APPLICATION: Applied science in Learning Research
Vol. 2 No. 2 October 2022, Page. 87 - 92
E-ISSN: 2797-0655

Using Youtube in Training Process Skills Through Student Self-Practice

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ABSTRACT
The 2013 curriculum prioritizes education in developing student competencies which include knowledge and skills, one of the skills is process skills. The application of process skills with the subject of grade VII, amounting to 15 students in science learning at MTs At-Taufiq Jombang through discovery learning models in independent practicum activities has never been assessed. This study aims to determine the relationship between process skills and student cognitive learning outcomes through the solar system practicum learning. The type of research used in this study is a pre-experimental design with a One-case study, where the test is given after the treatment. Data collection was carried out through interviews, observations, and questionnaires on the performance of students' process skills. The data obtained were then analyzed statistically using the product moment correlation test formula using SPSS 25. The significant value between process skills and cognitive learning outcomes shows the product moment coefficient value is 0.445. Based on these criteria, the relationship between the two variables is not significant. That is, there is no relationship between process skills and student cognitive learning outcomes. However, if it is seen from the correlation value between process skills and learning outcomes, it is obtained a value of 0.214 which means that the relationship is very low (0.20-0.399).

Keywords: *Discovery Learning; Practicum; Process Skills; Youtube.*

INTRODUCTION
Technology-based learning is being widely used during the Covid-19 pandemic. During the Covid-19 pandemic, teachers and students must adapt to new learning habits, namely online learning. The reason is that independent learning becomes student-oriented learning so that students feel more happy about learning independently. Student-oriented learning is needed during this Covid-19 pandemic. Therefore, teachers need to improve their teaching skills by utilizing online media. In science learning, process skills are skills that students learn as long as they do scientific practicum. They do not only carry out one scientific method, but various kinds of process skills, namely communication skills, applying concepts, using tools and materials, observation, interpretation, and classification (Himmah & Sulaikho, 2022).

During online learning, student behavior is difficult to monitor, so learning objectives are sometimes difficult to achieve due to various inhibiting factors. This inhibiting factor affects the achievement of learning objectives. Therefore, teachers need to pay attention to several factors that affect student learning. One of the learning media that can help students in learning is the YouTube application. The use of the YouTube application can help students in learning, especially the online independent practicum process. The use of the YouTube application can increase the sense of desire, interest, motivation, and stimulation in the learning process and psychologically have an influence on students (Adam, 2015). This study aims to describe the effect of using youtube video media in science learning on process skills in independent practicum activities and students' understanding of concepts through the Discovery Learning learning model.

Discovery learning is a learning model that regulates teaching in such a way that students acquire previously unknown knowledge not through notification, but found themselves (Fitriani, et al 2013). Meanwhile, process skills are one of the skills needed by students to be able to develop their potential. Practicum is learning that aims to enable students to build meaningful concepts by connecting the results of their observations with existing theories (Rustaman, et al 2005). Previous research conducted by (Hendriyani et al 2020) entitled Independent Practicum Report in the Form of Video Presentations to Develop Creativity and Oral Communication during the Covid-19 Pandemic.

METHOD

The research design in this study used the One-Shot Case Study design (Sugiyono, 2010). Where, in this design it is explained that there is a group that is treated using a learning model while observing the process skills of students in independent practicum activities. The population of this study were all students of MTs At-Taufiq Jombang in the even semester of the 2020/2021 academic year. The sampling technique in this study was using purposive sampling technique. With this technique, from 3 classes as a population, 1 class (15 students) was taken to be the sample, namely class VII. This study used one independent variable, namely the process skills of students (variable X), and one dependent variable, namely the cognitive learning outcomes of students (variable Y). The instrument used was a post-test, amounting to 20 multiple choice questions and a process skills observation sheet.

