



## Implementation of Differentiation Learning in the Merdeka Belajar Curriculum in PJOK Learning at SMA Negeri Kota Pematangsiantar

Wahyu Ade Putra<sup>1✉</sup>, Nasuka<sup>2</sup>, Fajar Awang Irawan<sup>3</sup>

<sup>1,2,3</sup> Universitas Negeri Semarang

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### Abstract

Implementation of the concept of Merdeka Belajar which guarantees freedom for educators in formulating learning designs and assessments according to student characteristics and all mapping of student needs through the application of differentiated learning. The purpose of this study is to analyze the knowledge and implementation of the differentiation learning approach used by PJOK teachers at SMA Negeri Kota Pematangsiantar. This research is qualitative research with observational data collection techniques, interviews and documentation. This research was conducted in 6 public high schools in Pematangsiantar City. The sample in this study consisted of 6 principals, 6 teachers and 24 students. The data analysis technique used in this study is the data analysis of the Miles and Huberman model. The results showed that PJOK teachers in 4 Pematangsiantar City State High Schools had succeeded in implementing differentiation learning well, while the other 2 high schools had not done so. The conclusion of this study is that educators have made initial preparations with diagnostic assessments and selected differentiation of content, processes, or products according to student interests and talents. The positive impact of differentiated learning is felt by both educators and learners, although there is a negative impact in the form of student boredom on some learning topics due to the lack of variety in teaching methods. The recommendation for future research is to analyze differentiation learning at the private and public high school levels.

Keywords: Merdeka Belajar Curriculum, differentiation learning, PJOK learning.

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✉ Address correspondence:  
Author's Correspondence Address  
E-mail: (first author's email address)

## INTRODUCTION

The development of education at the same level or level has a tendency to homogenize the learning process. This is an obstacle because not all students have the same characteristics. The Ministry of Education and Culture of the Republic of Indonesia publishes the Independent Learning Curriculum which is related to educators' strategies in delivering learning to suit student characteristics. Implementation of the concept of Merdeka Belajar which guarantees freedom for educators in formulating learning designs and assessments in accordance with student characteristics and all mapping of student needs through the application of differentiated learning

There are four aspects that are in the control or control of the teacher are content, processes, products, and the environment or learning climate in the classroom (Tomlinson, 2017). The implementation of differentiated learning in the Merdeka Belajar Curriculum is a solution that can increase the effectiveness of Physical Education, Sports and Health (PJOK) learning at the Senior High School (SMA) level

Differentiation learning is a teaching and learning process where students learn subject matter based on their abilities, what they like, and their individual needs so that they are not frustrated and feel like failures during the learning process (Heidorn & Mosier, 2019). However, initial observations made by researchers show that PJOK learning is still focused on the results of the final assessment of students. Interviews with school principals and PJOK teachers from several public high schools in Pematangsiantar revealed various obstacles faced in the implementation of differentiation learning.

The main obstacles presented were the lack of understanding and readiness of teachers in implementing differentiated learning, as well as the lack of training and socialization related to the Merdeka Belajar Curriculum. This results in teachers having to search for information through social media and the internet to understand the concept and strategy of differentiation learning. Another obstacle faced is the difficulty in adjusting various student interests in learning, ensuring fair assessment, as well as maintaining a balance between giving individual attention to students and maintaining classroom

order. Teachers have tried to implement differentiation learning strategies with group learning forms and assign additional assignments to students, but this is still limited.

Previous research has shown that heterogeneity of students in the classroom has become a necessity, with a variety of abilities and characteristics possessed by students (Mulbar et al., 2018). Therefore, differentiation learning strategies are considered appropriate to overcome the problem of heterogeneity and in accordance with the orientation of 21st century education.

However, to achieve effective implementation, further efforts are needed in providing training and socialization to teachers, as well as developing adequate resources related to differentiation learning. The purpose of this study is analyze the level of knowledge possessed by teachers and the extent of their understanding of the concept of learning differentiation, as well as the obstacles and challenges faced during differentiation learning in the context of PJOK learning at SMA Negeri Pematangsiantar. From this research, it is hoped that future researchers can conduct comparative studies with other cities in implementing different learning to improve the quality of PJOK learning.

