

**Application of Channel and Content Youtube Learning Media to Volleyball Skill Learning Outcomes**Aryana Tri Andyani<sup>1✉</sup>, Carsiwan<sup>2</sup>, Salman<sup>3</sup>Physical Education Health and Recreation, FPOK, Universitas Pendidikan Indonesia, Bandung, Indonesia<sup>123</sup>**Article History**Received January 2026  
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**Abstract**

This study aims to determine the influence and effectiveness of the application of CCY (YouTube Channel and Content) learning media on the learning outcomes of volleyball skills of grade VIII students in the subject of Physical Education at Junior high school 1 Pasirjambu. This study uses a quasi-experimental method with a quantitative approach involving two groups, namely the experimental class that is given treatment using CCY learning media and the control class that uses conventional learning. The research instrument is a volleyball basic technique skill test which includes bottom passing, top passing, and bottom serve, referring to the NCSU Volleyball Skills Test Battery Volleyball Skills Test Battery. Data analysis was carried out through the Kolmogorov-Smirnov normality test, Levene homogeneity test, independent sample t-test, N-Gain test, and covariate analysis (ANCOVA) with the help of the IBM SPSS application. The results of the study showed that the data was distributed normally and homogeneously. Independent sample t-tests showed significant differences between the learning outcomes of volleyball skills of students in the experimental class and the control class ( $p < 0.05$ ). The results of the N-Gain test showed a higher increase in learning outcomes in the experimental class with the medium to high improvement category, compared to the control class in the low to medium category. ANCOVA's analysis strengthens the finding that the application of CCY learning media has a significant effect on improving students' volleyball skills after being controlled by initial grades. The conclusion of this study is that CCY learning media is effective and has a positive effect in improving students' volleyball skill learning achievements. This media can be used as an innovative alternative in Physical Education learning to optimally improve students' motivation, movement understanding, and skills.

**How to Cite**

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## INTRODUCTION

Today, in the digital and internet era, we are blessed with various technological sophistications that are developing rapidly, especially information and communication technology. This development greatly affects the world of education. The internet is a technology that can be used by everyone to do many things. Since it can not only be used for learning, but it can also be used anytime and anywhere without being limited by space and time, this internet application is very helpful (Anisa, 2022)

Internet-based learning has a positive effect on education because it can not only improve the abilities and skills of teachers and learners, but it can also increase the spirit of learning. Because of technology, students will be more interested in learning if they use the right learning medium. Social media allows students to think critically and creatively in online learning because of their broad and accessible role. Learning through the internet, which involves the use of internet-connected smartphones, is a new approach to Education (Bodle, 2015)(Sadikin, 2020).

The world of education today is increasingly difficult to meet the needs of different internet generations. With millions of videos uploaded daily and an increasing audience every month, YouTube is not only a popular video-sharing platform, but can also be a useful learning source and learning medium, platforms like YouTube have shown that they are a good tool for multimedia learning. YouTube provides educational content that can help students understand the material visually and interactively. Explain the essentials. Explain the umpteenth rank of the important thing. Explain what follows in the form of additional information. Previous research has shown that the use of YouTube videos in learning can improve students' understanding, their engagement in the learning process, and academic outcomes. Multimedia-based learning videos can also create a more interesting learning environment that is relevant to the needs of the times (Caratiquit, 2022).

YouTube can be an interesting teaching tool because the subject matter is often designed to attract students and prevent them from getting bored. YouTube allows teachers to showcase innovative and creative learning videos. The video content covers a wide range of topics, including learning, so the platform can be used as an effective learning medium to teach and motivate students. Students' creativity can also be enhanced by using YouTube as a learning medium (JU-

WAIDAH, 2019).

The focus of this research is the application of multimedia learning media in sports education, especially volleyball. Multimedia learning media is one of the effective ways to improve the quality of education in the modern era. The use of interactive content, videos, and animations can help students understand complex concepts better. As a video-sharing platform, YouTube has a lot of potential to help with education. Students can access a variety of volleyball tutorials and explanations from a variety of sources with millions of content available, allowing them to learn independently and at their own pace (Mayer, 2009).

