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# Enhancing Independence and Learning Motivation by Using Youtube

# Galuh Ayu Riyanti™, Hartono, Putut Marwoto

Universitas Negeri Semarang, Indonesia

# **Article Info**

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#### **Abstract**

Independence is the ability to stand alone, work and carry out activities well, the students' independence often appears including cheating, copying their friends work and much more. Motivation is a basic impulse that moves students to do something, this motivation is related to student involvement in activities in the classroom, such as the urge to do something based on certain goals. This research is an effort to improve student independence and motivation through the use of youtube videos. The result of data analysis shows that the use of youtube videos can increase independence, motivation to learn, physics learning outcomes and the ability to use measuring instruments in tenth grade of mechanical engineering, SMK Nusantara 1 Comal. The use of learning models with the help of Youtube videos can enable students to work on assignments which further can ultimately improve their learning outcomes.

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#### INTRODUCTION

Independence is a process, method, and philosophy in education. Practically, independence of students can be obtained from knowledge so that students are able to develop the potential obtained. Independence in learning requires problem solving, interpersonal skills, selfmotivation, creativity, to be reflective in facing the technological progress (Nechita, 2011). However, in building learning independence, there are many influence factors, both external and internal factors of the students themselves. accountability negotiation involves students who provide an understanding of learning so that they are motivated to learn and collaborate with teachers in teaching and learning rocess (Meyer, 2010).

The low outcomes of student learning in Physics is influenced by many things including: a solid curriculum, the material in the textbooks received is too difficult to accept, learning media is less effective, inadequate laboratories, less useful use of instructional media selected by teachers, less optimal and proper student alignment itself, or in a conventional learning process, where students are not much involved in the learning process and activities in the class are more dominated by the teacher (Supardi, 2012).

Teachers should try to find other alternative media and teaching techniques to make students interested in the lesson. The use of Youtube videos as media can be used to support the material transfer (Kurniawati, 2013). Teacher motivation in learning to use videos are ddifferent, some teachers are motivated to use videos as additional information and some are motivated as relaxation. (McGill, 2018). Video must be learned maximally in order to have an impact on students' affective, cognitive and psychomotor (Berk, 2009).

The aim of the Technical Engineering Expertise Program in general refers to the contents of Article 3 of the National Education System Law (UU SPN) concerning National Education Objectives and the explanation of article 15 which states that vocational education is secondary education which prepares students especially to work in certain fields. Specifically the aim of the Machining Engineering Expertise Program is to equip students with the skills, knowledge and

attitudes to be competent: work either independently or fill job openings in the business world and industry as a middle-level workforce in the field of Machining Engineering; choose a career, compete, and develop professional attitudes in the field of Machining Engineering. Technology in education is used as a source of information and not as a process for knowledge construction. Innovations in this domain are mostly related to hardware and software (Ramma, 2018).

Measurement is the most important part needed in the machining process and in the manufacture of technical equipment, including: measurement is needed to provide size limits on the material to be worked on as the beginning of the machining process; measurements used to form materials according to size based on the design drawings; measurement is needed to check the dimensions of a workpiece; measurements are needed to determine area, mass, material strength and tolerance. Thus the measurement is needed for a variety of needs, especially in the process of working on an item, for that students are expected to understand, know and be able to use measuring devices correctly.

Youtube is one of the internet-based data sources in the form of videos, users can upload videos, share videos with other users, and comment on videos posted (Albahlal, 2019).

Iwantara's research (2014) shows that there are differences in learning motivation and understanding of concepts that follow learning using Youtube video media. Youtube video is a source of data that can motivate students to interact in educational capacity with popular culture through video (Algahtani, 2014).

This problem must be overcome so that the learning process can run optimally. The use of video in learning physics is one of the solutions. The use of this video can be used as a learning resource, because it is very simple, easy to be implemented, and can be used by other researchers (Azer, 2013). With Youtube videos students become interested because they provide different learning models, and are tailored to their needs (Balbay, 2017).

Through video shows how to use the correct measuring devices students are easier to understand and more ready to follow the learning

process at school. Thus students do not depend on the teacher so that learning is more optimal. However, given the number of Youtube sites displayed, teachers must limit to prevent students from spending unproductive time viewing sites that have nothing to do with learning material (Wilkins, 2011).