## METHOD

### Location and time of research

This research was conducted in Pematangsiantar City State High Schools (SMA), and data collection was carried out for one month, namely January 2024

### Respondent Determination

This research was conducted in 6 schools of Pematangsiantar City State High School. The respondents in this study were 6 principals, 6 teachers of Class X Physical Education, Sports Health (PJOK), class X students totaling 24 people, each school was taken by 4 students of SMA Negeri Kota Pematangsiantar.

### Types of Research

This research uses qualitative data analysis techniques, and the qualitative research approach is a case study approach. A case study is a study that explores a problem in detail, collects in-depth data, and combines various sources of information.

### Data collection techniques

The data collection techniques used are observation, interviews and documentation. The

form of observation carried out is non-participant. The guidelines that the author uses in determining the results of these observations are  
 a. Less: 0 – 60% done  
 b. Enough: 61 – 70% done  
 c. Good: 71 – 85% done  
 d. Very good : 85 – 100% done  
 (Alrabi, 2023)

**Table 1. Interview Grid**

Variable	Factor	Indicators
Implementation of differentiation learning in the independent curriculum for learning PJOK subjects at SMA Negeri Kota Ripens Siantar	1.Initial Stage	Learning Planning Learning Facilitator Learning Motivators
	2.Implementati on Rate	Diagnostic Assessment Curriculum Analysis
	3.Stage of Differentiation Learning Activities	Differentiated Content Differentiated Process Product Differentiation
	4.Evaluation Phase	Reflection

Interviews in this study were conducted by means of in-depth interviews. In-depth interviews are techniques for collecting data or information by meeting directly with informants in order to get complete and in-depth data. This interview was conducted to all research samples, namely principals, teachers and students.

The documentation method in this study aims to collect data on school profiles, data on teachers and students implementation of differentiated learning in the independent curriculum in PJOK subjects at SMA Negeri Kota Pematangsiantar.

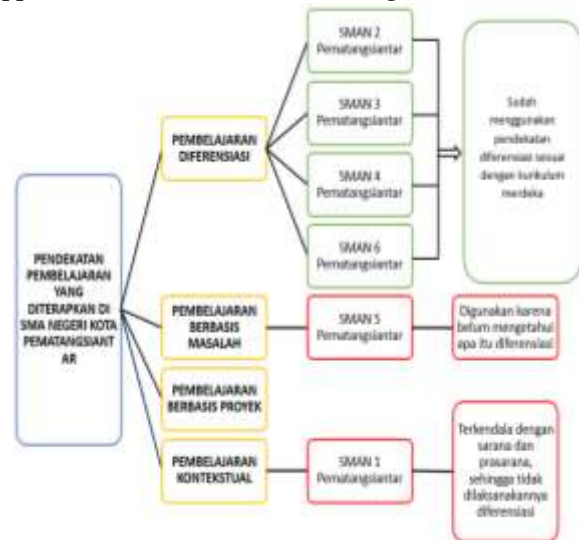
**Data analysis techniques**

The data analysis technique used in this study is the data analysis of the Miles and Huberman model. Activities in qualitative data analysis are carried out interactively and continuously until complete so that the data is saturated. Activities in data analysis are: *data collection, data reduction, data display, and conclusion drawing/ verification.*

**RESULTS AND DISCUSSION**

**Analysis of the implementation of learning applied at SMA Negeri Kota Pematangsiantar**

Analysis of the learning approach applied by Physical Education, Sports and Health (PJOK) teachers at SMA Negeri Kota Pematangsiantar, especially for grade X, illustrates the use of three main approaches: differentiation, problem-based, and contextual. Although SMA Negeri Kota Pematangsiantar has only started implementing the Merdeka Belajar Curriculum at the beginning of the 2023/2024 school year for grade X, initial adjustments have begun, including the application of differentiated learning.



