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Species Richness of Spermatophyta Plants in Paseban Parks Bangkalan Madura to Develop Discovery Model on the Material Handout Plantae

Iffatur Rizqiyah✉, Sri Ngabekti, Nur Kusuma Dewi

Universitas Negeri Semarang, Indonesia

Article Info

Abstract

Handout materials are materials that are Concise and complete. One the innovations of the handout was a handout discovery model of curriculum corresponding to 2013. This research aims to Identify a) species richness of Spermatophyta plants in Paseban parks Bangkalan to develop discovery model on the material handout, b) to test the validity of the handout models of plant discovery Plantae Spermatophyta on learning, c) to test the effectiveness of the handout model of discovery of plant Spermatophyta, d) to test the response of students and teachers against the handout models of plant Spermatophyta discovery. Method development using the method of ADDIE. Results of the study include a) 28 species that comprise the family Cannaceae, Liliaceae, Acanthaceae, Rubiaceae, Agaveaceae, Rubiaceae, Apocynaceae, Palma, Fabeacae, Nygtaginaceae, euphorbiaceae, Cydaceaae, Gnetaceae, Pinaceae and. b) The validity of expert material and expert media an average of 94.92% with very valid criteria c) Effectiveness handouts based on test results of t-test results Showed significant 0:04 Becauseρ value $< \alpha$ 0:05. The experiment has been completed on the class 100%. The percentage of the value of the excellent category of affective on classroom control 85.51% and 90.23% in class experiments. The percentage of psychomotor categories very well at 79.08% control classes and experiments 86.19%, Thus it can be stated that giving a handout models Effectively discovery. d) Response use the handout model of discovery of 95.66% included in the category of very decent.

✉ Alamat korespondensi:
Kampus Pascasarjana UNNES, Jl Kelud Utara III, Semarang 50237
E-mail: iffaahmad21@gmail.com

INTRODUCTION

Biology learning means studying nature in the environment, because biology is a natural learning objects. Learning biology in the Curriculum 2013 stated that social competence that will be obtained as demonstrated honest behavior, discipline, responsibility, caring (mutual assistance and cooperation) and concern the environment (Permendikbud, 2016). Preliminary study (2017) conducted in Bangkalan high school found that students using the textbook learning resources obtained from the local government. Exposure of the material of the teacher is taken based worksheets and textbooks. Textbooks are used not lead to the contextual learning as well as students are not able to know about the plants as a source of teaching material.

Images are presented in textbooks is the image of plant Spermatophyta are not students encountered in daily life. Integration of local plant on contextual learning activities, in addition to increasing knowledge, it can also be a means to encourage students to develop and empower the potential of the region, as well as biodiversity conservation. Mumpuni (2013) states that there are three educational role of local excellence in teaching biology: 1) as a means of contextual learning; 2) utilization and conservation of local advantages; and 3) environmentally conscious print character generation.

Utilizing the surrounding environment can improve student learning outcomes, because by using the environment around the student can observe directly (Mustafa et al., 2013). Therefore, the biology of learning through practical work, using various techniques of study, teaching biology through connecting with the topic of everyday life, one of them by giving handouts (Atilla, 2012). Handout teaching material according to Fadri et al. (2014) is written material prepared by the teacher to enrich the knowledge of students.

Research Peggy (2017) granting the handout material can increase students' cognitive crustaceans. In the handout material administration crustaceans research proved that students were given handouts have cognitive value above KKM compared with before the students were given handouts. Research Lisdayanti et al. (2015) that provision is No Smoking Handout insightful learning resource conservation, valid and eligible for use in the learning of the respiratory system in MAN. Handout model of discovery is part handout practical subjects, which in this handout can help the student become a researcher, doing it guided or independent invention (Prastowo, 2015).