#### **METHODS**

This research includes quantitative research that involves collecting data to determine whether there is a relationship and the level of relationship between two or more variables. The aim is to determine the effect of the use of Youtube videos as a source of physics learning in fostering independence and motivation to learn X Class Mechanical Engineering students at SMK Nusantara 1 Comal. The population is all 70 X Class Machining Students in SMK Nusantara 1 Comal, totaling 70 consisting of two classes. Sampling using Total Sampling or all members of the population used as research samples with a percentage of 100% as many as 70 students of X Class Machining Engineering at SMK Nusantara 1 Comal.

The independent variable (X) Youtube videos uses as a source of physics learning. The dependent variable (Y) consists of 4 (four) variables, namely learning independence (Y1), learning motivation (Y2), Physics learning outcomes (Y3) and skills using measuring instruments (Y4). Data collection techniques using questionnaires, documentation and tests. Data analysis techniques used univariate, bivariate and multivariate analysis.

### **RESULTS AND DISCUSSION**

The data analysis results of 70 respondents are students of X Class Machining of SMK Nusantara 1 Comal in the school year of 2018/2019 can be described as follows:

Univariate Analysis

#### 1. Use of Youtube Videos

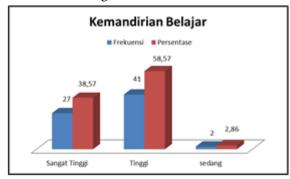
Data on the use of Youtube videos of X Class students of SMK Nusantara 1 Comal Pemalang Regency can be seen in Figure 1



**Figure 1.** Data of Use of Youtube Videos of X Class Students of SMK Nusantara 1 Comal

#### 2. Learning Independence

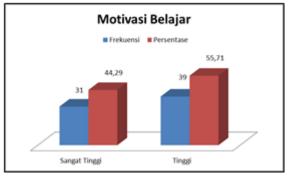
Data on learning independence of X Class students of SMK Nusantara 1 Comal Pemalang can be seen in Figure 2



**Figure 2.** Data of Learning Independence X Class Student SMK Nusantara 1 Comal

#### 3. Learning Motivation

Data on learning motivation of X Class students of SMK Nusantara 1 Comal Pemalang Regency as shown in Figure 3



**Figure 3.** Learning Motivation Data for X Class Students of SMK Nusantara 1 Comal

## 4. Physics Learning Outcomes

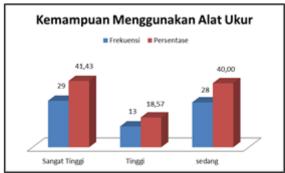
Data on physics learning outcomes of X Class students of SMK Nusantara 1 Comal, Pemalang Regency as shown in Figure 4



**Figure 4.** Student Learning Outcomes X Class SMK Nusantara 1 Comal

#### 5. Ability to Use Measuring Devices

The ability data using a measuring instrument for X Class students of SMK Nusantara 1 Comal in Pemalang Regency can be seen in Figure 5



**Figure 5.** Data on the Ability to Use X Class Student Measurement Tools at Nusantara Nusantara 1 Comal

### **Univariate Analysis**

1. The Effect of Youtube Videos on Learning Independence

This analysis is used to determine the effect of the use of YouTube videos on student learning independence as can be seen in Table 1

**Table 1.** Test Results of the Use of Youtube Videos on Learning Independence

Model	$t_{table}$	$T_{\text{count}}$
Use of YouTube videos	1.980	11.713

Furthermore, it can be seen that the variable use of Youtube videos has a  $t_{count}$  of 11.713 and  $t_{table}$  of 1.980 means  $t_{count} > t_{table}$  (11.713> 1.980) which means there is a significant influence of the use of youtube videos (X) on learning independence (Y1) and H0 is rejected. Thus the hypothesis that there is a significant influence of the use of Youtube video (X) on

learning independence (Y1) in X Class students of the Nusantara Nusantara Engineering Machinery 1 Comal is accepted.