The data collection procedure in this study was that students were asked to record the independent practicum process which was carried out from beginning to end and edited as needed, then uploaded on YouTube and given an interesting title and shared the video link with the researcher. In the practicum process, students prepare practical tools and materials independently for complete practicum activities and carry out practicum in accordance with the student worksheets that have been given. In accordance with the purpose of this practicum, namely to train students' process skills independently in making teaching aids for school learning media properly. Then the students were asked to fill in the form of multiple choice questions totaling 20 questions via google form to take the score as the result of the test.

Data analysis in the form of students' cognitive learning outcomes obtained through post-test activities and student process skills data. The formula for determining the value of student learning outcomes, namely the results of the test scores and the results of process skills based on the data obtained, the percentage formula is used as follows:

$$\text{Score} = \frac{\text{total score obtained}}{\text{maximum number of scores (100)}} \text{ x } 100$$

To test the hypothesis in this study using the Product Moment Correlation formula using SPSS 25. This test aims to determine whether there is an effect of discovery learning through practical learning on the process skills of students. To find out the level of the relationship between the implementation of online learning in the solar system practicum with the process skills of students, the data analysis process was carried out using SPSS version 25 with the following steps:

- Conduct the prerequisite test first in the form of a normality test using the Shapiro Wilk test. The hypothesis testing criteria are, if Asym sig <0.05 H0 is rejected, H1 is accepted. Conversely, if Asym sig> 0.05 H0 is accepted, H1 is rejected.
- Hypothesis testing in this study uses product moment correlation analysis to determine the relationship between process skills and cognitive learning outcomes. The assessment of the hypothesis is based on an analogy:
  H1: there is a relationship between process skills and cognitive learning outcomes of students
  H0: there is no relationship between process skills and cognitive learning outcomes of students

The basis for this decision is based on probability values, which are as follows:

- If the p value <0.05 then H1 is accepted, H0 is rejected
- If the p value > 0.05 then H0 is accepted, H1 is rejected

The results of processing correlation data between variables with the help of SPSS 25. The results of the correlation test are then interpreted by the following Table 1.

Table 1. Interpretation Guidelines For The Correlation Coefficient

Range	Category
0,80- 1,1000	Very strong
0,60- 0,799	Strong
0,40- 0,599	Moderate
0,20- 0,399	Low
0,00- 0,199	Very low

Source: Sugiyono, 2013

RESULT AND DISCUSSION

Results

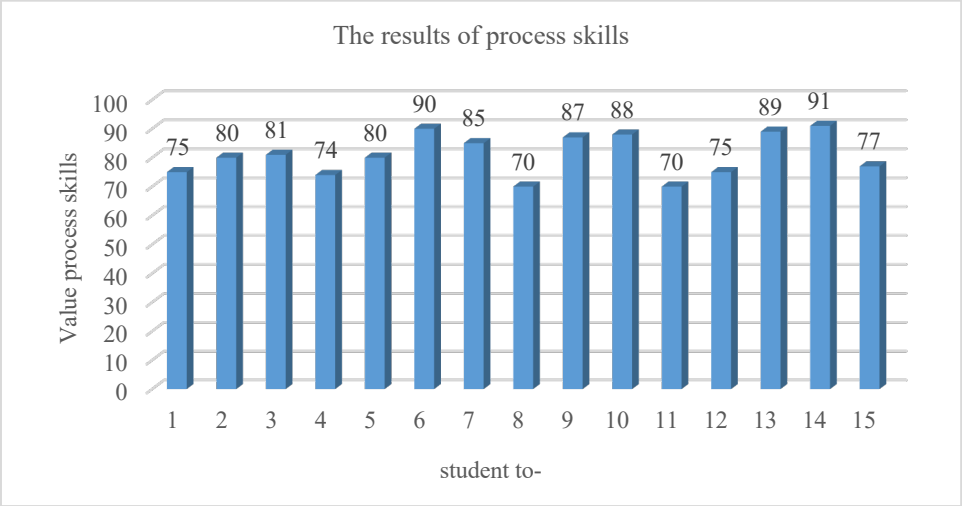

Figure 1. Results of Process Skills

Based on Figure 1, there are 15 students whose scores are in accordance with the indicators of process skills, the potential for students' abilities with the calculation formula has reached the good category, namely 80,80%. The highest value of process skills was obtained by students number 14 with a total score of 91 and the lowest score obtained by students number 8 and 11 with a total score of 70.