**Gambar 1. Analysis of Learning Approaches at SMA Negeri Kota Pematangsiantar**

Differentiation is a learning approach that is emphasized in the Merdeka Belajar Curriculum (Fauzia & Hadikusuma Ramadan, 2023). Of the 6 public high schools in Pematangsiantar City, there are 4 schools that have implemented a differentiation learning approach, namely SMAN 2, SMAN 3, SMAN 4 and SMAN 6. Although some PJOK teachers at SMA Negeri Kota Pematangsiantar have implemented a differentiation learning approach, there are still schools that have not implemented a differentiation approach due to several

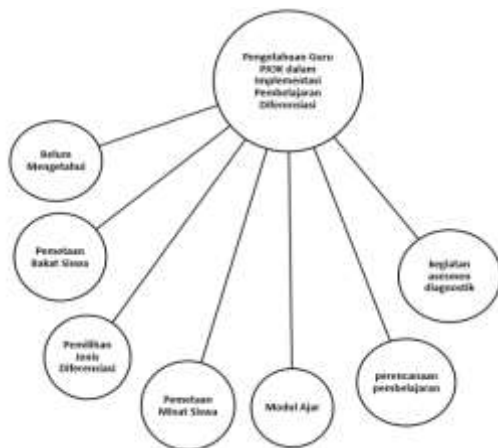
obstacles. Schools that experience problems in implementing are SMAN 1 and SMAN 5.

Effective solutions that can be implemented to overcome these obstacles include teacher participation in trainings and workshops that focus on understanding and implementing differentiation strategies, as well as increased collaboration between teachers and other schools that have successfully implemented differentiation. This aims to expand experience and practice in the implementation of differentiation learning in all SMA Negeri Kota Pematangsiantar in accordance with the principles of the Independent Learning Curriculum.

**Analysis of PJOK Teacher Knowledge and Implementation in the Implementation of Differentiation Learning at SMA Negeri Kota Pematangsiantar**

**Knowledge Analysis of PJOK Teachers in the Implementation of Differentiation Learning**

The implementation of differentiation learning can be carried out when teachers already have knowledge about differentiation learning.



**Gambar 2. Analysis of PJOK Teacher Knowledge in the Implementation of Differentiation Learning**

Based on the results of research through interviews with teachers and observations related to knowledge of the implementation of differentiation learning, it was found that PJOK

teachers in 4 schools of SMA Negeri Kota Pematangsiantar already had knowledge related to differentiation learning while PJOK teachers from 2 other schools did not have knowledge about differentiation learning.

Understanding differentiated learning will encourage teacher collaboration and focus more on professional development in the school environment to improve teaching for learners with a variety of learning needs (Porta & Todd, 2022).

Teacher knowledge in differentiation learning will affect outcomes for learners, the role of the teacher is one of the most important factors for the successful implementation of differentiation.

The knowledge of PJOK teachers at SMA Negeri Kota Pematangsiantar related to the differentiation learning approach is still not complete, but teachers through MGMP activities have conducted differentiation learning workshops. This aims to increase knowledge which is expected to increase knowledge of this matter, the implementation of differentiation learning implementation can be better.

**Analysis of PJOK Teacher Implementation in Differentiation Learning Implementation**

The implementation of differentiation learning implementation consists of several steps that must be addressed. Based on the results of research through observation, interviews with teachers and also documentation related to the



**Gambar 3. Analysis of the Implementation of Differentiation Learning Implementation**

implementation of differentiation learning that has been applied in the implementation carried out by PJOK teachers at SMA Negeri Kota Pematangsiantar. These steps consist of diagnostic assessment, lesson planning, learning facilitators and motivators, content differentiation, process differentiation, product differentiation and evaluation.

The implementation of differentiation learning at SMA Negeri Kota Pematangsiantar, especially in class X PJOK subjects, has led to efforts to meet the National Education Standards in accordance with PP No. 57 of 2021.

