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Design of Static Electricity Concept Learning Device with Differentiated Strategy In facilitating Inclusive Education

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Abstract: Students' learning needs need to be considered when teaching in the classroom. Implementation of differentiated learning is one of the teaching applications that pays attention to students' needs. The study aims to design static electricity learning devices with a differentiated approach in facilitating inclusive education. The study is part of the development of learning devices consisting of three stages, namely: preliminary stage, development stage and implementation stage. The results show a valid value teaching module with an average value of 81.25 including the valid category. In the implementation, a trial of differentiated learning devices was carried out through teaching in class IX. At this stage, information was obtained on the value of the implementation of learning implementation above 90 including the Very High category. Likewise, student learning outcomes at this implementation stage increased with an N-Gain value of 0.578 including the moderate category. The effect size test value was obtained at 6,510 including a strong effect. This shows that the implementation of the differentiated learning device design has a strong effect on static electricity learning outcomes. The conclusions of the study were obtained as follows: (1) the design of differentiated learning devices assessed by experts and practices is valid; (2) the implementation of the differentiated learning device design is included in the high category, there are two students who have obstacles in the form of slow learners at the regular school which is the trial location; (3) the design of the differentiated learning device which is arranged effectively is shown by the N-Gain value in the medium category and the effect size value in the strong effect category.

Keywords: Differentiated Strategy; Inclusive Education; Static Electricity

Introduction

Inclusive education is an approach that seeks to provide equal learning opportunities for all learners, including students with various special needs and diverse backgrounds. In the context of Natural Science learning, the challenge of meeting the learning needs of each student becomes increasingly complex due to differences in characteristics, interests, and learning styles of students. Differentiated learning emerges as an effective solution to face this challenge. Differentiation is a teaching strategy that adjusts methods, materials, and assessments according to the individual needs of each student. By implementing differentiated learning in inclusive classes, teachers can create a learning environment that is adaptive and responsive to student diversity. Differentiated learning adjusts content, processes, products, and learning environments so that students can achieve their best potential, taking into account differences in learning styles, interests, and learning readiness which are students' learning needs (Tomlinson, 2001; Tomlinson, 2004; Tomlinson & Moon,

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2013). Differentiated learning assessment can be carried out in various forms adjusted to student needs. Differentiated learning can improve students' learning outcomes in learning physics concepts such as the concept of light, the concept of global warming, static fluids (Timbola et al., 2023; Laumarang et al., 2023; Lagarusu et al., 2023). The learning needs of the three studies are also different, some choose learning needs related to learning readiness, some choose learning profiles.

The implementation of differentiated learning in schools focuses more on regular students, students who have obstacles in its implementation are less noticed. This is what causes the need for a comprehensive introduction of differentiated learning to teachers or educators. The implementation of differentiated teaching varies among teachers, depending on the experience and support the teacher receives. More advanced teachers tend to use more complex strategies and engage students in deeper ways, such as adjusting content and processes according to the individual needs of students (Maeng & Bell, 2015). The approach to differentiation as an adaptation in a diverse classroom, this perspective emphasizes the importance of adjusting teaching for all students in a heterogeneous classroom. This includes variations in teaching methods, lesson content, and assessments to create an inclusive learning environment for all students (Eikeland & Ohna, 2022). Heterogeneous students, including regular students and those with obstacles, are of course treated according to their needs, although the school is not a special school specifically for students with obstacles. Most schools are regular schools where there are still students with obstacles, although the number is much smaller.

Inclusive learning is learning that takes into account the needs of students as a whole from all aspects, including students who have learning disabilities. The needs of students who have disabilities also vary depending on the disabilities that the students have. In special schools, the teaching needs of students with special needs have been served according to the students' disabilities. This is different from students with special needs who attend regular schools/public schools. Students with special needs who attend regular/public schools are usually students who experience mild disabilities such as slow learners or other mild physical disabilities who can carry out activities together with regular students, even though they need individual learning assistance.