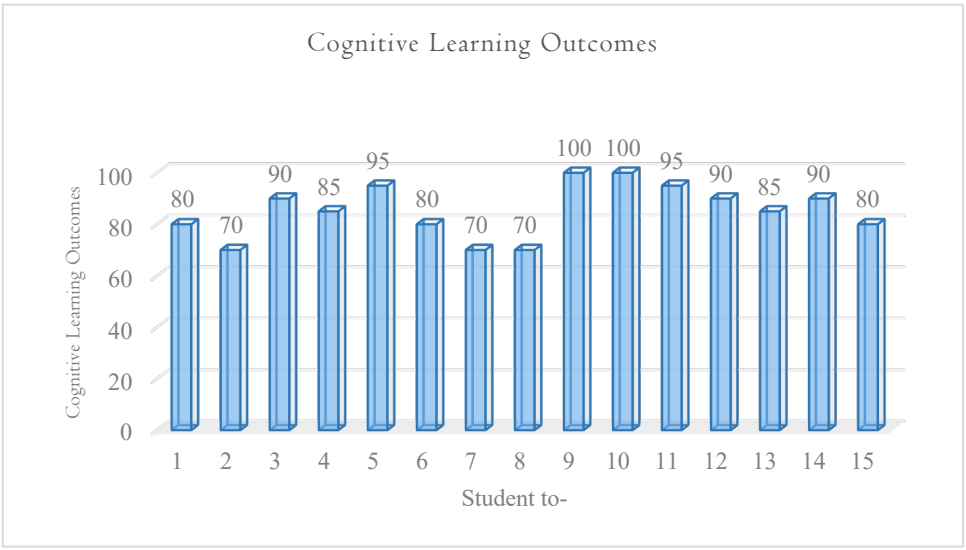

Figure 2. Cognitive Learning Outcomes of Students

From the Figure 2, it was found that the student's average score was 85.33% and it was in the good category. The highest score for student cognitive learning outcomes was obtained by students number 9 and 10 with a total score of 100, and the lowest score obtained by students number 2, 7, and 8 with a total score of 70.

The prerequisite analysis used in this study is the Shapiro Wilk normality test. The reason for using Shapiro Wilk is the data used in a small amount (15 students). The criteria for testing the hypothesis, namely, if Asym sig <0.05 H0 is rejected, H1 is accepted. Conversely, if Asym sig> 0.05 H0 is accepted, H1 is rejected. The results of the normality test show the results. The results of the normality test using Shapiro Wilk test show that the significance results are 0.268 and 0.212. The results of process skills> 0.05, namely 0.268 which means normal data, while cognitive learning outcomes> 0.05 means normal data. So it can be seen that the two data are normally distributed.

Hypothesis testing in this study uses Product moment correlation analysis to determine the relationship between process skills and cognitive learning outcomes. The assessment of the hypothesis is based on an analogy:
H1: there is a relationship between process skills and cognitive learning outcomes of students
H0: there is no relationship between process skills and cognitive learning outcomes of students
The basis for this decision is based on probability values, which are as follows:

- If the p value <0.05 then H1 is accepted, H0 is rejected
- If the p value> 0.05 then H0 is accepted, H1 is rejected

The results of processing correlation data between variables with the help of SPSS 25 are described in the following Table 2.

Table 2. Result of Correlations

		Process skills	Cognitive learning outcomes
Process skills	Pearson Correlation	1	,214
	Sig. (2-tailed)		,445
	N	15	15
Cognitive learning outcomes	Pearson Correlation	,214	1
	Sig. (2-tailed)	,445	
	N	15	15

The result of the significant value between process skills and cognitive learning outcomes shows the product moment coefficient value of 0.445. Based on the above criteria, the relationship between the two variables is not significant because the significance value is 0.445> 0.05. That is, there is no relationship between process skills and cognitive learning outcomes of students. However, if it is seen from the correlation value between process skills and learning outcomes, it is obtained a value of 0.214 which means that the relationship is very low (0.20-0.399).