Teaching materials handout models with lifting surroundings discovery will help in the learning process Plantae material. Imtihana (2014) states that students more easily understand the concept of learning to use the media relevant images and photos, and more like a textbook or instructional materials that are not too thick. One potential source of learning in Bangkalan is Paseban Bangkalan Park. There has been no research on species richness in the Garden Paseban, it is necessary to do research on the identification of plant species richness Spermatophyta which will be used as handouts model of discovery.

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METHODS

The method in this research is the study of R & D (research and development). This study is the identification of plants Spermatophyta in Taman Paseban later, the results of the research will be used as a handout models as a resource discovery.

Design research on the study include 5 stages (Aldoobie, 2015). This study is a research and development which refers to the ADDIE model of instructional (analysis, design, development, implementation, and evaluation). The analysis carried out to analyze the needs of the school SMAN 3 Bangkalan. The design phase is the design of the model handout discovery, drafting sheet development research instrument consists of worksheets, handouts for the validation sheet material experts and media experts, questionnaire responses discovery

models use handouts for students and teachers, environmental awareness questionnaire. The development stage is making handouts discovery models that are exempted in Spermatophyta material. The next stage is the implementation of the 10 students to see legibility. Furthermore, the large-scale test previously evaluated by an

expert handout materials and media experts. Handout implemented on a large scale are divided into two groups: experimental and control the design used at this stage using static design group pretest-posttest Suparno (2014). The data are collected and how they were taken in Table 1.

Table 1. Data Collection Techniques

No.	Data	Data collection technique
1	Species Richness Of Spermatophyta	Observation
2	Validity handout	questionnaire
3	Handout effectiveness of the learning outcomes	Test
4	The response of students and teachers	questionnaire

Handout model of discovery meet a) standards of validity handouts if mendaptkan score of at least 60 by media experts and subject matter experts, b) the effectiveness judged by the thoroughness of the KKM cognitive calculated score of N-gain continued t-test and assessment scores affective-psychomotor with a minimum score 49 sufficient criteria, c) response scores 62.51 minmal handout users with these criteria are eligible.

RESULTS AND DISCUSSION

In this study, there are two types of data is data qualitative and quantitative. Qualitative data in the form of suggestions and comments, quantitative data and the value of the score obtained from the use of the response, score the validity and effectiveness.

Species Richness Of Spermatophyta Plants In Paseban Parks To Develop Discovery Model On The Material Handout

Found 23 names of plant species that have not find in school textbooks, while the five other species name listed in the package. Family that is not in the textbooks that Iridaceae, Cannaceae, Agavaceae, Passifloraceae, Amaranthaceae, nyctaginaceae, Rubiaceae, Acanthaceae, Oleaceae, and lythraceae. While the family Liliaceae, Poaceae, Arecaeae, Fabaceae, Verbenaceae, Euphorbiacecae,

Apocynaceae, Cycadaceae, Gnetaceae, and Pinaceae. The richness of existing plants in the Park Paseban 82% of plant species that are found not listed in textbooks. There are 10 families of the additional information for the students.

According to Yerimadesi et al. (2017) that the development of teaching materials is the provision of additional information for the students so that students can have a wider horizon again. There are two kinds of handouts handouts practicum and non practicum. According Riandry et al. (2017) observed practicum must be fully informed and meet the needs of students. Handout discovery models include plants that are found everyday and students can connect their role in everyday life so that concepts learned can be applied in everyday life. Based on Novian et al. (2014) that the concept of teaching will be attached to the student if the student can connect teaching materials with their daily lives. Triwijananti et al. (2014) states that matter and concepts acquired in learning to be included in long-term memory if applied in their everyday environment.

Information contained in the handout plant model of discovery is uptodate information. According toMulyati et al. (2016) that the information is up to date teaching materials used in the interest of students can provide for more in-depth study again. Thus, it

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can provide a positive effect on students' curiosity. According to Fega et al. (2013) curiosity of students also affects the learning process becomes active and interesting.