Implementation of inclusive strategies helps to overcome some of the barriers that previously prevented regular students and students with disabilities from fully participating in the learning process. Teaching begins with implementing more flexible and adaptive teaching methods. Inclusive teaching strategies help to increase overall student participation, both regular students and students with disabilities. In inclusive learning, the didactic dimension needs attention. This dimension involves teacher teaching competence, subject knowledge, and the ability to adjust teaching according to students' learning needs (Molbaek, 2018). Differentiated learning by utilizing supporting media in learning is a solution in teaching static electricity in regular schools that have students with mild disabilities. This is in accordance with the mandate of the Regulation of the Minister of Education and Culture, Research and Technology Number 48 of 2023 concerning appropriate accommodation for students with disabilities at all levels of education, from Early Childhood Education to higher education. This regulation aims to ensure that every student with disabilities has equal access to education by providing appropriate facilities and infrastructure, budget support, and curriculum adjustments. Some important points of this regulation include the obligation of every formal school to provide Reasonable Accommodation, which includes facilities, services, and adjustments to learning methods to meet the special needs of students with disabilities (Kemendikbudristek, 2023).

Method

Research is part of development research that uses a flow development design (Borg & Gall, 2007) which is simplified by Sukmadinata into 3 stages, namely the preliminary stage, the development stage, and the Implementation stage (Sukmadinata, 2017). The research flow is as shown in Figure 1. Trial location at one of the junior high schools in Gorontalo Regency. Junior high schools are schools that implement general learning, not special schools or inclusive schools.

In this development research, the data is focused on three aspects of assessing the quality of differentiated learning devices to facilitate inclusive teaching, namely: valid, practical and effective (Nieveen, 1999). One of the validated learning devices is a teaching module. The criteria for valid teaching modules refer to the following value ranges. 85% - 100%: very valid (VV); 69% - 84%: valid (V); 53% - 68%: fairly valid (FV); 21% - 36%: not valid (NV) (Ratumanan & Laurens, 2011). To assess the practicality of learning, it can be observed from the implementation of differentiated learning in the classroom. The criteria for the implementation of learning are according to the following value ranges. Criteria for the Level of Learning Implementation: 80.1 - 100: Very High; 60.1 - 80.0: High; 40.1 - 60.0: Moderate; 20.1 - 40.0: Low; 0.0 - 20.0: Very Low (Ratumanan & Laurens, 2011).

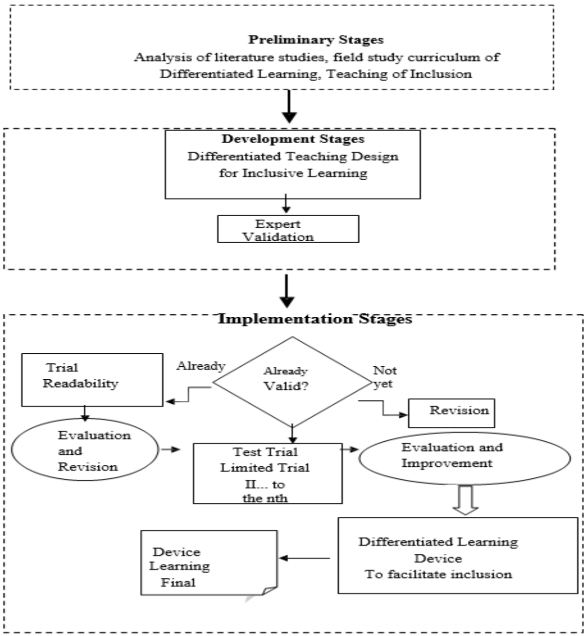

Figure 1. Differentiated Learning Design Flow

To test the effectiveness or effect of differentiated learning to facilitate inclusion on static electricity learning outcomes, the N-Gain test and effect size were used. The N-Gain test aims to calculate the increase in learning outcomes after the application of differentiated learning in facilitating inclusive education. Hake (1999) that the analysis in terms of the average gain is normalized to be defined as the ratio of the actual average gain to the maximum possible average gain, with the mathematical equation.

$$<g> = \frac{\%<g>}{\%<g>max} = \frac{(\%<S_f> - \%<S_i>)}{100 - \%<S_i>)} \quad (1)$$

Where : <g> : Gain score; Si: average pre-test; Sf : average post-test

After the calculations have been completed, the results obtained are then implemented based on the following N-Gain value criteria. <g> ≥ 0.7 high; 0.3 ≤ <g> ≤ 0.7 medium; <g> ≤ 0, low.