2. Effects of Youtube Videos on Learning Motivation

This analysis is used to determine the effect of the use of Youtube videos on student motivation which can be seen in table 2

**Table 2.** Test Results t Using Youtube Videos to Learning Motivation

Model	$t_{table}$	$t_{count}$
Use of YouTube videos	1.980	9.668

These results indicate that the variable use of Youtube videos has a  $t_{count}$  of 9,668 and  $t_{table}$  of 1,980 means  $t_{count}$ >  $t_{table}$  (9,668> 1,980) which means there is a significant influence of the use of Youtube video (X) on learning motivation (Y2) and H0 is rejected. Thus the hypothesis which states that there is a significant influence of the use of Youtube video (X) on learning motivation (Y2) in X Class students of Engineering Machinery at Nusantara Nusantara 1 Comal is accepted.

3. Effects of Youtube Videos on Physics learning Outcomes

This analysis is used to determine the effect of using Youtube videos on physics learning outcomes as table 3

**Table 3.** Test Results t Using Youtube Videos to Learning Outcomes

Model	t <sub>table</sub>	$t_{count}$
Use of YouTube videos	1.980	11.201

The results show that the variable use of Youtube videos has a  $t_{count}$  of 11,201 and  $t_{table}$  of 1,980 means  $t_{count} > t_{table}$  (11,201> 1,980) which means there is a significant influence on the use of Youtube video (X) on physics learning outcomes (Y3) and H0 is rejected. Thus the hypothesis which states that there is a significant influence of the use of Youtube video (X) on Physics learning outcomes (Y3) in X Class students of Engineering Machinery at Nusantara Nusantara 1 Comal is accepted.

4. Effects of Youtube Videos on the Ability to Use Measuring Tools

This analysis is used to determine the effect of using YouTube videos on the ability to use

measuring instruments. The results are as in table 4

**Table 4.** Test Results t Using Youtube Videos to the Ability to Use Measuring Instruments

Model	t <sub>table</sub>	$t_{count}$
Use of YouTube videos	1.980	11.307

The results show that the variable use of Youtube video has a  $t_{count}$  of 11.307 and  $t_{table}$  of 1.980 means that  $t_{count} > t_{table}$  (11.307> 1.980) which means there is a significant influence on the use of Youtube video (X) on the ability to use measuring instruments (Y4) and H0 is rejected. Thus the hypothesis which states that there is a significant influence of the use of Youtube video (X) on the ability to use measuring devices (Y4) in X Class students of the Nusantara Nusantara Engineering Machinery 1 Comal is accepted.

## **Multivariate Analysis**

This analysis is used to determine the effect of the use of YouTube videos on learning independence, learning motivation, physics learning outcomes and the ability to use measuring instruments in X Class students of Engineering Machinery at SMK Nusantara 1 Comal. The results are as in Table 5

**Table 5.** Test Results t Using Youtube Videos to Independence and Learning Motivation, Physics Learning Outcomes and Ability to Use Measuring Devices

Model	$t_{table}$	$t_{count}$
Learning independence (Y <sub>1</sub> )	1.980	4.382
Learning motivation (Y <sub>2</sub> )	1.980	3.540
Physics learning outcome (Y <sub>3</sub> )	1.980	3.415
The ability to use measuring	1.980	3.724
devices (Y <sub>4</sub> )		

These results can be stated that the learning independence variable (Y1) produces a value of  $t_{count}$  of 4.382 then consulted with a  $t_{table}$  at a significant level of 5% of 1.980, it turns out that  $t_{count} > t_{table}$  or 4.382> 1.980 and has a significance level of 0,000 when it's compared to the degree of trust ( $\alpha$ ) which has been determined that is equal to 0.05 (5%), the level of significance of the learning independence variable (Y1) is smaller (0,000 <0.05) so it can be concluded that the variable use of Youtube video has a positive and

significant effect on the learning independence variable. The results of this study support the research of Azer (2013) which concluded that the use of video can increase the learning independence of medical students, because this media is simple, easy to apply, and can be used by other researchers on similar topics.

Furthermore, it can be seen that the variable of learning motivation (Y2) produces a value of t<sub>count</sub> of 3.540 and then consulted with a t<sub>table</sub> at a significant level of 5% of 1.980, it turns out  $t_{count}$ >  $t_{table}$  or 3.540> 1.980 and has a significance level of 0.001 when compared to the degree of trust ( $\alpha$ ) which has been determined that is equal to 0.05 (5%), the level of significance of learning motivation variables (Y2) is smaller (0.001 < 0.05) so it can be concluded that the variable use of YouTube videos has a positive and significant effect on learning motivation variables. This study supports the work of Garcia (2011) that the use of video in learning has a positive impact on increasing student motivation, due to the innovations in learning media used and the emphasis on skills to be developed.