Based on the theoretical review, there is no relationship between process skills and cognitive learning outcomes due to other factors besides self-control which are more influential. There is no correlation between cognitive learning outcomes and process skills, it is assumed that learning in schools is more dominated by theoretical learning which focuses on students obtaining cognitive values only. According to Trianto (2008) process skills are skills obtained from training of basic mental, physical and social abilities as a driving force for higher abilities. The basic abilities that have been developed and trained will eventually become a skill.

Discussion

The research was conducted at MTs At-Taufiq Jombang in the 2020/2021 Academic Year in class VII. The research sample was 15 students. This research includes Pre-Experimental Design research because this study aims to determine the effect of the discovery learning model with the solar system practicum on the process skills of students. The learning implementation was measured using the discovery learning model of the observational observation sheet instrument. Based on observations of the implementation of independent practicum learning given by the observer, it was obtained a value of 100% in the good category, while the observation of the implementation of the test learning obtained a value of 100% in the good category. From the results of these observations it can be concluded that the implementation of discovery learning model has been carried out well.

Based on the analysis of the implementation of the learning process in general, the researcher has applied the discovery learning model well. In the implementation of good learning, it is expected that students' learning abilities are also good. The implementation of the observed learning includes the implementation of the syntax in accordance with the discovery learning model. In these learning activities, students are involved to play an active role in mastering the concept of their own understanding. The use of discovery learning learning models can help students in the learning process, students play more active roles in building their own understanding. This is in accordance with Hamalik (2011) that discovery learning is learning that focuses on the intellectual mentality of students in solving various problems being faced, so they can find concepts or ideas which are then applied in the field.

The results of the research on the process skills of students at the first meeting of students were given independent practicum assignments to see how far the students' abilities were, the average obtained

was 80.80% with a good category. After the independent practicum, the researchers began to apply the discovery learning model to determine the effect on the process skills of students, obtained an average test score of 85.33% with good categories.

Based on the results of observations regarding the activities of students' process skills during learning, it shows that the discovery learning model involves students to be active in learning, especially process skills. Observation activities carried out at two meetings showed that the process skills carried out by students during the learning process went well. The discovery learning model makes students better understand the subject matter through the process of observing, asking, trying, associating and communicating the material that has been learned during the learning process (Putri, et al., 2012). The ability of students to find concepts needs to be done with process-oriented learning activities (Zulfiani, et al., 2009).

Based on the data presentation and data analysis that has been carried out by the researchers, to determine the effect of the implementation of the discovery learning model with independent practical work on the solar system material, it can train students' process skills calculated by the product moment correlation test and to find out how much the X variable contributes to Y. Independent variables (independent) in this study is the implementation of online learning in the Solar System practicum, while the dependent variable (dependent) is the process skills of students.

Based on the hypothesis test using the product moment correlation formula, the significance value = 0.445>0.05, which means that H0 is accepted and H1 is rejected, the data shows that there is no relationship between the two variables. However, when viewed from the correlation value of process skills with students' cognitive learning outcomes, the score is 0.214, which means that the relationship is very low (0.20-0.399).

It can be concluded that there is an increase in the process skills of students after the implementation of the discovery learning model, this is also revealed by Rijal (2018) that the process skills of students using the discovery learning model are better than the process skills of students who do not use the discovery learning model. Based on the entire series of activities, it is known that process skills are one of the important efforts to obtain optimal student learning success (Kurniawati, 2015).

CONCLUSION

The average result of process skills compared to the cognitive learning outcomes of class VII students at MTs At-Taufiq has a higher score with a value of 80.8o%, while cognitive learning outcomes obtained a value of 80.67%. The results of the correlation between process skills and students' cognitive learning values by implementing independent practicum using the Discovery Learning model are classified as having a low significant value relationship, namely 0.214, so from the test results H0 is accepted and H1 is rejected.

