that the Case Method has greater influence in increasing the learning motivation

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Skor Posttest	Equal variances assumed	.070	.794	3.956	30	.000	9.62500	2.43317	4.65581	14.59419
	Equal variances not assumed			3.956	29.400	.000	9.62500	2.43317	4.65155	14.59845

Fig. 6. Mean Posttest Difference Test for Groups A and B

of students who study Basic Tennis courses. This can be seen from the average score obtained by the two groups, namely group A got 122 and group B got 112.

4 Conclusion

Based on the analysis in the previous section, the results show that there are differences in the effect of using the case method with the conventional method. The case method provides an increase in learning motivation as much as 53%, while the conventional lecture method is only able to increase learning motivation as much as 37%. The case method is a learning method that is able to stimulate students to learn more dynamically. This method is an important element in the teaching and learning process. With this case method, students are directly tied to the learning process by displaying meaningful learning activities in the learning activities they follow.[18]

The case method applies multiple sources to help students understand complex and current issues, and can explain the relationship between the two. The case method is also well suited for conducting highly informative discussions. The case method can also increase interest in learning.[24] The case method is a model of the teaching and learning process that is centered on the learner, it can stimulate various potentials of the students which include aspects of aspective, cognitive, and psychomotor. [27]

Conventional methods (lectures) in addition to having advantages, but also have disadvantages when i tis used in the learning process. The use of conventional methods can cause the students' reasoning skills to freeze. This is because they are not stimulated to use their reasoning skillls. The learning process with this conventional method is always teacher-centered. By applying the Case method, the teaching and learning process can turn into student-centered, and teachers can stimulate students to think critically and innovatively. With the change in learning methods, students become active in developing knowledge, behavior and attitudes.[25] The use of the lecturing method has various weaknesses, namely: (1). Students become lazy and passive, (2). Only active teachers, (3) do not stimulate critical, active and innovative thinking.[26]

From the various expert opinions above, it can be concluded that the Case method is an interactive that stimulates students to be active and creative, and fun. The participants feel attached to the ongoing learning process, so they feel happy to carry out ongoing educational activities. Through the Case Method, it is possible to run discussions interactively, and can change the learning atmosphere from teacher-center to student-center. Through this Case Method, lecturers or teachers can explore the relationship between research and teaching, so that the content of the material is truly up to date and scientific.

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References

1. A. Veraksa, M. Gavrilova, and J. Lepola, "Learning motivation tendencies among preschoolers: Impact of executive functions and gender differences," *Acta Psychol. (Amst).*, vol. 228, no. January, p. 103647, 2022, doi: https://doi.org/10.1016/j.actpsy.2022.103647.
2. R. Andriani, "Motivasi belajar sebagai determinan hasil belajar siswa (Learning motivation as determinant student learning outcomes)," vol. 4, no. 1, pp. 80–86, 2019, doi: https://doi.org/10.17509/jpm.v4i1.14958.
3. A. Fauziah *et al.*, "HUBUNGAN ANTARA MOTIVASI BELAJAR DENGAN MINAT BELAJAR SISWA KELAS IV SDN PORIS GAGA 05 KOTA," vol. 4, no. 1, 2017.
4. Y. H. Lee and C. Yeung, "Incentives for learning: How free offers help or hinder motivation," *Int. J. Res. Mark.*, vol. 39, no. 2, pp. 380–395, 2022, doi: https://doi.org/10.1016/j.ijresmar.2021.08.001.
5. X. Wei, N. Saab, and W. Admiraal, "Do learners share the same perceived learning outcomes in MOOCs? Identifying the role of motivation, perceived learning support, learning engagement, and self-regulated learning strategies," *Internet High. Educ.*, vol. 56, no. July 2021, p. 100880, 2023, doi: https://doi.org/10.1016/j.iheduc.2022.100880.
6. K. Olczak, C. Klocek, and J. W. Christensen, "Hucul horses' learning abilities in different learning tests and ue the association with behaviour, food motivation and fearfulness," *Appl. Anim. Behav. Sci.*, vol. 245, no. November, 2021, doi: https://doi.org/10.1016/j.applanim.2021.105498.
7. E. Alsadoon, A. Alkhawajah, and A. Bin, "Heliyon Effects of a gami fi ed learning environment on students ' achievement , motivations , and satisfaction," *Heliyon*, vol. 8, no. August, p. e10249, 2022, doi: https://doi.org/10.1016/j.heliyon.2022.e10249.
8. M. Sato and C. Rogers, "Case methods in teacher education," *Int. Encycl. Educ.*, pp. 592–597, 2010, doi: https://doi.org/10.1016/B978-0-08-044894-7.00662-X.
9. M. Co and K. M. Chu, "A prospective case-control study on online teaching of ultrasonography skills to medical students during COVID-19 pandemic," *Heliyon*, vol. 8, no. 1, p. e08744, 2022, doi: https://doi.org/10.1016/j.heliyon.2022.e08744.
10. L. F. S. Minniti, J. S. M. Melo, R. D. Oliveira, and J. A. A. Salles, "The Use of Case Studies as a Teaching Method in Brazil," *Procedia - Soc. Behav. Sci.*, vol. 237, no. June 2016, pp. 373–377, 2017, doi: https://doi.org/10.1016/j.sbspro.2017.02.024.
11. K. P. Rahayu, "Penerapan Metode Kasus Terhadap Hasil Belajar Pada Materi KSP," *J. Teladan J. Ilmu Pendidik. Dan …*, 2020.
12. L. Anggraeni, "Penerapan Metode Studi Kasus Dalam Upaya Meningkatkan Kemampuan Berpikir Kritis Mahasiswa Pada Mata Kuliah Hubungan Internasional," *Media Komun. FIS*, vol. 11, no. 1, pp. 1–15, 2020.