Next can be seen Physics learning outcomes (Y3) produces a value of t<sub>count</sub> of 3,415 then consulted with a table at a significant level of 5% of 1,980, it turns out  $t_{count}$ >  $t_{table}$  or 3,415> 1,980 and has a significance level of 0.001 which when compared to the degree of trust  $(\alpha)$  which has been determined that is equal to 0.05 (5%), the level of significance of Physics learning outcomes (Y3) is smaller (0.001 < 0.05) so it can be concluded that the variable use of Youtube videos has a positive and significant effect on the Physics learning outcomes variable. This is like the study of Orus (2016) which concluded the use of Youtube videos as a teaching tool has a positive impact on student learning outcomes and satisfaction.

The last one is the ability to use a measuring instrument (Y4) to produce a t-value of 3,724 then consulted with a table at a 5% significance level of 1,980 which turns out to be  $t_{count}$ >  $t_{-table}$  or 3,724> 1,980 and has a significant level of 0,000 which when compared to the level of trust ( $\alpha$ ) has been determined that is equal to 0.05 (5%), the significant level of ability to use measuring instruments (Y4) is smaller (0,000 <0.05) so it can be concluded that a positive and

significant effect on the ability to use measuring instruments. This research is in line with Macisaac (2018) who concluded that through the use of videos students are able to make presentations to improve their own thoughts, as well as negotiate and clarify their ideas with careful consideration.

#### **CONCLUSION**

Based on the results of the research and discussion above, it can be concluded that the use of Youtube videos has a positive and significant effect on 1) Independence of students in X Class Technical Engineering of SMK Nusantara 1 Comal, because the use of Youtube videos can increase student activity during discussions; 2) motivation to learn of X Class Mechanical Engineering SMK Nusantara 1 Comal, because the use of Youtube videos is able to prevent the students negative behavior in learning; 3) Physics learning outcomes of X Class students of Technical Engineering SMK Nusantara 1 Comal, because the use of video is able to provide positive reinforcement to students; and 4) The ability to use measuring devices for grade X students of Technical Engineering SMK Nusantara 1 Comal, because the use of Youtube videos can improve students' ability to use measuring devices.

# SUGGESTION

- For teachers to improve students' learning outcomes specifically in Physics lessons can use learning models with the help of Youtube videos to make students more active in doing assignments which also can improve their learning outcomes in general.
- 2. For schools to improve the management of teaching and learning activities, it is better to conduct learning with the help of Youtube videos in order to achieve mastery in learning.

The results of this study should be used as a reflection for physics teachers and other subject teachers.

#### **REFERENCES**

Adnyani, N.W., Sadia, I.W., & Natajaya, I.N. 2013. "Pengaruh Strategi Pembelajaran Konflik Kognitif terhadap Penurunan Miskonsepsi