Effect size test to measure the effect of learning differentiated learning model on learning outcomes. To measure the effect size, Cohen's d equation is used for one class with pretest and post-test data (Cohen et al., 2018). The equation takes into account the paired nature of the data and uses the standard deviation of the difference between pretest and post-test scores.

$$d = \frac{\overline{X_{post}} - \overline{X_{pre}}}{SD_{difference}} \quad (2)$$

where:
$\overline{X}_{post}$: Average post-test results.
$\overline{X}_{pre}$: Average pretest results.
($SD_{difference\backslash}$): Standard deviation of the difference between pretest and post-test scores.

The standard deviation of the difference is calculated as:

$$SD_{difference} = \sqrt{\frac{\sum(d_i - \bar{d})^2}{n-1}} \quad (3)$$

where:
- ($d_i = X_{post} - X_{pre\backslash}$): Differences for each participant.
- ($\bar{d}$): Average of all differences (($\bar{d} = \overline{X_{post}} - \overline{X_{pre}}$)).
- ($n\backslash$): Number of class participants.

By the categories used in *Cohen's* d: Value Range 0–0.20 = *weak effect*; 0.21–0.50 = *modest effect*; 0.51–1.00 = *moderate effect*; dan > 1.00 = *strong effect* (Cohen et al., 2018).

Result and Discussion

Based on the results of the research on the design of differentiated learning tools on the concept of static electricity, three main data related to the validity, practicality and effectiveness of differentiated learning tools are presented. After the design of differentiated learning tools was completed, assessments were carried out from experts and practitioners through FGD activities. The data from the assessment results of differentiated learning tools to facilitate inclusion education are shown in Figure 2.

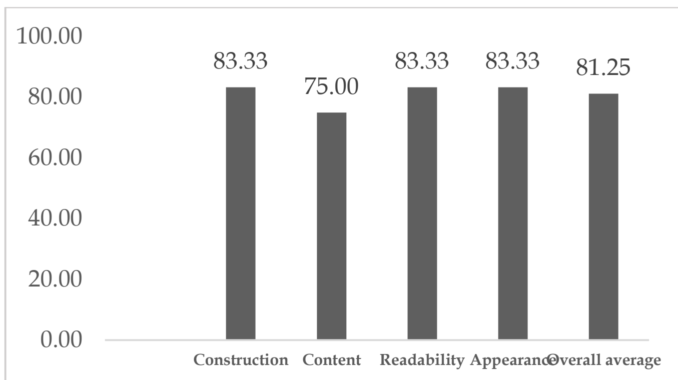

Figure 2. The percentage of the Validator's Average Score for the Assessment of the Teaching Module.

Figure 2. It shows the percentage of expert and practitioner assessment of differentiated learning designs on the concept of static electricity that is included in the valid criteria. The average validation score is above 75%. The qualitative data results were obtained through Focus Group Discussion (FGD) activities related to the design of differentiated learning tools to facilitate inclusive learning on the concept of static electricity. This learning tool design activity was attended by physics learning experts, physics teaching

evaluation experts, physics/electricity content/concept experts, practitioners and researchers of extraordinary learning. From the results of the Focus Group Discussion (FGD), several recommendations such as: it is necessary to teach the concept of static electricity based on several concepts that exist in students' daily life experiences, the use of PhET in introducing abstract concepts, learning steps for students with special needs who have mild obstacles, making individual learning programs by facilitating various media, conducting diagnostic tests at the beginning of learning.