13. U. Prihatsanti, S. Suryanto, and W. Hendriani, "Menggunakan Studi Kasus sebagai Metode Ilmiah dalam Psikologi," *Bul. Psikol.*, vol. 26, no. 2, p. 126, 2018, doi: https://doi.org/10.22146/buletinpsikologi.38895.
14. T. G. Beckisheva, G. A. Gasparyan, and N. A. Kovalenko, "Case Study as an Active Method of Teaching Business English," *Procedia - Soc. Behav. Sci.*, vol. 166, pp. 292–295, 2015, doi: https://doi.org/10.1016/j.sbspro.2014.12.526.
15. G. Jimborean, P. Postolache, A. Csipor, and E. S. Ianosi, "Students' Feedback About the New Teaching Methods: Case-Based, Team-Based Learning and 'Hands-on' Sessions in Pulmonology Clinic," *Chest*, vol. 155, no. 4, p. 156A, 2019, doi: https://doi.org/10.1016/j.chest.2019.02.150.
16. R. P. Dewi and S. N. Hidayah, "Metode Study Kasus," *Skripsi*, p. 19, 2019.
17. K. M. Alpi and J. J. Evans, "Distinguishing case study as a research method from case reports as a publication type," *J. Med. Libr. Assoc.*, vol. 107, no. 1, pp. 1–5, 2019, doi: https://doi.org/10.5195/jmla.2019.615.
18. N. Radi Afsouran, M. Charkhabi, S. A. Siadat, R. Hoveida, H. R. Oreyzi, and G. C. Thornton, "Case-method teaching: advantages and disadvantages in organizational training," *J. Manag. Dev.*, vol. 37, no. 9–10, pp. 711–720, 2018, doi: https://doi.org/10.1108/JMD-10-2017-0324.
19. K. F. Harling and J. Akridge, "Using the case method of teaching," *Agribusiness*, vol. 14, no. 1, pp. 1–14, 1998, doi: https://doi.org/10.1002/(SICI)1520-6297(199801/02)14:1<1::AID-AGR1>3.0.CO;2-8.
20. N. Nae, "Teaching English With the Case Method - a Tentative Approach," *Euromentor J.*, vol. X, no. 1, pp. 25–39, 2019.
21. D. Dorta-Afonso, "Teaching organizational behavior in the bachelor of tourism through the case study method," *J. Hosp. Leis. Sport Tour. Educ.*, vol. 25, no. November 2018, p. 100204, 2019, doi: https://doi.org/10.1016/j.jhlste.2019.100204.
22. S. Hua and Z. Ren, "'Online + Offline' course teaching based on case teaching method: A case study of entrepreneurship education course," *Int. J. Emerg. Technol. Learn.*, vol. 15, no. 10, pp. 69–85, 2020, doi: https://doi.org/10.3991/ijet.v15i10.13999.
23. M. Ilham and E. Marheni, "Pengaruh Metode Latihan Elementer dan Konvensional Terhadap Kemampuan Groundstroke Forehand Tenis Lapangan," *J. JPDO*, vol. 1, no. 1, pp. 130–134, 2018.
24. J. C. Kunselman and K. A. Johnson, "Using the Case Method to Facilitate Learning," *Coll. Teach.*, vol. 52, no. 3, pp. 87–92, 2004, doi: https://doi.org/10.3200/CTCH.52.3.87-92.
25. T. Pemahaman Akuntansi Forensik Dengan Kecerdas Komang Adi Kurniawan Saputra, S. Kurniawan, A. Atmadja, J. Jamal, J. Ekonomi Pendidikan dan Kewirausahaan UNESA, and E. Jaya, "Pengaruh Penerapan Metode Case-Based Learning dan Motivasi Cite this paper Related papers PRESTASI BELAJAR MAHASISWA AKUNTANSI ATAS SIST EM APLIKASI ENT ERPRISE RESOUR… MANAJEMEN SUMBER DAYA MANUSIA PENDIDIKAN SMART EKSELENSIA INDONESIA."
26. S. U. Hasanah, "Studi Komparasi Penerapan Metode Active Learning Model Reading Aloud Dan Metode Konvensional Model Ceramah Dalam Pembelajaran Bahasa Arab Dan Pengaruhnya Terhadap Respon Siswa Kelas V Mi Ma'Arif 01 Pahonjean Majenang," *J. Tawadhu*, vol. 3, no. 1, pp. 804–822, 2019.
27. S. Vahlepi and F. W. Tersta, "Implementasi Model Pembelaaran berbasis Case Method dan Project Based Learning dalam rangka mengakomodir Higher Order Thinking Skill mahasiswa dalam Mata Kuliah Psikologi Pendidikan Bahasa Arab di Masa Pandemi," *J. Pendidik. Tabusai*, vol. 5, no. 3, pp. 10153–10159, 2021.