In the process before implementing differentiation instruction in learning, teachers need to identify the learning needs of students, determine learning outcomes, and then decide which differentiation strategy is best for their students (Pozas et al., 2023)

Diagnostic assessment is the first thing that must be done to map student abilities in terms of cognitive and non-cognitive that have a good effect on differentiation learning (Yani et al., 2023). Cognitive diagnostic assessment refers to mapping students' strengths and weaknesses in terms of knowledge, while non-cognitive refers to mapping students' strengths and weaknesses in motor and personal skills of each student (Supriyadi et al., 2022).

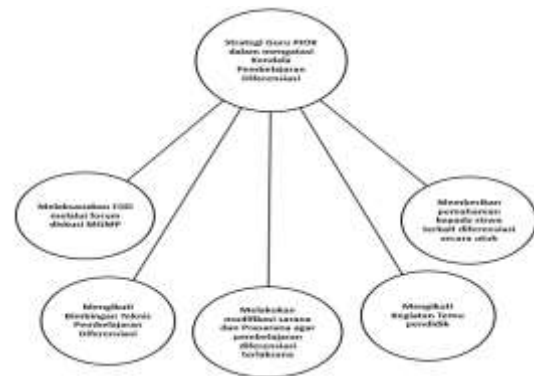
Through diagnostic assessment, teachers have tried to understand students' interests and learning needs (Susanti, 2023). Differentiation learning consists of 3 namely content differentiation, process differentiation and product differentiation (Derici & Susanti, 2023). In choosing the differentiation needed by students based on their interests and learning needs, PJOK teachers at SMA Negeri Kota Pematangsiantar are more inclined to choose process differentiation.

After the mapping of students' interests and talents is known, each teacher is obliged to compile a complete and systematic lesson plan or teaching module so that the implementation of learning activities takes place effectively, fun, inspirational, and motivates students to actively participate in accordance with the talents,

interests and physical and psychological development of students (Yuniartik et al., 2017).

Differentiating between process and product content are the three strategies that teachers can choose in the implementation of differentiation learning. The differentiation of the process preferred by PJOK teachers at SMA Negeri Kota Pematangsiantar can be done by creating study groups tailored to students' interests and abilities based on the results of the assessment. Through study groups, students are able to improve learning performance (Haelermans, 2022)

The lack of teacher understanding about differentiation and infrastructure that supports the implementation of content and product differentiation is a strong reason (Putra, 2023). However, the use of content and product differentiation is still applied in some learning topics. Departing from this obstacle, what is needed by PJOK teachers is to increase understanding of the final product of learning and



**Gambar 4. Analysis of PJOK Teacher Strategies in Overcoming Differentiation Learning Constraints**

the use of various material sources. This is expected to enable teachers to apply all learning differentiation effectively, making room for student initiative, creativity, and independence according to their talents, interests, and physical and psychological development.

### **Analysis of PJOK Teacher Strategy of SMA Negeri Kota Pematangsiantar in Overcoming Obstacles in the Implementation of Differentiation Learning**

The results of research conducted by interviewing teachers and principals found that there were several obstacles in the implementation of differentiation learning, but teachers have implemented several strategies to reduce these obstacles.

The obstacle found is the lack of technical guidance related to the independent curriculum where differentiation is part of the achievement of the curriculum. Furthermore, there are still several shortcomings related to supporting infrastructure in implementing this differentiation learning, both infrastructure in the classroom and practical infrastructure in the field.

