https://www.jurnal-umbuton.ac.id/index.php/Pencerah
https://doi.org/10.35326/pencerah.v11i1.6970

Open Access

SANG PENCERAH
Jurnal Ilmiah Universitas Muhammadiyah Buton

E-ISSN: 2655-2906, P-ISSN: 2460-5697 Volume 11, No 1, Year 2025

The Influence of Teaching at The Right Level (Tarl) Learning Strategy on Physical Education Learning Outcomes: A Mixed Method Study in Vocational High Schools

Ardian Yoga Pangestu[1]*, Dani Slamet Pratama[2]

[1,2]Pascasarjana UPGRIS, Universitas PGRI Semarang, Indonesia
*Korespondensi: ardianyoga36@gmail.com

Article Info

Received 06 January 2025

Approved 30 January 2025

Published 12 February 2025

Keywords: Learning Strategy, Learning Outcomes, Physical Education, Mixed Method

Abstrak

TaRL is a learning approach designed to adjust teaching materials to students' abilities, aimed at addressing learning outcome disparities caused by differences in academic and physical capabilities. This study seeks to examine the influence of the TaRL-based learning strategy on learning outcomes in Physical Education, Sports, and Health (PJOK) among secondary school students in Indonesia, where this approach is rarely implemented. The research employed a one-group pretest-posttest design involving 30 tenth-grade students selected through purposive sampling. The research methodology was Mixed-Method. Quantitative data were collected through cognitive and psychomotor tests, complemented by qualitative data from interviews and observations. Research findings demonstrated a significant improvement in student learning outcomes, with the average cognitive score increasing from 82.44 to 93.33 and the psychomotor score rising from 1.80 to 3.13. The TaRL approach facilitates inclusive and meaningful learning experiences, enhancing student motivation and engagement through personalized learning tailored to individual needs. These findings indicate that TaRL is effective in addressing learning gaps and promoting student-centered learning in Physical Education. The study recommends implementing TaRL as an alternative strategy to improve educational practices in Indonesia by encouraging a more inclusive and differentiated curriculum to meet diverse student requirements.

1. Introduction

The quality of education in Indonesia has become a central issue in various academic studies, particularly concerning the learning outcome disparities that frequently occur (Berbasis et al., 2024). These disparities are not only caused by access to education, but also by differences in academic abilities within the

classroom (Santoso et al., 2024). These academic ability differences create challenges for students at lower levels, who are often left behind in understanding the taught material, while more capable students find the content too easy (Ridzky Aryandi, 2024). This situation is not only prevalent in academic contexts but also in Physical Education. Students with lower motor skills often struggle to master the movements or techniques being taught, while students with higher motor skills feel less motivated because the material is perceived as not sufficiently challenging (Rahman, 2023).

To address the issue of student learning outcome disparities, the Teaching at the Right Level (TaRL) learning approach emerges as a promising alternative (Mawaddah et al., 2024). TaRL is a method designed to help students learn according to their actual abilities, rather than based on a uniform curriculum standard for all students (Banerjee et al., 2016). TaRL is an approach that is responsive to individual needs, providing flexibility in the teaching-learning process, so that students are not forced to follow a learning pace that may be too fast or too slow for them (Amoah et al., 2022). The TaRL approach works by first assessing students' abilities and then placing them in learning groups appropriate to their level of understanding, regardless of age or grade (Rahman, 2023). This strategy enables more targeted teaching, where the material taught can be more relevant and challenging for each student. Moreover, teachers can focus more on providing guidance appropriate to the needs of each group, ensuring that no student is left behind or feels understimulated (Ananda, I.I. Ulfa, J.F., & Yorianda, 2024).

In India and several African countries, research on TaRL has shown significant results in improving students' literacy and numeracy skills (Amoah et al., 2022). The TaRL model here emphasizes grouping students based on their skill levels rather than their age or academic grade, which ultimately makes learning more effective and responsive to individual needs (Aliya et al., 2024). However, in the context of education in Indonesia, particularly in physical education, there is very little research that delves into the effectiveness of this approach. Studies in Indonesia tend to focus more on competency-based learning models, the national curriculum, and project-based learning, while flexible approaches such as TaRL in physical education remain largely unexplored (Ningsyih et al., 2022). In addition, this strategy is designed to accommodate diverse student characteristics, including those with varying physical and academic abilities (Banerjee et al., 2021). Through the implementation of a responsive and comprehensive strategy, it is expected that students' learning outcomes in Physical Education will improve significantly, encompassing aspects of knowledge, skills, and attitudes toward sports and health.

TaRL is a highly flexible and adaptive method, enabling teachers to design learning experiences tailored to the needs of each student (Pasien & Studi, 2024). This approach avoids the one-size-fits-all method, or a single method considered suitable for all students, which is typically applied in traditional education systems (Wyss et al., 2023). Such traditional approaches tend to fail in meeting the needs of students across different ability levels; high-achieving students may feel insufficiently challenged, while lower-achieving students struggle to keep up with the lessons (Banerjee et al., 2021). The flexibility of the TaRL approach means that students are grouped based on their skill levels rather than their age or grade level, and this is primarily applied to subjects like literacy and numeracy (Wirasti, 2024).