The validity of the model handout discovery

Ratings given by two subject matter experts with the average percentage of 94.92% with a very valid criteria. This value is derived from two experts media. Handout discovery model of learning has characteristics that are tailored to the syntax LKS discovery. Rate handout material experts, there are three aspects: contextual, content and presentation aspects that all three get a very valid criteria however, has a

different percentage is 97.32%, 87.5% and 96.67%. The material presented in the handout are additional materials that may provide more information that is not found in the students' textbooks. Description of the material can provide an effect on student learning outcomes. Description of the material resulting from the findings will help the students to get to know more closely with its surroundings. According to Kartuti et al. (2016) that the consistency and completeness of the materials is something that must be tested kevalidannya not to give the wrong concept for students. The following description of the Figure 1 handout material description.
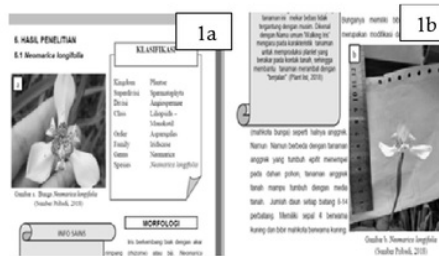

Figure 1. The handout material description

On the validity of the test by using a standard BNSP that are customized, both expressed very valid validator. Scores obtained from the two media experts, namely 97.5% with very valid criteria. there is some input from the validator. One input of expert media used as qualitative data is written is too large, so it tends to be sloppy, a little cover image, and caption of research results. According to Elmovriani et al. (2016) book cover has a function that is quite

important, such as the content patron, as a communication tool, as a means of advertisement, and as a decorative function.

The effectiveness of the use of handouts model of discovery

Here is a summary of the percentage of the value obtained from the control class and experimental class in Table 2.

Table 2. Percentage value control class and experimental class

No.	Aspect		Percentage (%) score	
			Control	Experiment
1	The average value of cognitive	pretest	47.75	48.92
		posttest	83.79	87.85
2	Affective		85.51 (very good)	90.23 (very good)
3	psychomotor		79.08 (very good)	86.19 (very good)
4	Scores N-gain		0.68 (Average)	0.77 (High)
5	classical completeness		100	100

Based on cognitive value will then be calculated t-test. Terms t-test that data should be normally distributed. Normality test results in a significant level of α > 0.05 generate significant value of 0.200 which states that the normal distribution of data for greater significance value of α is 0.05. Furthermore, the data do independent testing t-test is in Table 3.

Table 3. Test Results Independent t-test

		Equality of variance test level		t-test for equality				
		F	Sig.	t	df	Sig. (2-tailed)	mean difference	error difference
Cognitive value	Equal variances assumed	2,223	, 142	-2.056	55	, 041	-, 083 151	, 040 936
	Equal variances not assumed			-2.049	52.791	, 045	-, 084 151	, 041 060

In Table 3 Test Independent t-test of significance cognitive value 0.041 and 0.04 indicate a significant result for ρ value < α 0.05 means that there is the effect of giving handouts to the discovery model of cognitive learning outcomes of students. Pretest scores obtained when giving a test before being given treatment or prior learning takes place. Based on the results of the pretest of the second class has an average value which can not pass the KKM is 75 which is the control class average of 47.75 and an average grade 48.92 experiment.

Based on the opinion Noviyanti et (2014) that the purpose of the pretest is to determine the initial ability of students and determine the extent of students' understanding of the material Spermatophyta. According to Kang (2014) students' prior knowledge is also very important to form a new learning concept. Because the concept is owned by students can be a bridge for the teacher to give the concept to be taught. Thus, the continuity of the concept will be obtained anatara students and teachers. This will affect the process of learning and cognitive learning outcomes of students (Winarni et al., 2015).