According to research, the use of visual media in learning can increase student participation. Students can be motivated to participate more actively in the learning process through engaging and informative YouTube content. This allows them to more easily understand and remember the material (Hattie, 2016). Physical education, especially in sports like volleyball, often relies on traditional teaching methods that are less appealing. This research is important to change this paradigm by utilizing modern technology, so that learning becomes more relevant and in accordance with the needs of today's digital generation. Using multimedia learning media, students can see first-hand demonstrations of techniques, which can improve their understanding and practical skills. This research will provide empirical evidence on the effectiveness of this method in improving students' skills. This research focuses not only on volleyball learning, but also on the development of students' digital skills. By utilizing YouTube, students learn how to access, analyze, and use information effectively, which is an essential skill for their future.

This research aims to apply multimedia-based learning media that uses CCY to teach volleyball. In addition, this study also aims to test how well this media improves students' understanding and skills in volleyball learning, especially the basic techniques of passing down, passing up and serving. It is hoped that the results of this research can help develop more sophisticated and efficient sports learning methods. This research aims to create effective and attractive CCY-based multimedia learning media for students (Zulhijah, 2022). It is hoped that this media can overcome the limitations of conventional learning methods and improve student learning outcomes in volleyball learning. In addition, this study also aims to provide practical guidance for teachers on how to use YouTube as a useful learning resource and according to the needs of stu-

dents. Therefore, it is hoped that this research can make a significant contribution to innovation in sports learning in the computer and internet era. So this research is carried out to find out and solve the problems to be researched. The novelty of this research lies in the use of YouTube Channel and Content (CCY) learning media which was tested quasi-experimentally to improve students' volleyball technical skills learning outcomes. Previous research generally used YouTube in PE learning only to increase learning motivation, interest, or cognitive understanding. This research specifically measures the improvement of volleyball technical motor skills (underhand passing, overhand passing, and underhand serving) in a quantitative and controlled manner. (Yulaiha & Hidayat, 2022). Previous studies have shown that YouTube can serve as an effective learning tool. For example, research shows that learning videos on YouTube can increase student engagement and desire (Utamajaya2, 2024).

## METHODS

This study uses quasi-experimental research with a quantitative approach. Quasi-experimental research is similar to experimental research but without full randomization of the subjects, used to test the effectiveness of interventions with more limited controls. According to the quantitative approach, variables as research objects and deficient variables in the form of operationalization of their respective variables. Quantitative research demands numbers, presenting results in the form of images, tables, to improve readers' breakfast and make it easier to convey information (Neliwati, 2018).

This research is a quasi-experimental research conducted in grade VIII of Junior high school 1 Pasirjambu in the course of Physical Education, Sports and Health and the class used as the subject of the research is class VIII J experimental class and control class. The implementation of the research was carried out in 8 meetings where the researcher conducted a pretest before the use of CCY learning media in the implementation of learning to get the results of the pretest, after that the teacher used the learning media in the implementation of learning for several meetings and then at the end of the learning the researcher did the posttest. Data from the pretest and posttest will be processed to determine the influence of learning media on students' skill learning outcomes.

The participants involved in this study were grade VIII students and teachers of social

services. The research was conducted at Junior high school 1 Pasirjambu which is located at Jalan Stesen Cisondari No.6, Kec. With the research time that will be carried out in the field and classroom at Junior high school 1 Pasirjambu. The instrument used to obtain data in this study is a volleyball playing skill test. With volleyball skills tests, there are several tests that the author will do, namely lower and upper serves, lower and upper passes, spikes. The research steps are as follows: The basic volleyball technique skill test refers to the "NCSU Volleyball Skills Test Battery" model which has a reliability coefficient of 0.65 for Service Tests; 0.73 for the Lower Joint Test; and 0.88 for the Upper Pass/Pass Test" Strand & Wilson (1993, in Yudiana, 2010, p.113). Data analysis using descriptive and inferential statistical analysis.

## RESULTS AND DISCUSSION

The implementation of the research was carried out in 8 meetings where the researcher conducted a pretest before the use of CCY learning media in the implementation of learning to get the results of the pretest, after that the teacher used the learning media in the implementation of learning for several meetings and then at the end of the learning the researcher did the posttest. The participants involved in this study were students of grade VIII J with 16 male students and 16 female students and teachers of social services. The research was conducted at Junior high school 1 Pasirjambu which is located at Jalan Stesen Cisondari No.6, Kec. With research time carried out in the field and classrooms at Junior high school 1 Pasirjambu.