In literacy, for instance, TaRL supports struggling readers by providing simpler materials suited to their abilities, while more advanced students are given complex and challenging texts (Wardhani, 2016). With this approach, each group of students has the opportunity to learn at their own level, making the learning process more meaningful and efficient (Afandi et al., 2024). TaRL also emphasizes regular assessments to track each student's progress, ensuring that every student remains on track according to their developmental level (Wulandari et al., 2024). Teachers consistently measure students' progress through simple yet thorough tests, allowing them to identify areas that need improvement or further development (Uno & Umar, 2023). This approach allows students to progress at a pace that matches their abilities, rather than being pressured by a rigid curriculum (Gregory et al., 2021).

One gap that has not been widely addressed is how TaRL can be adapted to the characteristics of students in physical skills learning (Zahra et al., 2024). Existing research has not specifically examined how students' motor skills differences affect the effectiveness of TaRL in the context of Physical Education (PJOK). Studies linking TaRL with student characteristics in physical education learning in Indonesia are currently very limited. Previous research has mainly focused on academic aspects, such as literacy and numeracy, and has paid less attention to how this strategy can be applied to improve physical learning outcomes, including motor skills and attitudes toward sports (Mulyatiningsih, 2015). In addition, research on the implementation of TaRL in schools in rural areas is also scarce, even though the different geographic and socio-economic conditions can influence the application of this strategy (Ningsyih et al., 2022).

2. Methods

This study uses a mixed-method approach with an explanatory sequential design strategy, combining quantitative and qualitative methods in a sequential manner. In the first phase, quantitative data is collected and analyzed, followed by the collection and analysis of qualitative data in the second phase, which is based on the initial quantitative results. The research is conducted at SMK Negeri 3 Semarang over one semester in the 2024/2025 academic year.

The research subjects use a One Group Pretest-Posttest Design, where the study is conducted on the same class to observe the effect of the treatment provided. The population in this study consists of all 180 students from class X at SMK Negeri 3 Semarang. A sample is selected using purposive sampling by choosing one class of 30 students. This class will undergo a pretest, followed by a treatment in the form of TaRL-based learning, and will conclude with a posttest to measure the changes that occur. In the qualitative phase, informants are selected from the same class, consisting of 6 students (2 high-achieving students, 2 medium-achieving students, and 2 low-achieving students). Quantitative data is collected through learning outcome tests (pretest and posttest), which include written tests for the cognitive aspect and skill tests for the psychomotor aspect, student response questionnaires regarding TaRL-based learning, and observation sheets for the implementation of the learning process. Meanwhile, qualitative data is collected through in-depth interviews with students and teachers.

The research instruments used include quantitative instruments such as pretest and posttest questions, which are identical to measure changes in learning

outcomes before and after the treatment, structured observation sheets, and questionnaires with a Likert scale. Meanwhile, the qualitative instruments consist of semi-structured interview guidelines.

3. Findings and Discussions

3.1 Findings

This study lasts for six weeks and involves 20 meeting days, including one pretest, 18 treatment sessions, and one posttest. The number of respondents is 30 students. The table below presents the descriptive statistical data from this study:

Table 1. Descriptive Data

Description	TARL Eksperimen Group		TARL Experimental Group	
	Kognitif		Psikomotorik	
	Pretest	*Posttest*	*Pretest*	*Posttest*
N	30	30	30	30
Mean	82.44	93.33	1.8000	3.1333
Median	80.00	93.33	2.0000	3.0000
Mode	80.00	93.33	2.00	3.00
SD	5.93279	5.53637	.66436	.73030
Minimum	73.33	80.00	1.00	2.00
Maximum	93.33	100.00	3.00	4.00
Sum	2473.33	2800.00	54.00	94.00

Table 1 shows descriptive data from the TARL experimental group in cognitive and psychomotor aspects before (pretest) and after (posttest) the intervention. In the cognitive aspect, there was an increase in the mean score from 82.44 in the pretest to 93.33 in the posttest, with the median and mode also increasing from 80.00 to 93.33. The standard deviation decreased slightly from 5.93279 to 5.53637, indicating a more consistent distribution of scores after the intervention. The range of cognitive scores also increased, with a minimum score from 73.33 to 80.00 and a maximum score from 93.33 to 100.00. In the psychomotor aspect, the mean score increased from 1.8000 to 3.1333, with the median and mode also increasing from 2.0000 to 3.0000. The standard deviation increased slightly from 0.66436 to 0.73030, indicating a slightly larger variation in posttest results. The range of psychomotor scores also increased, with a minimum score from 1.00 to 2.00 and a maximum score from 3.00 to 4.00. Overall, these results indicate a significant improvement in cognitive and psychomotor aspects after the TARL intervention.