Furthermore, the postets after giving handouts. The average obtained in the control class is 83.79, and the experimental class 87.85. After learning is completed, the students are given a post-test in order to see the abilities acquired by students related to learning materials Spermatophyta. Alvitasari et al. (2016) posttest done after the material is completed is given. Based on these scores seen that the difference between giving handouts model of discovery with students undertaking the discovery of the field and students who just had a discussion in class with the help of worksheets. Learning to use the direct environment students will easily recognize objects that are studied directly. It is easier for students mastering the material well (Ridlo & Alimah, 2013). The following Figure 2 comparison of the average value   posttest.
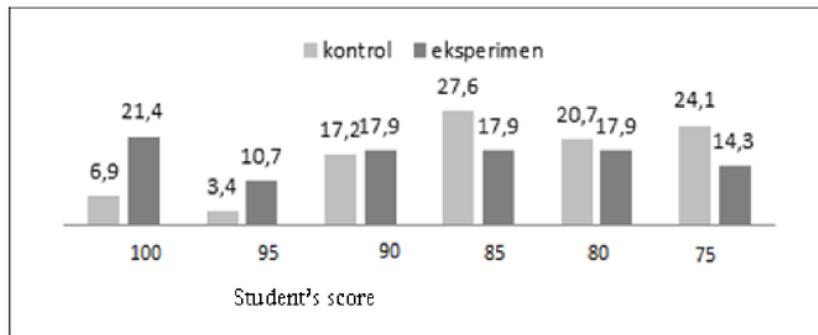
Figure 2. Comparison of the average score of posttest

Handout discovery models based on the average value of the N-gain obtained in the control class and experimental class showed a high increase. This is consistent with researchLisdayanti et al. (2015) and Peggy (2017) that the use of handouts can improve the cognitive learning. Giving handouts discovery models in which there are worksheets that guide students to carry out the invention, can help students learn the material presented (Finga et al., 2016).

Differences in percentage values between the experimental class and control class is 4.72% it indicates that effective learning outcomes can also be improved by giving handouts discovery models. Sartono et al. (2017) that learning by inquiry-discovery models students can interact with other woods students can collaborate and interact with their environment. Concerned with the environment should always be instilled in the students so that the students can get to know their surroundings and to protect the environment around it (Rakhmawati, 2016).

Handout given discovery leads students to make discoveries in the field can provide students become more vibrant effect. Students can work together and care for each other (Fauzi et al., 2017). Students learn by direct contact with nature using discovery handout guide students to be creative by direct observation skills (Sari & Sun, 2017). It can be a memory for the students in the long run (Arini et al., 2017). Guided discovery learning by teaching children to collaborate with each other and care for each other (Akani, 2017).

User response to the handout model of discovery

Based on the results of the readability test response handout models use discovery on 10 students of 89.83% included in the category of very decent. Qualitative data from 10 states that students enjoy learning using the handout, there is some writing that any such posts should not be angled sloping, suitable for learning plantae, clearly legible handwriting, happy with lots of pictures. Furthermore handout tested on a large scale, namely the experimental class and tested on the teacher. Score obtained in the use handout model of discovery that is 95.8% included in the category of very decent. The qualitative data obtained based on user suggestions that students and teachers handout paper size reduced again, nice clear picture, easy to understand, easier for students to learn. Students enjoy learning using handouts and are expected to plant more.

Yulia et al. (2017) stated that the teaching materials are made must have the appropriate language of the material and the language used should be communicative so that readers easy to understand. Handouts were developed based on the results of data kualiatatif that is easy to understand, using language that is conversational, interesting pictures, students were delighted to learn to use a handout. The response of students in learning based on analysis of questionnaires classified as very feasible criteria. Overall from the use of handouts by students classified as attractive and feasible for use. This is in accordance with the

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opinion of Nerita (2016) & Finga (2016) that learning to use the handouts can meningkatkkan student responses. Based on test results obtained on a small scale and large-scale test on a percentage value of the four aspects of feasibility aspects categories: content, language, presentation,5.69%.