Data analysis was performed through the Kolmogorov-Smirnov and Shapiro-wilk normality tests, Levene homogeneity tests, independent sample t-tests, N-Gain tests, and covariate analysis (ANCOVA) with the help of IBM SPSS applications. Before hypothesis testing is carried out, it is necessary to first check the research data, namely the normality test and the homogeneity test. The analysis requirements can be explained as follows:

**Table 1.** Research sample

Groups	Quantity
Experiment	16
Controls	16
Total	32

The Kolmogorov-Smirnov and Shapiro-

Wilk normality tests were used to determine whether the study data had a normal distribution or not. This test is used as a basis for determining further statistical analysis techniques. According to (Fraenkel, Jack R., Wallen, 2019), the data is considered to be normally distributed if the significance value (Sig.) is greater than 0.05. contrast, the data is considered abnormal if the significance value is less than or equal to 0.05.

**Table 2.** Kolmogorov-Smirnov normality test

Kolmogonov-smirnov			Shapiro-Wilk			information
Statistic	df	Sig	Statistic	Df	Sig	
.178	16	.190	.894	16	.065	Normal
.192	16	.119	.917	16	.150	Normal
.146	16	.200*	.889	16	.054	Normal
.104	16	.200*	.978	16	.945	Normal

Based on **Table 2** on the normality of the pretest-posttest test of the experimental class and the control class, a significance value was obtained, namely the Kolmogorov–Smirnov and Shapiro-Wilk significance values for the four measurement groups, each showing a value above the significance level of 0.05. The value for the experimental posttest group was 0.190, for the experimental pretest group was 0.119, and for the pretest and posttest control groups was 0.200 respectively. The results showed that students' volleyball skills learning outcomes were normally distributed in both classes that used Channel learning media and YouTube content and classes that used conventional learning. The results of the Shapiro–Wilk test also support these findings: all groups had significance values greater than 0.05, with values of 0.065 in group 1, 0.150 in group 2, 0.054 in group 3, and 0.945 in group 4. By meeting the assumption of data normality, it can be concluded that the distribution of student volleyball skill learning outcomes scores is within normal limits.

**Table 3.** Variance Homogeneity Test Levene Test

Living Statistic	df1	df2	Sig	information
.007	1	30	.935	Significant
.061	1	30	.806	significant
.061	1	29.978	.806	significant
.012	1	30	.913	significant

Based on **Table 3** the variance homogeneity test in this study was carried out to determine the similarity of variance data on volleyball skill learning outcomes between the control class and the experimental class before hypothesis testing was carried out. The variance homogeneity test

was analyzed using the Levene test with several approaches, namely based on the mean, median, median with adjusted degree of freedom, and trimmed mean. The results of the analysis showed that the significance value of the Levene test was based on an average of 0.935, based on a median of 0.806, based on a median with an adjusted degree of freedom of 0.806, and based on a trimmed average of 0.913. All of these significance values were greater than the significance level of 0.05, which showed that the variance of data on student volleyball skills learning outcomes between the compared groups was in a homogeneous condition.

Hypothesis testing is used to determine the influence of each independent variable on the dependent variable. The test hypothesis test was tested using the help of the IBM SPSS for Windows program, which is by comparing the calculated significance of each independent variable against the bound variable with a significance level of 5%. Decision making 46 using the IBM SPSS for Windows application can be done by comparing the results in the Sig. (2-tailed) column with the Alpha of the study. The basis for Independent Sample T-Test decision-making is as follows: If the value of Sig. (2-tailed) < Research Alpha (0.05), then H<sub>0</sub> is rejected and H<sub>1</sub> is accepted, If the value of Sig. (2-tailed) > Research Alpha (0.05), then H<sub>0</sub> is accepted and H<sub>1</sub> is rejected.