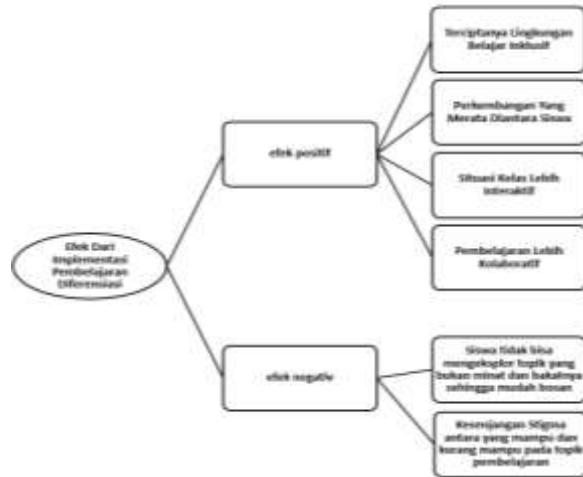
However, PJOK teachers from the 4 schools at SMA Negeri Kota Pematangsiantar are still trying to implement strategies to overcome obstacles that arise during the process of implementing differentiation learning, such as implementing FGDs through MGMP discussion forums, following technical guidance and training held by the school (Ningrum & Pujiastuti, 2023).

Participating in the city-level educator meeting is a forum where teachers from various schools gather to learn from each other and improve their abilities through various trainings aimed at acquiring special skills in the field of Education (Aditama et al., 2023). Teachers also make modifications so that differentiation learning can be carried out and also provide understanding to students regarding differentiation as a whole.

Learning facilities and infrastructure are factors that cannot be ignored their existence and role as supporting factors for the success of learning activities in schools (Jannah & Sontani, 2018). Learning facilities and infrastructure need to be managed so that the existing learning process can be used optimally (Akomolafe & Adesua, 2016). Standardization of sports infrastructure in each high school aims to increase achievement through the learning process in students (Irawan & Prasetyo, 2019) So it is hoped that differentiation learning that has been designed according to the interests and abilities of students can be optimal with the support of adequate facilities and infrastructure.

### Analysis of the Effects of the Implementation of Differentiation Learning on PJOK Subjects at SMA Negeri Kota Pematangsiantar

Based on the results of research through teacher interviews and student interviews at SMA Negeri Kota Pematangsiantar about the implementation of differentiation learning, it was



Gambar 5. Analysis of the effects of differentiation learning implementation

found that differentiation learning has positive and negative effects.

The positive effects conveyed by teachers include, more interactive classroom situations, more collaborative learning and support success and equitable development among students (Yengkopiong, 2023). The negative effects associated with this learning such as students get bored more easily when learning and students who do not get enough support can fall behind in learning.

The implementation of differentiated learning in Physical Education and Health (PJOK) subjects at SMA Negeri Kota Pematangsiantar resulted in diverse impacts observed by teachers and felt by students. Teachers reported increased classroom interactivity and student motivation to actively participate, as well as collaborative learning that increased whole-student engagement (Konstantinou-Katzi et al., 2013).

The implementation of differentiation learning also provides assistance to students to develop their potential (Mulyawati et al., 2022).

Differentiated learning creates an inclusive environment where every student feels valued and supported, which in turn increases student motivation and confidence in learning (Smale-Jacobse et al., 2019).

However, some students report a sense of boredom due to the lack of variety in learning and the mismatch between the learning topic and their personal interests. To reduce the negative effects felt by students, teachers are expected to develop varied teaching methods, flexibility in curriculum, and appropriate support for students in need (Matthew, 2013). Through differentiated learning can provide greater benefits for all students, create rich learning experiences, and support equitable academic achievement (Susila & Aryasuari, 2023).

In this study, the researcher found that in PJOK learning in State High Schools in Pematangsiantar, the teachers preferred the differentiated learning process, but the content differentiation approach and product differentiation approach were still being carried out. The advantage of this research compared to previous research such as the one by Fauzia & Hadikusuma Ramadan, (2023) entitled Implementation of Differentiated Learning in the Merdeka Curriculum only discussed the process of implementing differentiated learning without investigated which differentiation approach was preferred by the teachers to use in the learning process.

## CONCLUSION

The conclusion of the study shows that the implementation of differentiation learning in the Merdeka Learning Curriculum in the subjects of Physical Education Sports Health in grade X of SMA Negeri Kota Pematangsiantar has been implemented, although several other high schools still adopt alternative approaches such as problem-based, project, and contextual approaches. The majority of PJOK teachers already understand the concept of differentiation learning approach, which is reflected in the implementation of appropriate stages such as diagnostic assessment, lesson planning, choice of content, process, and product differentiation, and evaluation. Both teachers and students report a positive impact of implementing differentiated learning, despite complaints about student

boredom in some learning topics due to a lack of variety in teaching methods.