The increase in the average percentage of every aspect of the revision indicates that done to improve the quality of handouts. The response of students in learning is important. It may make a different learning environment. Student response also affect student learning outcomes (Rahmiati et al., 2017). Handouts are used to raise the curiosity to learn more deeply. This is because the material contained in the handout in accordance with the environment that is around students. So that students can apply in everyday life (Susilo et al., 2016). Presentation handouts compact models and contextual discovery is very relevant thing in the 21st century learning because students are more interested in the knowledge that correlated to life (Mustafa et al., 2017). Because knowledge is not a set of concepts, materials and rules are ready take and remember, but humans can connective knowledge to give meaning through real experience. Development of teaching materials that suit the needs of students and the material being studied is the best effort to improve understanding of the concept (Sugeng et al., 2017).

CONCLUSION

A total of 28 species that comprise the family Cannaceae, Liliaceae, Acanthaceae, Rubiaceae, Agaveaceae, Rubiaceae, Fabeacae, Arecaceae, Apocynaceae, Nygtaginaceae, euphorbiaceae, Cydaceaae, Gnetaceae, and Pinaceae. The results of the validity of the subject matter experts and media expert on average 94.92 with very valid criteria so that handouts can be used on a discovery model of learning plantae.

Results postetst that both control and experimental class KKM and subsequently completed an independent test results of

significance 0.04 t-test showed significant gains for α value < α 0.05. Percentage of affective value ie 85.51% in the control group and 90.23% in the experimental class. Psychomotor value the control class and experimental 86.19% 79.08 so it can be stated that the provision of effective handout discovery learning models. Scores on the discovery that the use of models handout 95.66% included in the category of very decent.

REFERENCES

Aldoobie, N. (2015). Addie Model. *American Internasional Journal Of Contempory Research*. 5 (6), 68-72.

Akani, O. (2017). Effect Of Guided Discovery Method Of Instruction And Students' Achievement I N Chemistry At The Secondary School Level In Nigeria. *Ijsre (International Journal Of Scientific Research And Education)*, 5(2), 6226–6234.

Atilla, Ç. (2012). What Makes Biology Learning Difficult And Effective: Students' Views. *Academic Journals Educational Research And Reviews*, 7(3), 61-71.

Alvitasari, D., Ngabekti, S., & Irsadi, A. (2016). Pendekatan Jelajah Alam Sekitar Dengan Memanfaatkan Laboratorium Biologi Dan Kebun Wisata Pendidikan Unnes Sebagai Sumber Belajar Materi Keanekaragaman Hayati. *Unnes Journal Of Biology Education*, 5(2), 198–206.

Arini, F. Z. R., Susilaningsih, E., & Dewi, N. K. (2017). Pengembangan Instrumen Penilaian Proses Untuk Mengukur Keterampilan Sains Dan Aktivitas Siswa SMP. *Journal Of Innovative Science Education*, 6(2), 170–178.

Elmovriani, D., Prasetyo, A. P. B., & Ridlo, S. (2016). Keanekaragaman Jenis Kupu-Kupu Di Wana Wisata Penggaron Sebagai Bahan Penyusun Modul Pembelajaran Biologi. *Journal Of Innovative Science Education*, 5(1), 1–9.

Fauzi, A. R., Zainuddin, & Atok, R. Al. (2017). Penguatan Karakter Rasa Ingin Tahu Dan Peduli Sosial Melalui Discovery Learning. *Jurnal Teori Dan Praksis Pembelajaran IPS*, 2(2), 27–36.

Fadri, R., Indiarti, G., & Fadulah, M. (2014). Pengembangan *Handout* Biologi Berbasis Pendekatan Spiritual Pada Materi Sistem

Reproduksi Manusia Untuk MTSN. *Jurnal Science And Technology Index*, 1(1), 1-6.