**Table 4.** Independent Samples Test

	F	Sig	t	df	Sig(2-tailed)	Mean Difference	information
Equal variances assumed	.007	.935	-8.176	30	.000	-35.813	Significant
Equal variances not assumed			-8.176	29.84	.000	-35.813	Significant

Based on **Table 4** above, a significant Test score of 0.935 was obtained, which means that the value is greater than alpha 0.05 (0.935 > 0.05). Thus, it can be concluded that the post-test data of the two groups have homogeneous variance, so the t-test analysis uses the assumption of Equal variances assumed. Furthermore, the results of the independent t-test showed a Sig. (2-tailed) value of 0.000, while the alpha value of the study was 0.05. This shows that the value of Sig. (2-tailed) is smaller than alpha (0.000 < 0.05), so it can be concluded that H<sub>0</sub> is rejected and H<sub>1</sub> is accepted. Thus, there was a significant difference in learning outcomes between the control class and the experimental class. The differ-

ence was reinforced by a Mean Difference value of -35.813, which showed that the average posttest score of the experimental class was higher than that of the control class. Therefore, it can be concluded that the application of CCY learning media has a significant effect on the learning outcomes of students' volleyball skills in class VIII PE subjects at Junior high school 1 Pasirjabu, Bandung Regency.

**Table 5.** N-Gain Test

N	Min	Max	Red	Std. Deviation	information
16	35	1.23	.7465	.21785	Effective
16	34.92	123.33	74.6546	21.78533	ineffektive

Based on **Table 5**, the results of the analysis of the N-Gain test using SPSS on 16 respondents, an average N-Gain value ( $g$ ) of 0.7465 was obtained, with a minimum value of 0.35 and a maximum of 1.23 and a standard deviation of 0.21785. If classified by N-Gain category, the mean value falls into the high category ( $g > 0.7$ ), which indicates a high improvement in learning outcomes after treatment. In addition, the average N-Gain percentage is 74.65%, with a minimum value of 34.92% and a maximum of 123.33% and a standard deviation of 21.79%. Based on the effectiveness category, the percentage value is in the category of quite effective (56–75%), so it can be concluded that the treatment or learning model applied is able to increase student learning outcomes high and has a fairly effective level of effectiveness.

**Table 6.** Ancova Analysis Test

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	
corrected model	12963.486a	2	6481.743	98.868	.000	Significant
intercept	1008.375	1	1008.375	15.381	.000	Significant
pretest	2703.205	1	2703.205	41.233	.000	Significant
model_pem	816.528	1	816.528	12.455	.001	Significant
error	1901.233	29	65.560			
total	158111.000	32				
corrected total	14864.719	31				

a. R Squared = .872 (Adjusted R Squared = .863)

The **Table 6** above is the result of the analysis of the ANCOVA test with posttest dependent variables, pretest covariate variables, and learning media-free variables. Based on the results of the analysis, an F value of 98.868 was obtained with a significance value of 0.000 ( $\text{sig} < 0.05$ ), so it

can be concluded that  $H_0$  is rejected and  $H_a$  is accepted. This shows that simultaneously there is a significant difference in posttest learning outcomes after controlling for the influence of pretest scores. Furthermore, the results of the covariate test showed that the pretest had a significant effect on the posttest with a value of  $F = 41.233$  and  $\text{sig} = 0.000$ , while the learning model variable also had a significant effect on the posttest result with a value of  $F = 12.455$  and  $\text{sig} = 0.001$ . In addition, an R Squared value of 0.872 (Adjusted R Squared = 0.863) showed that 87.2% of the variation in posttest learning outcomes could be explained by a combination of the influence of the pretest and the learning model, while the rest were influenced by other factors outside the research model. Thus, it can be concluded that the learning model applied has a significant influence on students' learning outcomes after controlling for initial abilities (pretest).

The discussion of the results of this study as a whole shows that the application of CCY learning media has a positive and significant impact on the learning outcomes of volleyball skills (Sargent, 2021) students in the physical education subject of grade VIII at Junior high school 1 Pasirjabu, Bandung Regency. To ensure the validity of the research results, the initial stage is the testing of data analysis requirements, which includes normality tests and homogeneity tests (Hung, 2018). Learning to use YouTube as a learning medium has helped students learn and teachers teach. Teachers often assign assignments related to videos that have been shown after physical education learning (Lay, 2022).

The results of the study indicate that the application of YouTube Channel and Content (CCY) learning media improves volleyball skills learning outcomes for students in grade VIII. The results of the independent sample t-test, which showed a significant difference between the experimental class and the control class, were supported by the results of the N-Gain test, which showed that students in the experimental class achieved better learning outcomes. In addition, the results of the ANCOVA analysis showed that the CCY learning model still influenced volleyball skills learning outcomes after being controlled for by the initial value (pretest).