- Fisika Ditinjau dari Gaya Kognitif Siswa Kelas X di SMA Negeri 1 Bebandem". *E-Journal Program Pascasarjana Universitas Pendidikan Ganesha*, 4: 1-10.
- Agustina, Dewi. 2014. Kompetensi Guru Dalam Pemanfaatan Sumber Belajar Geografi SMA Negeri. Jurnal Ilmiah Pendidikan Geografi Vol. 2, No. 1. Hal:71-81.
- Albahlal, Fahad Saud. 2019. The Impact of YouTube on Improving Secondary School Students' Speaking Skills: English Language Teachers' Perspectives. *Journal of Applied Linguistics and Language Research* Vol. 6, Issue 2, 2019, pp. 1-17
- Alqahtani, E.T, 2014. Effectiveness of Using YouTube on Enhancing EFL Students' Listening Comprehension Skills. Saudi Arabia
- Anitah, Sri. 2009. Media Pembelajaran. Surakarta: Panitia Sertifikasi Guru Rayon 13 FKIP UNS Surakarta.
- Arikunto, Suharsimi. 2010. Prosedur Penelitian: Suatu Pendekatan Praktik. Jakarta: Rineka Cipta.
- Arsyad, Azhar. 2011. Media Pembelajaran. Jakarta: Radjagrafindo Perkasa.
- Azer, Samy A. 2013. Evaluation of the Educational Value of YouTube Videos About Physical Examination of the Cardiovascular and Respiratory Systems. *Journal of Medical Internet Research*. 15(11)
- Azhar. 2008. Pendidikan Fisika dan Keterkaitannya dengan Laboratorium. *Jurnal Geliga Sains* 2 (1), 7 12
- Balbay, Seher. 2017. Students' Perceptions of the use of a YouTube channel specifically designed for an Academic Speaking Skills Course. *Eurasian Journal of Applied Linguistics* 3(2) (2017) 235–251.
- Berk, R A. 2009. Multimedia Teaching with Video Clips: TV, Movies, YouTube, and mtvU in the College Classroom. *International Journal of Technology in Teaching and Learning.* 5(1), 1-21
- Brecht, H. David. 2012. Learning from Online Video Lectures. *Journal of Information Technology Education: Innovations in Practice*, Vol 11, 2012.
- Budi Nuryanta, dkk. 2008. Pengajaran Keterampilan Berbahasa. Jakarta : Depdikbud.
- Coates, Rebecca L. 2018. Phys FilmMakers: teaching science students how to make YouTube-style videos. *European Journal of Physics*.
- Dahlan, Sopiyudin. 2014. Statistik Untuk Kedokteran dan Kesehatan. Edisi 6. Jakarta: Salemba Medika.
- Daryanto. 2010. Media Pembelajaran. Yogyakarta: Gava Media.
- Djamarah, Syaiful Bahri, 2011. Psikologi Belajar, Jakarta: PT Rineka Cipta.

- Djamarah, Syaiful Bahri dan Azwar Zain. 2006. Strategi Belajar Mengajar. Jakarta: Rineka Cipta.
- Ensour, Hisyam S. 2015. The Effect of Using YouTube on Youth Worst and Best Case. *British Journal of Applied Science & Technology* 8(3): 286-304,
- Fatimah, E. 2006. Psikologi Perkembangan Perkembangan Peserta Didik. Bandung: CV Pustaka Setia.
- Forbes, Anne Marie. 2015. The Use of YouTube to Improve Students' Acuity and Analytic Skills in Discussion of Issues in Music Performance. Literacy Information and Computer Education Journal (LICEJ), Vol. 6, Issue 3,
- Garcia, Beatriz Amante. 2011. Video as a new teaching tool to increase student m otivation.international Congress on Water and Sustanability
- Ghozali, Imam. 2012. Aplikasi Analisis Multivariate Dengan Program IBM SPSS 20. Semarang : Undip.
- Gustafsson, Peter. 2013. How Physics Teaching is Presented on YouTube Videos. *Educational Research for Social Change (ERSC)* Vol: 2 no. 1,
- Hakim, Thursan. 2000. Belajar Secara Efektif. Jakarta: Puspa Swara.
- Hamalik, O. 2000. Manajemen Pendidikan dan Pelatihan. Bandung: Y.P Pemindo.
- Hamalik, O. 2002. Psikologi Belajar dan Mengajar, Jakarta: Sinar Baru Algesindo.
- Hamalik, O. 2010. Proses Belajar Mengajar. Jakarta: Pt Bumi Aksara.
- Hamalik, O. 2006. Media Pendidikan. Jakarta: Bumi Aksara.
- Hamalik, O. 2005. Kurikulum dan Pembelajaran. Jakarta: Bumi Aksara.
- Hamid, Abdul. 2008. Teori Belajar dana Pembelajaran. Jakarta: Rineka Cipta.
- Hasan, Santriani. 2014. Pengembangan Model Pembelajaran Geografi Melalui Penggunaan Lingkungan Sebagai Sumber Belajar (Ls2b). *Jurnal Fisika Edukasi Indonesia* Vol. 1, No. 1. Hal:125-132
- Herminegari. 2013. Fungsi dan Manfaat Media Pembelajaran.
- Hurlock, E. B. 2006. Psikologi Perkembangan Suatu Pendekatan Sepanjang Rentang Kehidupan. Jakarta: Erlangga.
- Imran, Ali. 2000. Kreativitas dan Kemandirian Berpikir : Mencari Paradigma Baru Pendidikan Nasional Abad Xxi. *Varidika* Vol. Xii No.20
- Indarwati, Ima. 2016. Efektivitas Penggunaan Media Timbangan Manipulatif terhadap Kemampuan Konsep Pengukuran pada Anak Kelompok B di