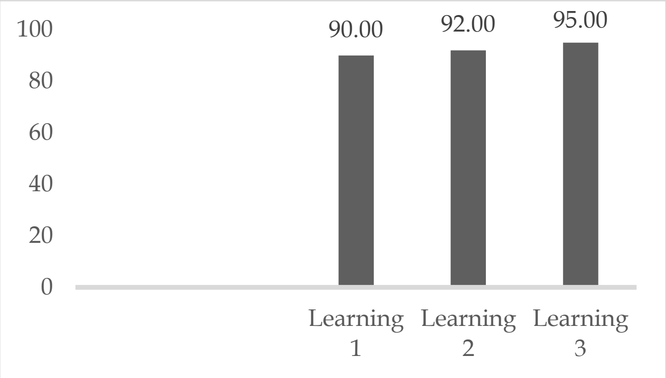

Figure 3. Device Implementation Percentage of Each Learning Meeting

Figure 3 shows that the percentage of implementation of learning tools from meetings 1, 2 and 3 has an average value above 90 percent. From meeting 1 to meeting 3, there was an increase in the implementation of differentiated learning tools. This shows that the implementation carried out by teachers is in accordance with the learning design that has been prepared.

Table 1. N-Gain Static Electricity Learning Outcomes

Respondent	N-Gain (g)	Category
Respondent 1	0.602	Medium
Respondent 2	0.627	Medium
Respondent 3	0.494	Medium
Respondent 4	0.560	Medium
Respondent 5 (Slow Learner)	0.440	Medium
Respondent 6	0.602	Medium
Respondent 7	0.560	Medium
Respondent 8	0.560	Medium
Respondent 9 (Slow Learner)	0.494	Medium
Respondent 10	0.602	Medium
Respondent 11	0.746	High
Respondent 12	0.602	Medium
Respondent 13	0.373	Medium
Respondent 14	0.560	Medium
Respondent 15	0.560	Medium
Respondent 16	0.602	Medium
Respondent 17	0.773	High
Respondent 18	0.627	Medium
Respondent 19	0.494	Medium
Respondent 20	0.560	Medium
Respondent 21	0.560	Medium
Respondent 22	0.667	Medium
Respondent 23	0.627	Medium

In addition to the N-Gain value, the value of the size effect of student learning outcomes on the concept of static electricity was also obtained. The average value of N-Gain and the size effect can be shown in the Table 2

Table 2. Average N-Gain Value and Effect Size Value

Test	Value	Category
N-Gain	0.578.	Medium
Effect Size/ Cohen's d	6.510	strong effect

Table 2 shows that the average value of N-Gain is 0.578 included in the medium category, while the value of the size effect shows a value above 1, which shows that the differentiated learning designed has a strong effect on the learning results of static electricity concepts in the trial class.

According to the recommendations of the Focus Group Discussion (FGD), static electricity learning by differentiation should use an approach that utilizes events related to daily life. An example is the use of props such as plastic or glass plates rubbed with wool or silk cloth to show how objects can charge after contact with other materials. This is implemented in static electricity learning by using simple props that are easy to obtain in the student environment can also be through laboratory activities both in the lab and in the classroom, which can increase students' understanding of concepts and involvement in learning (Sulistioning et al., 2020; Octavia et al., 2021).

In addition to utilizing simple teaching aids and experimental tools (KIT IPA), increasing the mastery of the concept of static electricity in differentiated learning is also possible through the use of virtual experiments and videos. Students today tend to use information technology with gadgets and laptops and love short videos. The use of information technology such as PhET simulations can increase motivation and reduce misconceptions about the concept of static electricity (Ismalia et al., 2022; Feyzioğlu et al., 2018). The improvement of static electricity learning outcomes in the medium and high categories is supported by the learning that has been implemented.