These improved learning outcomes indicate that YouTube video-based learning media helps students understand and practice basic volleyball techniques, such as underhand serves, overhead passes, and underhand passes, because they can see the correct movements visually and

repeatedly, which helps them internalize the movements and correct technical errors. This is in line with multimedia learning theory, which states that verbal explanations alone are not sufficient to teach information (Mayer, 2009).

Previous studies have also found that sports learning videos can significantly improve students' motor skills (Kay, 2012; Sari & Suherman, 2020). However, previous research typically focused solely on learning motivation or general understanding of physical education. This study, however, employed a quasi-experimental design and comprehensive statistical analysis to provide stronger empirical evidence.

The results of the study showed that, compared to conventional learning, the application of YouTube Channel and Content (CCY) learning media significantly improved students' volleyball learning outcomes. Previous research has shown that the use of video tutorials in sports learning can increase students' motivation and improve their basic physical education skills. For example, research by Panjiantariksa (2024) found that video tutorials presented in a visually appealing manner can increase students' motivation to learn and improve basic motor skills in physical education, such as running, jumping, and throwing. However, more complex techniques require direct guidance from the teacher (Effectiveness of Using Video Tutorials in Physical Education Learning) (Panjiantariksa, 2024).

Furthermore, these findings align with other studies showing that, although qualitatively, the use of YouTube videos in physical education has positive effects, particularly in improving students' understanding of movement techniques and learning success rates in secondary schools. The use of a quasi-experimental design and inferential statistical analysis distinguishes your study from previous research. Your research provides stronger empirical evidence regarding the effectiveness of video learning media on sports technique skills than simply descriptive observations or learning motivation (Achmad Karim, 2025). The results of this study show that the increase in learning outcomes that occurred was not solely due to differences in initial ability, but was directly influenced by the use of CCY learning media. (Casey, 2017)

Based on the results of the covariate test, it was shown that the pretest value had a significant influence on the posttest value with an F value of 41.233 and a significance of 0.000. This shows that students' initial abilities remain an important factor in determining learning outcomes. However, the CCY learning media variable also showed

a significant influence on learning outcomes with an F value of 12.455 and a significance of 0.001. The R Value of Squared 0.872 indicates that 87.2% of the variation in post-learning outcomes can be explained by a combination of students' initial abilities and the use of CCY learning media, while the rest is influenced by other factors outside of the research variables. So that the findings of this study strengthen the view that the use of innovative learning media in accordance with the characteristics of Physical Education materials, especially volleyball skills, can increase student involvement in the learning process. CCY's learning media allows students to better understand movement concepts, basic techniques, and the application of volleyball skills through more targeted visualizations and exercises. This has a positive impact on learning motivation, active student participation, and the achievement of more optimal learning outcomes. Therefore, the use of media is very important in the learning process because it can increase students' motivation to learn and stimulate learning activities. Help students understand the material given by the teacher. Previous research findings also show that the use of video tutorial-based learning media will be more effective (Batubara, 2020) (Bustanil & A, 2019).

Thus, overall it can be concluded that the application of CCY learning media has a good, effective, and consistent effect in improving the learning outcomes of students' volleyball skills in Physical Education learning. The results of this research can be used as a basis for physical education teachers to develop and implement more innovative learning media as an effort to improve the quality of learning and student learning outcomes in schools. This CCY-based learning media video tutorial is very important for learning success because it serves as a learning resource for students, helps teachers explain subject matter, and fosters students' curiosity. (Darsana, 2021) (Hibra, 2019).

## CONCLUSION

Based on the results of research and discussions that have been carried out regarding the application of CCY learning media to the learning outcomes of volleyball skills at junior high school 1 Pasirjambu, it can be drawn and concluded that the application of CCY learning media has an effective and positive influence on the learning outcomes of students' volleyball skills at Junior high school 1 Pasirjambu. The use of CCY learning media is able to increase students'

understanding and mastery of volleyball skills more effectively compared to conventional learning. This is shown by the significant difference in learning outcomes between the experimental class and the control class, as well as the increase in the learning outcomes of students in the high category. In addition, after being controlled based on students' initial abilities, CCY learning media still showed an effective influence on learning outcomes, so it can be concluded that the improvement that occurred was really due to the effectiveness of the learning media applied. Thus, CCY learning media is feasible and effective to be used as an alternative to Physical Education learning innovations to improve the learning outcomes of students' volleyball skills at Junior high school 1 Pasirjambu.

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