This research is limited to the process of implementing differentiation learning in PJOK subject for grade 10 in State High Schools in Pematangsiantar. Future research is expected to study further in the provincial level or to compare the results of this research with the implementation of differentiation learning in other cities.

## REFERENCE

- Aditama, M. G., Risqi, S., Bagiya, B., Winayarti, E., & Ropiah, O. (2023). Pengembangan Kompetensi Guru Dalam Proses Pembelajaran. *Jurnal Pengabdian Masyarakat Mandira Cendikia*, 2(8), 16–23.
- Akomolafe, C. O., & Adesua, V. O. (2016). The Impact of Physical Facilities on Students' Level of Motivation and Academic Performance in Senior Secondary Schools in South West Nigeri. *Journal of Education and Practice*, 7(4), 38–42. [www.iiste.org](http://www.iiste.org)
- Alrabi, M. S. (2023). Implementasi Pembelajaran Berdiferensiasi Dalam Kurikulum Merdeka Belajar Pada Mata Pelajaran Pendidikan Agama Islam Di Yayasan Pendidikan Cendana Riau Distrik Duri.
- Derici, R. M., & Susanti, R. (2023). Analisis Gaya Belajar Peserta Didik Guna Menerapkan Pembelajaran Berdiferensiasi Di Kelas X SMA Negeri 10 Palembang. *Research and Development Journal of Education*, 9(1), 414. <https://doi.org/10.30998/rdje.v9i1.16903>
- Fauzia, R., & Hadikusuma Ramadan, Z. (2023). Implementasi Pembelajaran Berdiferensiasi Dalam Kurikulum Merdeka. *Jurnal Educatio FKIP UNMA*, 9(3), 1608–1617. <https://doi.org/10.31949/educatio.v9i3.5323>
- Haelermans, C. (2022). The Effects of Group differentiation by students' learning strategies. *Instructional Science*, 50(2), 223–250. <https://doi.org/10.1007/s11251-021-09575-0>
- Heidorn, B., & Mosier, B. (2019). Differentiation for Student Learning in Physical Education: Column Editor: Anthony Parish. *Strategies*, 32(4), 40–44. <https://doi.org/10.1080/08924562.2019.1608737>