The concept of static electricity often poses challenges for students, leading to misconceptions that hinder students' understanding. The complexity of the concept of static electricity contributes to students' difficulties, especially when appropriate learning materials are not available (Asrowi, 2023). Several studies emphasize that the abstraction of static electricity and the need for mathematical problem-solving skills complicate students' learning experience so that it requires appropriate strategies, media and learning models (Aggraini, 2015, Ajredini et al., 2014; Shohib et al., 2021; Suantari et al., 2018, Nilyani, 2023). This misconception can be overcome through conceptual change instruction that improves students' understanding (Dilber, 2010, Octavia et al., 2021).

Understanding static electricity through demonstration equipment and laboratory experiments is essential for junior high school students, as it allows them to be directly involved and deepen their understanding of the concepts involved. The development of effective learning media such as the Wimshurst machine has been shown to improve student understanding by providing interactive and practical experiences (Asrowi, 2023; Collázos et al., 2016). Research shows that experiential learning is effective in science education, encouraging students to be actively involved with the subject matter (Supardi & Hasanah, 2020). The integration of technology in the teaching of static electricity also improves conceptual understanding and connects scientific concepts with real-world applications (Shen & Linn, 2010).

Through the implementation of varied learning for the concept of static electricity, differentiated teaching is easier for teachers to implement, which has an impact on improving student learning outcomes in the medium and high categories. Research shows that differentiated learning can improve learning outcomes of physics concepts because it allows students to process information more effectively and relevant (Timbola et al., 2023; Laumarang et al., 2023; Lagarusu et al., 2023). For students who have barriers, learning outcomes are also improved through strategies such as the use of videos and interactive simulations that help understand abstract concepts more realistically. Strategies such as flexible grouping, the use of visual aids, and learning adaptation are important elements in the successful implementation of inclusive teaching (Elder et al., 2016).

In addition, training for teachers is very important to increase the effectiveness of teaching static electricity for students with special needs such as slow learners in public schools. Teachers need to be trained to understand the characteristics and needs of students with special needs and adapt teaching methods and models that meet the needs of students to be more inclusive (Zagona et al., 2017; Maeng & Bell, 2015; Molbaek, 2018). This approach is in line with the principle of inclusive education which advocates equal opportunities regardless of ability (Asri et al., 2021; Eikeland & Ohna, 2022) and emphasized the importance of teachers understanding the skills needed to effectively implement inclusive practices (Florian & Black-Hawkins, 2011). Thus, a combination of a collaborative approach, the use of appropriate teaching aids, adaptation of teaching materials, and teacher training can create a more effective learning environment for students with special needs in understanding the concept of static electricity.

Conclusion

Based on data analysis and discussion, conclusions were obtained: (1) Differentiated learning design on the concept of static electricity to facilitate inclusive education in valid values by experts and practitioners; (2) the implementation of the design of differentiated learning tools on the concept of static electricity to facilitate inclusive education including in the high category, in the implementation class there are 2 slow learner students; (3) the effective learning tool was reviewed from the N-Gain value in the medium category and the size effect value in the strong effect category.

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Author Contributions

The First Author is a research team consisting of postgraduate students as research implementers at the school. The Second and Third Authors are supervisors who provide guidance starting from preparing learning devices, testing learning devices, to implementing learning devices. The fourth, fifth and sixth authors are validators of learning devices, the seventh author helps with data processing and compiling research reports.

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Conflicts of Interest

The author declares that there is no conflict of interest in this paper

References

Aggraini, R. (2015). Static electricity material e-module based on a scientific approach using kvisoft flipbook maker software. *Tekno-Pedagogi. Jur. Tek. Pend*, 5(2), 8-13. https://doi.org/10.22437/teknopedagogi.v5i2.7515

Ajredini, F., Izairi, N., & Zajkov, O. (2014). Real experiments versus phet simulations for better high-school students' understanding of electrostatic charging. *European Journal of Physics Education*, 5(1), 59. https://doi.org/10.20308/ejpe.38416

Asri, D., Cahyono, B., & Trisnani, R. (2021). Early reading learning for special needs students: challenges on inclusive primary school during covid-19 pandemic. *Linguistics and Culture Review*, 5(S1), 1062-1074. https://doi.org/10.21744/lingcure.v5ns1.1489

Asrowi, R. (2023). Development of the wimshurst machine as a learning media on static electricity material for junior high schools. Curr. *STEAM Educ. Res*., 1(2), 41-52. https://doi.org/10.58797/cser.010201

Borg, W. R., & Gall, M. D. (2007). *Educational Research: An Introduction*. Longman.