Fega, Rahmayani. Iin, H., & Atok Miftachul, H. (2013). Pengembangan Handout Berbasis Kontekstual Pada Pelajaran Biologi Materi Bioteknologi Untuk Siswa Kelas XII SMk Negeri 02 Batu. *Jurnal Pendidikan Biologi Indonesia*, 1(1), 47–59.

Finga, F. A., Abdul, G., & Ibrohim. (2016). Pengembangan Handout Dinamika Populasi Hewan Berbasis Potensi Lokal Dengan Sumber Belajar Di Danau Singkarak Sumatera Barat. *Jurnal Pendidikan: Teori, Penelitian, Dan Pengembangan*, 1(11), 2205–2210.

Imtihana, M. M. (2014.) Pengembangan Buklet Berbasis Penelitian Sebagai Sumber Belajar Materi Pencemaran Lingkingan Di SMA. *Unnes Journal Of Biology Education,* 3(2), 186-192.

Kartuti, Ngabekti, S., & Retnoningsih, A. (2016). Pengembangan Perangkat Pembelajaran Keanekaragaman Hayati Dengan Memanfaatkan Ekosistem Mangrove Sebagai Sumber Belajar Di SMA. *Unnes Science Education Journal*, 5(1), 1085–1090.

Lisdayanti, Hikmat, A., & Istomo. (2015). Komposisi Flora Dan Keragaman Tumbuhan Di Hutan Rawa Musiman, Rimbo Tujuh Danau Riau. *Jurnal Penelitian Hutan Dan Konservasi Alam*, 3(1), 15–28.

Mulyati, Mubarok, I., & Dewi, N. K. (2016). Pengembangan CD Pembelajaran Interaktif Berbasis Materi Pencemaran Lingkungan Pada Siswa Kelas X SMA Negeri 1 Gondang. *Unnes Journal Of Biology Education*, 5(1), 65–71.

Mumpuni, K. E. (2013). Potensi Pendidikan Keunggulan Lokal Berbasis Karakter Dalam Pembelajaran Biologi Di Indonesia. *Prosiding. Seminar Biologi,* 10(2), 1-8.

Mustofa, A., Kuswanti, N., & Hidayati, S. N. (2017). Keefektifan LKS Berbasis Model Pembelajaran Discovery Learning. *E-Jurnal Pensa*, 5(1), 27–32.

Mustofa. M, Ngabekti. S, & Iswari, Sri. W. (2013). Pengembangan Lembar Kerja Siswa Berbasis Observasi Pada Taman Sekolah Sebagai Sumber Belajar Sains. *Unnes Journal Of Biology Education*, 2 (1), 12-24.

Nerita, S. (2016). Developing Handout Concept And Mind Map Ecosystems Material For Students SMP/MTS. *BioCONCETTA*, 2(2), 84–92.

Novian, F. N., Ridlo, S., & Susilowati, S. M. E. (2014). Pengembangan Modul Pendidikan Lingkungan Hidup (Plh) Berbasis Karakter Untuk Menumbuhkan Wawasan Dan Karakter Peduli Lingkungan. *Unnes Journal Of Biology Education*, 3(1), 53–60.

Noviyanti, L., Rini, D., & Ngabekti, S. (2014). Pengembangan Instrumen Self Dan Peer Assessment Berbasis Literasi Sains Di Tingkat SMA. *Journal Lembaran Ilmu Kependidikan*, 43(1), 32–39.

Peggy, M. (2017). *Pengembangan Handout Model Discovery Kelimpahan Dan Keanekaragaman Crustacea Di Hutan Mangrove Morosari Demak.* Tesis Pascarjana Unnes.

Peraturan Menteri Pendidikan Dan Kebudayaan Nomor 22 Tahun 2016 Tentang. Standar Proses Pendidikan Dasar Dan Menengah. 2016.

Prastowo. (2015). *Panduan Kreatif Membuat Bahan Ajar Inovatif.* Jogyakarta: Diva Press. Cetakan Ke VI.