- Irawan, F. A., & Prasetyo, F. E. (2019). Sport Infrastructure for Physical Education in Senior High School. *International Journal of Multicultural and Multireligious Understanding*, 6(1), 66. <https://doi.org/10.18415/ijmmu.v6i1.491>
- Jannah, S. N., & Sontani, U. T. (2018). Sarana Dan Prasarana Pembelajaran Sebagai Faktor Determinan Terhadap Motivasi Belajar Siswa. *Jurnal Pendidikan Manajemen Perkantoran*, 3(1), 210. <https://doi.org/10.17509/jpm.v3i1.9457>
- Konstantinou-Katzi, P., Tsolaki, E., Meletiouv-Mavrotheris, M., & Koutselini, M. (2013). Differentiation of teaching and learning mathematics: An action research study in tertiary education. *International Journal of Mathematical Education in Science and Technology*, 44(3), 332–349. <https://doi.org/10.1080/0020739X.2012.714491>
- Matthew, D. (2013). The Effects of Differentiated Instruction on the Interests of Talented Students in High School Science Classes. *Utrecht University*, 92(4), 1–47. <https://doi.org/10.1111/j.1949-8594.1992.tb12168.x>
- Mulbar, U., Bernard, B., & Pesona, R. R. (2018). Penerapan Model Pembelajaran Berbasis Masalah dengan Strategi Pembelajaran Diferensiasi pada Peserta Didik Kelas VIII. *Issues in Mathematics Education (IMED)*, 1(1), 1–6.
- Mulyawati, Y., Zulela, M., & Edwita, E. (2022). Differentiation Learning to Improve Students Potential in Elementary School. *Pedagonal: Jurnal Ilmiah Pendidikan*, 6(1), 68–78. <https://doi.org/10.55215/pedagonal.v6i1.4485>
- Ningrum, R. C., & Pujiastuti, H. (2023). Analisis Permasalahan Guru Dalam Penerapan Kurikulum Merdeka Di Sekolah Dasar. *Jurnal Ilmiah Pendidikan Dasar*, 08, 10.
- Porta, T., & Todd, N. (2022). Differentiated instruction within senior secondary curriculum frameworks: A small-scale study of teacher views from an independent South Australian school. *Curriculum Journal*, 33(4), 570–586. <https://doi.org/10.1002/curj.157>
- Pozas, M., Letzel-Alt, V., & Schwab, S. (2023). The effects of differentiated instruction on teachers' stress and job satisfaction. *Teaching and Teacher Education*, 122, 103962. <https://doi.org/10.1016/j.tate.2022.103962>
- Putra, G. S. (2023). The Misconception in Differentiated Instruction Practices: A Literature Review. *Open Journal of Social Sciences*, 11(01), 305–315. <https://doi.org/10.4236/jss.2023.111022>
- Smale-Jacobse, A. E., Meijer, A., Helms-Lorenz, M., & Maulana, R. (2019). Differentiated Instruction in Secondary Education: A Systematic Review of Research Evidence. *Frontiers in Psychology*, 10(November). <https://doi.org/10.3389/fpsyg.2019.02366>
- Supriyadi, S., Lia, R. M., Rusilowati, A., Isnaeni, W., Susilaningsih, E., & Suraji, S. (2022). Penyusunan Instrumen Asesmen Diagnostik untuk Persiapan Kurikulum Merdeka. *Journal of Community Empowerment*, 2(2), 67–73. <https://doi.org/10.15294/jce.v2i2.61886>
- Susanti, E. (2023). Optimalisasi Pembelajaran Berdiferensiasi Konten dan Proses pada Perencanaan Pembelajaran PPKn. *Educatio*, 18(1), 143–153. <https://doi.org/10.29408/edc.v18i1.14796>
- Susila, I. K. D., & Aryasuari, I. G. A. I. (2023). Penerapan Pembelajaran Berdiferensiasi Pada Pengajaran ESP Dalam Kemerdekaan Belajar. *Widya Balina*, 8(1), 585–592. <https://doi.org/10.53958/wb.v7i1.233>
- Tomlinson, C. A. (2017). The Rationale for Differentiating Instruction in Academically Diverse Classrooms. *DIFFERENTIATE INSTRUCTION: In Academically Diverse Classrooms*, 12–18. <http://www.ascd.org/ASCD/pdf/siteASCD/publications/books/HowtoDifferentiateInstructioninAcademicallyDiverseClassrooms-3rdEd.pdf>
- Yani, D., Muhanal, S., & Mashfufah, A. (2023). Implementasi Asesmen Diagnostik Untuk Menentukan Profil Gaya Belajar Siswa Dalam Pembelajaran Diferensiasi Di Sekolah Dasar. *Jurnal Inovasi Dan Teknologi Pendidikan JURINOTEP*, 1(3), 241–360. <https://doi.org/10.46306/jurinotep.v1i3>
- Yengkopiong, J. P. (2023). Differentiation in the Classroom: A Pedagogical Approach for a



Successful Engagement of Students in Secondary Schools. *East African Journal of Education Studies*, 6(2), 9–24. <https://doi.org/10.37284/eajes.6.2.1213>

Yuniartik, H., Hidayah, T., & Nasuka. (2017). Evaluasi Pembelajaran Pendidikan Jasmani Olahraga dan Kesehatan di SLB C se-Kota Yogyakarta. *Journal of Physical Education and Sports*, 6(2), 148–156. <https://journal.unnes.ac.id/sju/index.php/jpes/article/view/17389>