Cohen, L., Manion, L., & Morrison, K. (2018). *Research Methods in Education*. Routledge Taylor & Francis Group.

Collázos, C., Otero, H., Isaza, J., & Mora, C. (2016). Diseño y construcción de una máquina de wimshurst para la enseñanza de la electrostática. *Formación Universitaria*, 9(5), 107-116. https://doi.org/10.4067/s0718-50062016000500011

Dilber, R. (2010). Effect of conceptual change instruction on students' understanding of electricity concepts. *International Journal of Innovation and Learning*, 7(4), 478. https://doi.org/10.1504/ijil.2010.032935

Eikeland, I., & Ohna, S. E. (2022). Differentiation in education: a configurative review. *In Nordic Journal of Studies in Educational Policy* (Vol. 8, Issue 3, pp. 157–170). Routledge. https://doi.org/10.1080/20020317.2022.2039351

Elder, B. C., Damiani, M. L., & Oswago, B. O. (2016). From attitudes to practice: Utilizing inclusive teaching strategies in Kenyan primary schools. *International Journal of Inclusive Education*, 20(4), 413-434. https://doi.org/10.1080/13603116.2015.1082648

Feyzioğlu, E., Akpınar, E., & Tatar, N. (2018). Effects of technology-enhanced metacognitive learning platform on students' monitoring accuracy and understanding of electricity. *Journal of Baltic Science Education*, 17(1), 43-64. https://doi.org/10.33225/jbse/18.17.43

Florian, L. and Black-Hawkins, K. (2011). Exploring inclusive pedagogy. *British Educational Research Journal*, 37(5), 813-828. https://doi.org/10.1080/01411926.2010.501096

Hake, R. R. (1999). Analyzing Change/Gain Scores* †. http://lists.asu.edu/cgi-bin/wa?A2=ind9903&L=aera-d&P=R6855

Ismalia, I., Kusumawati., M., & Wahyuni, P. (2022). Investigating the use of phet simulation as a substitute for practical tools in understanding the concept of static electricity. *International Journal of Education and Teaching Zone*, 1(1), 20-25. https://doi.org/10.57092/ijetz.v1i1.7

Kemendikbudristek. (2023). Peraturan Menteri Pendidikan, Kebudayaan, Riset, dan Teknologi Nomor 48 Tahun 2023 tentang Akomodasi yang Layak untuk Peserta Didik Penyandang Disabilitas pada Satuan Pendidikan Anak Usia Dini Formal, Pendidikan Dasar, Pendidikan Menengah, dan Pendidikan Tinggi.

Lagarusu, A., Haris Odja, A., & Payu, C. S. (2023). Pengaruh Penerapan Model Pembelajaran Problem Based Learning Melalui Pendekatan Berdiferensiasi Menggunakan Blended Learning Terhadap Hasil Belajar Siswa Pada Konsep Fisika Di SMA Negeri 6 Gorontalo Utara. *Jurnal Pendidikan Fisika Undiksh*a, 13. https://doi.org/https://doi.org/10.23887/jjpf.v13i2

Laumarang, S. N., Odja, A. H., & Supartin, S. (2023). Pengaruh Penerapan Pembelajaran Berdiferensiasi Menggunakan Model Pembelajaran Discovery Learning Terhadap Hasil Belajar Siswa pada Konsep Pemanasan Global. *Jurnal Tadris IPA Indonesia, 3(3), 315–326.* https://doi.org/10.21154/jtii.v3i3.2337