- TK Negeri Pembina Sragen. Semarang: Universitas Negeri Semarang.
- Iskandar. 2009. Psikologi Pendidikan. Jakarta: Gunung Persada Press.
- Iwantara, I.W., dkk. 2014. Pengaruh Penggunaan Media Video Youtube Dalam Pembelajaran IPA terhadap Motivasi Belajar dan Pemahaman Konsep Siswa. e-Journal Program Pascasarjana Universitas Pendidikan Ganesha. Program Studi IPA Vol.4
- Kabooha, Raniah. 2016. The Impacts of Using Youtube Videos On Learning Vocabulary In Saudi EFL Classrooms. Proceedings of ICERI
- Kartono, Kartini. 2006. Pemimpin dan Kepemimpinan. Jakarta: Rajawali.
- Khanifah, Sri, Pukan, Krispinus Kedati dan Sri Sukaesih. 2012. Pemanfaatan Lingkungan Sekolah Sebagai Sumber Belajar Untuk Meningkatkan Hasil Belajar Siswa. *Jurnal Of Biology Education (Ujbe) Vol. 1, No.1 Hal:82-89.*
- Koes Sulistiadji dan Joko Pitoyo. 2009. Alat Ukur dan Instrumen Ukur. Serpong: BBP Mektan.
- Kurniawati, Dewi. 2013. The Effectiveness Of Using Youtube Video In Teaching English Grammar Viewed From Students' Attitude. English Education: Jurnal Tadris
- Macisaac, Dan. 2018. Adding student video projects to physics courses. See discussions, stats, and author profiles for this publication
- Mc.Gill, Tanya Jane. 2018. Problematic and extensive YouTube use: first hand reports. See discussions, stats, and author profiles for this publication
- Mentari, Tiwi Wulan. 2015. Pengaruh Penggunaan Multimedia Interaktif terhadap Kemandirian Belajar Siswa di SMPN 26 Bandung (Kuasi Eksperimen pada Mata Pelajaran Teknologi Informasi dan Komunikasi Siswa Kelas VIII di SMPN 26 Bandung. Departemen Kurikulum dan Teknologi Pendidikan, Fakultas Ilmu Pendidikan, Universitas Pendidikan Indonesia, Tahun 2015.
- Meyer, WR. 2010. Independent learning: A Literature Review and a New Project. Paper presented at the British Educational Research Association Annual Conference, University of Warwick, 1-4
- Mudjiman, H. 2009. Managemen Pelatihan Berbasis Belajar Mandiri. Yogyakarta: Pustaka Pelajar.
- Muller, Derek Alexander. 2008. Designing Effective Multimedia for Physics Education. School of Physics University of Sydney Australia.
- Mustakim, Zainal. 2011. Strategi dan Metode Pembelajaran. Pekalongan: STAIN Press.
- Nasution, S. 2011. Didaktik Asas-Asas Mengaja*r*, Jakarta: Bumi Aksara.