REFERENCES

Adam, S. (2015). Pemanfaatan Media Pembelajaran Berbasis Teknologi Informasi bagi Siswa Kelas X Sma Ananda Batam. *CBIS Journal*, *3*(2), 78–90.

Fitriani, F. H., Parmin., & Akhlis, I. (2013). Pengembangan Media Pembelajaran IPA Terpadu Berbasis Komputer pada Tema Bunyi melalui Lesson Study untuk Kelas VIII. *Unes Science Education Journal*, *2*(2), 23-54.

Hamalik, O. (2011). *Kurikulum dan Pembelajaran*. Jakarta: Bumi Aksara.

Hendriyani., Ermila, M., & Novi, R. (2020). Laporan Praktikum Mandiri dalam Bentuk Video Presentasi untuk Mengembangkan Kreativitas dan Komunikasi Lisan di Masa Pandemi Covid-19. *Prosiding Seminar Nasional FKIP*, *3*(1), 328–339.

Himmah, F., & Sulaikho, S. (2022). Pengembangan Media Pembelajaran Berbasis Android Dengan Pemanfaatan Ispring Suite Pada Mata Pelajaran Akidah Akhlak. *JoEMS (Journal of Education and Management Studies)*, *5*(4), 38-47.

Kurniawati, A. (2015). Analisis Keterampilan Proses Sains Peserta Didik Kelas XI Semester II MAN Tempel Tahun Ajaran 2012/2013 pada Pembelajaran Kimia dengan Model Learning Cycle 5E. Yogyakarta: Jurusan Pendidikan Kimia Fakultas Matematika Dan Ilmu Pengetahuan Alam Universitas Negeri Yogyakarta.

Meishanti, O. P. Y., Sholihah, N. F. & Ulan, S. U. (2020). Implementasi Discovery Learning dengan Praktikum Kingdom Plantae untuk Melatih Keterampilan Proses di MA Unggulan KH. Abdul Wahab Hasbullah Tambak Beras Jombang. *Jurnal Biologi Dan Pembelajarannya*, *7*(2), 36–43.

Putri, R., Juliani., dan L. (2012). Pengaruh Model Pembelajaran Discovery Learning terhadap Hasil Belajar Siswa dan Aktivitas Siswa. *Jurnal Pendidikan Fisika*, *6*(2).

Rijal, C. (2018). Pengaruh Model Discovery Learning terhadap Keterampilan Proses Sains Siswa pada Materi Larutan Asam dan Basa di Kelas XI MAN 2 Aceh Utara. [Skripsi]. https://repository.ar-raniry.ac.id/id/eprint/5396/1/Chairul%20Rijal.pdf

Rustaman, N., Dirdjosoemarto, S., Yudianto, S.A., Achmad, Y., Subekti, R., Rochintaniawati, D., dan Nurjhani, M. (2005). *Strategi Belajar Mengajar Biologi*. Malang: UM Press.

Santiani. (2014). Korelasi Hasil Belajar Kognitif dengan Keterampilan Proses Sains Mahasiswa Fisika STAIN Palangkaraya pada Mata Kuliah Fisika Dasar 1 Tahun Akademik 2013/2014. *E-Journal.Iain.Pa;Angkaraya*.

Sholihah, F., & Prihatiningtyas, S. (2021). Creating Miniature Ecosystem to Increase Student Learning Outcomes Thrugh Guided Discovery Learning. *Edubiotik: Jurnal Pendidikan, Biologi Dan Terapan*, *6*(01).

Sugiyono. (2010). *Metode Penelitian Pendidikan*. Bandung: Alfabeta.

Sugiyono. (2013). *Metode Penelitian Kuantitatif, Kualitatif, dan R&D*. Bandung:Alfabeta.

Trianto. (2008). *Mendesain Pembelajaran Kontekstual*. Surabaya: Cerdas Pustaka.

Zulfiani, Z., Feronika, T., Suantini, K. (2009). *Strategi Pembelajaran Sains*. Jakarta: Lembaga Penelitian UIN Syarif Hidayatullah.