Rahmiati, Edwin, M., & Ahmad, F. (2017). P Engembangan Perangkat Pembelajaran Matematika Berbasis Discovery Learning Untuk Meningkatkan Kemampuan Pemecahan Masalah Siswa Kelas VIII SMP. *Jurnal Mosharafa*, 6(2), 267–272.

Rakhmawati, D., Prasetyo, A. P. B., & Ngabekti, S. (2016). Peran Program Adiwiyata Dalam Pengembangan Karakter Peduli Lingkungan Siswa: Studi Kasus Di SMK Negeri 2 Semarang. *Unnes Science Education Journal*, 5(1), 1148–1154.

Riandry, M. A, I Ismet., & H. Akhsan. (2017). Developing Statistical Physics Course *Handout* On Distribution Function Materials Based On Science, Technology, Engineering, And Mathematics. Iop Conf. Series. *Journal Of Physics*: Conf. Series 895 (2017) 012047.

Ridlo, S., & Alimah, S. (2013). Strategi Pembelajaran Biologi Berbasis Kompetensi Dan Konservasi. *Jurnal Biosaintifika*, 5(2), 121–129.

Sari, W. & Surya, E. (2017). Resolution To Increase Capacity By Using Math Students Learning Guided Discovery Learning (GDL). *International Journal Of Sciences: Basic And Applied Research (Ijsbar) Issn*, 34(1), 144–154.

Sartono, N., Rusdi, & Handayani, R. (2017). Pengaruh Pembelajaran Process Oriented Guided Inquiry Learning (POGIL) Dan Discovery Learning Terhadap Kemampuan Berpikir Analisis Siswa SMAN 27 Jakarta Pada Materi Sistem Imun. *Biosfer: Jurnal Pendidikan Biologi (Biosferjpb)*, *10*(1), 58–64.

Sugeng, W., Baskoro, A. P., & Sugiyarto. (2017). Pengembangan Modul Berbasis Guided

Discovery Pada Materi Jamur Untuk Meningkatkan Kemampuan Berpikir Analitis. *Jurnal Inkuiri*, 6(1), 61–74.

Susilo, H., Prasetyo, A. P. B., & Ngabekti, S. (2016). Pengembangan Desain Pembelajaran IPA Bervisi Konservasi Untuk Membentuk Sikap Peduli Lingkungan. *Unnes Science Education Journal*, 5(1), 1065–1069.

Suparno, P. (2014). *Metode Penelitian Pendidikan IPA*. Yogyakarta: Universitas Santa Dharma Press.

Triwijananti, E., Susilowati, S. M. E., & Ngabekti, S. (2014). Pengembangan Modul Konservasi Materi Keanekaragaman Hayati Dan Keefektifannya Dalam Pembelajaran Di SMP, *Unnes Journal Of Biology Education*, 3(2), 130–139.

Winarni, E., Dewi, N. K., & Martuti, N. K. T. (2015). Penerapan Model Think Pair Share Dengan Pendekatan Guided Inquiry Learning Pada Materi Pengelolaan Lingkungan. *Unnes Journal Of Biology Education*, 4(3), 262–268.

Yerimadesi, Putra, A., & Ririanti. (2017). Efektivitas Penggunaan Modul Larutan Penyangga Berbasis Discovery Learning Terhadap Hasil Belajar Siswa Kelas XI MIA Sman 7 Padang. *Jurnal Eksakta Pendidikan*, 1(1), 17–23.

Yulia, P., Festiyed, & Djusmaini, D. (2017). Pembuatan Handout Multimedia Interaktif Dengan Menggunakan Aplikasi Course Lab Berbasis Pendekatan Staf Pengajar Jurusan Fisika, Fmipa Universitas Negeri Padang. *Jurnal Pillar Of Physics Education*, 9(4), 193–200.

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9   Siti Chotimah, M Bernard, S M Wulandari.
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