- Nechita, Elena. 2011. Increasing Independence versus Increasing Collaboration with ICT Support. International Conference on Education and Educational Psychology
- Notoatmodjo, Soekidjo. 2010. Metodologi Penelitian Kesehatan. Jakarta: Rineka Cipta.
- Nur, Faizah M. 2012. Pemanfaatan Sumber Belajar Dalam Pembelajaran Sains Kelas V SD Pada Pokok Bahasan Makhluk Hidup dan Proses Kehidupan. *Jurnal Jesbio* Vol. 1, No. 1. Hal:14-20
- Nursalam dan Ferry Efendi. 2008. *Pendidikan Dalam Keperawatan*. Jakarta: Salemba Medika.
- Orus, Carlos. 2016. The effects of learner-generated videos for YouTube on learning outcomes and satisfaction. *Computers & Education* 95 254-269
- Pakasi, Soepartinah, 2005. Anak dan Perkembangannya: Pendekatan Psikopedagogis Terhadap Generasi Muda, Jakarta: PT. Gramedia.
- Prasetyo, Z, K. 2008. Metode Inquiry dalam Pembelajaran Fisika untuk Menggugah Minat Belajar Siswa. Jurusan Pendidikan Fisika, Program Studi IPA, Yogyakarta: FMPA-UNY.
- Purwanto, N. 2007. Psikologi Pendidikan. Bandung: PT Remaja Rosdakarya.
- Ramma, Yashwantrao. 2018. Teaching and learning physics using technology: Making a case for the affective domain. *Education Inquiry*, Vol. 9, No.2
- Ristawati. 2017. Pengaruh Media Pembelajaran terhadap Motivasi Belajar Siswa Kelas X Program Keahlian Administrasi Perkantoran di SMK Negeri 1 Sinjai. Makasar: Universitas Negeri Makasar.
- Rivai, Veithzal dan Ella Jauvani Sagala, 2009. Manajemen Sumber Daya Manusia Untuk Perusahaan. Jakarta: Raja Grafindo Persada. Edisi Kedua.
- Riyana, Cheppy. 2007. Pedoman Pengembangan Media Video. Jakarta: P3AI UPI.
- Rohani, Ahmad. 2004. Pengelolaan Pengajaran. Jakarta : Rineka Cipta.
- Sadiman, Arief. 2002. Media Pendidikan dan Proses Belajar Mengajar, Pengertian Pengembangan dan Pemanfaatannya, Jakarta: Raja Grafindo Persada.
- Sardiman. 2011. Interaksi dan Motivasi Belajar Mengajar. Jakarta: Rajawali Pers.
- Sastrawijaya, Tresna. 2001. Pengembangan Program Pengajaran. Jakarta: Rineka Cipta.

- Siregar, Eveline dan Hartini Nara. 2010. Teori Belajar dan Pembelajaran. Jakarta: Ghalia Indonesia.
- Subroto, Suryo. 2006. Proses Belajar Mengajar. Jakarta: Rineka Cipta.
- Sudjana, Nana dan Ahmad Rivai. 2009. Media Pengajaran. Bandung: Sinar Baru Algesindo.
- Sugiyono. 2010. Metode Penelitian Bisnis (Pendekatan Kuantitatif, Kualitatif, Dan R&D). Bandung: Alfabeta.
- Sugono, Dandy. 2008. Kamus Besar Bahasa Indonesia. Jakarta: Balai Pustaka.
- Sumarmo, U. 2004. Kemandirian Belajar: Apa, Mengapa, dan Bagaimana Dikembangkan pada Peserta Didik. Laporan Penelitian Hibah Pascasarjana UPI. Bandung : Tidak dipublikasikan.
- Supardi, dkk. 2012. Pengaruh Media Pembelajaran dan Minat Belajar terhadap Hasil Belajar Fisika. Jurnal Formatif 2 (1): 71-81
- Suprijono, Agus. 2010. Cooperative Learning. Yogyakarta: Pustaka Pelajar.
- Suranto. 2009. Pengaruh Pembelajaran Fisika dengan Pendekatan Ketrampilan Proses pada Konsep Usaha Bagi Siswa SMP Negeri 1 Trucuk Klaten. Surakarta: Universitas Sebelas Maret.
- Sutarno. 2005. Tanggung Jawab Perpustakaan Dalam Mengembangkan Masyarakat Informasi. Jakarta : Panta Rei.
- Tim Pengembang Ilmu Pendidikan FIP-UPI. 2007. Ilmu dan Aplikasi Pendidikan Bagian I. Bandung: Imtima.
- Undang-Undang Republik Indonesia Nomor 20 Tahun 2003 Tentang Sistem Pendidikan Nasional.
- Uno, H.B. 2007. Model Pembelajaran Menciptakan Proses Belajar Mengajar yang Kreatif dan Efektif. Jakarta: Bumi Aksara.
- Uno, H.B 2012. *Teori Motivasi dan Pengukuran*. Jakarta: Bumi Aksara.
- Wati, Ajeng Fika Fatma Candra. 2013. Hubungan Pemanfaatan Internet Sebagai Sumber Belajar dan Kemandirian Belajar dengan Prestasi Belajar Sosiologi Siswa Kelas XI SMA Negeri Kebakkramat Tahun Pelajaran 2013/2014. Surakarta: Universitas Sebelas Maret.
- Wilkins, Michael Robert. 2011. Using YouTube in the EFL Classroom. See discussions, stats, and author profiles for this publication
- Woolfitt, Zac. 2015. The Effective Use Of Video In Higher Education. Lectoraat Teaching, Learning and Technology Inholland University of Applied Sciences.