Maeng, J. L., & Bell, R. L. (2015). Differentiating Science Instruction: Secondary science teachers' practices. *International Journal of Science Education*, 37(13), 2065–2090. https://doi.org/10.1080/09500693.2015.1064553

Molbaek, M. (2018). Inclusive teaching strategies–dimensions and agendas. *International Journal of Inclusive Education*, 22(10), 1048–1061. https://doi.org/10.1080/13603116.2017.1414578

Nieveen, N. (1999). Prototyping to Reach Product Quality. In Design Approaches and Tools in Education and Training (pp. 125–135). *Springer Netherlands*. https://doi.org/10.1007/978-94-011-4255-7_10

Nilyani, K. (2023). Needs analysis to develop physics learning e-modules on static electricity material. *Jurnal Eksakta Pendidikan* (Jep), 7(2), 289-300. https://doi.org/10.24036/jep/vol7-iss2/781

Octavia, S., Rahma, A., & Destine, K. (2021). Misconception analysis of static electricity materials in class ix junior high school. Iser

(Indonesian Science Education Research), 3(2). https://doi.org/10.24114/iser.v3i2.31239

Ratumanan, T. G., & Laurens, T. (2011). *Penilaian hasil belajar pada tingkat satuan pendidikan*. Surabaya: Unesa.

Shen, J. and Linn, M. (2010). A technology-enhanced unit of modeling static electricity: integrating scientific explanations and everyday observations. *International Journal of Science Education*, 33(12), 1597-1623. https://doi.org/10.1080/09500693.2010.514012

Shohib, M., Rahayu, Y., Wasis, W., & Hariyono, E. (2021). Scientific literacy ability of junior high school students on static electricity and electricity in living things. *Ijorer International Journal of Recent Educational Research*, 2(6), 700-708. https://doi.org/10.46245/ijorer.v2i6.170

Suantari, N., Suma, K., & Pujani, N. (2018). Development of three tier static electricity diagnostic test to identify student conceptions about static electricity. *International Research Journal of Engineering It & Scientific Research*. https://doi.org/10.21744/irjeis.v4n5.285

Sukmadinata, N. S. (2017). *Metode Penelitian Pendidikan* (12th ed.). Remaja Rosdakarya.

Sulistioning, R., Nugraha, U., Subagyo, A., Putri, Y., Sari, N., & Wiza, O. (2020). Investigation of learning science: fun in learning, interest in learning time, social implications, scientific normality for science learning. *Universal Journal of Educational Research*, 8(4), 1126-1134. https://doi.org/10.13189/ujer.2020.080402

Supardi, S. and Hasanah, E. (2020). Junior high school students experiences of high technology based learning in indonesia. *International Journal of Learning Teaching and Educational Research*, 19(5), 153-166. https://doi.org/10.26803/ijlter.19.5.9

Timbola, G., Mursalin, & Odja, A. H. (2023). Developing Differentiated Learning Devices to Heighten Student Learning Outcome on Light Concepts at SMP Negeri 1 Kwandang. *Journal of Humanities and Social Sciences Studies*, 5(6), 65–71. https://doi.org/10.32996/jhsss.2023.5.6.7

Tomlinson, A. C., & Moon, T. R. (2013). *Assessment and Student Success in a Differentiated Classroom*. ASCD. www.ascd.org/memberbooks

Tomlinson, C. A. (2004). Point/counterpoint: Sharing responsibility for differentiating instruction. *Roeper Review*, 26(4), 188–189. https://doi.org/10.1080/02783190409554268

Tomlinson, C. A. . (2001). *How to differentiate instruction in mixed-ability classrooms*. Association for Supervision and Curriculum Development.

Zagona, A., Kurth, J., & MacFarland, S. (2017). Teachers' views of their preparation for inclusive education and collaboration. *Teacher Education and Special Education the Journal of the Teacher Education Division of the Council for Exceptional Children*, 40(3), 163-178. https://doi.org/10.1177/0888406417692969