Table 2. Normality Test

Group	*p-value*	Sig.	Description
Pretest Kognitif	0.074	0.05	Normal
Posttest Kognitif	0.654	0.05	Normal
Pretest Psikomotorik	0.124	0.05	Normal
Posttest Psikomtorik	0.237	0.05	Normal

Table 2 shows the results of the normality test for the pretest and posttest data on the cognitive and psychomotor aspects in the TARL experimental group. Using a significance value (Sig.) of 0.05 as the reference limit, all p-values

obtained were greater than 0.05, namely 0.074 for the cognitive pretest, 0.654 for the cognitive posttest, 0.124 for the psychomotor pretest, and 0.237 for the psychomotor posttest. This indicates that the data in the four categories are normally distributed. Thus, the assumption of normality is met, which allows the use of parametric statistical tests for further analysis.

Table 3. Homogeneity Tes

Group	df1	df2	Sig.	Description
Pretest-Posttest Kognitif	1	58	0.135	Homogenous
Pretest-Posttest Psikomotorik	1	58	0.676	Homogenous

Table 3 shows the results of the homogeneity test for the pretest and posttest data on the cognitive and psychomotor aspects in the TARL experimental group. Using the degrees of freedom (df1 = 1, df2 = 58) and significance value (Sig.), the test results show that the p-value for the cognitive aspect is 0.135 and for the psychomotor aspect is 0.676. Since both values are greater than 0.05, it can be concluded that the variance between the pretest and posttest on both aspects is homogeneous. Thus, the assumption of homogeneity is met, which supports the use of parametric statistical tests in further analysis.

Tabel 4. Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Pretest Kognitif – Posttest Kognitif	-1.08889E1	6.42870	1.17372	-13.28941	-8.48837	-9.277	29	.000
Pair 2	Pretest Psikomotorik – Posttest Psikomotorik	-1.33333	.66089	.12066	-1.58012	-1.08655	-11.050	29	.000

Table 4 shows the results of the Paired Samples Test comparing the pretest and posttest scores on the cognitive and psychomotor aspects in the TARL experimental group. In the cognitive aspect, there was an average difference of -10.89 with a standard deviation of 6.43 and a standard error mean of 1.17. The 95% confidence interval showed a range of differences between -13.29 and -8.49. The t-value obtained was -9.277 with a degree of freedom (df) of 29 and a significance value (Sig. 2-tailed) of 0.000, indicating a very significant difference between the cognitive pretest and posttest. In the psychomotor aspect, the average difference was -1.33 with a standard deviation of 0.66 and a standard error mean of 0.12. The 95% confidence interval showed a range of -1.58 to -1.09. The t-value of -11.050 with df 29 and a significance value of 0.000 also shows a very significant difference between the pretest and posttest psychomotor. Thus, these results indicate that the TARL intervention has a significant impact on improving participants' cognitive and psychomotor abilities.

The quantitative findings must be explained and expanded, including the use of qualitative data from the following informant interviews:

Understanding of the TaRL Strategy

The majority of students understand that TaRL aims to tailor learning to individual abilities, rather than solely based on formal class levels. This is reflected in the statement by Pandya Hastu Kinawang, who expressed: *"Physical Education learning with the TaRL strategy is very effective because it is able to adjust the material to each student's ability, allowing all students to learn more optimally."*

In line with this opinion, Muhammad Abid also stated: *"This approach is flexible, allowing teachers to modify methods according to students' progress, providing more room for students to develop."*

This approach is considered helpful in creating an inclusive learning environment, providing equal opportunities for all students to understand the material.

Meaningful learning experience

Students reported that the learning experience with the TaRL strategy was more relevant and comfortable because groups were formed based on skill levels. Positive feedback was shared by students regarding the implementation of TaRL in Physical Education, as expressed by Prabu Satria Piningit, who stated: *"I really enjoy the traditional games included as part of the physical exercises. It's not only fun but also challenging."*

In line with this, Nella Avisa Faletta also expressed: *"I enjoy the warm-up and cool-down sessions that are tailored because they give me the space to focus on developing flexibility and endurance without feeling rushed."*

Improvement in learning outcomes

The TaRL strategy helps students reinforce their understanding of basic material before moving on to more complex levels, which directly impacts the improvement of learning outcomes. This is evidenced by the statement of Elvira Zahara Okta Ramadani, who expressed: *"My grades improved because I was able to follow the lessons without feeling left behind, and this strategy allowed me to gradually address my weaknesses."*

In line with this, Alviola Az Zahra Mawardi also stated: *"This approach makes it easier for me to master skills that were previously hard to understand, allowing my understanding to become deeper."*

Some students also noted that learning with TaRL made their learning process more structured, helping them monitor their progress gradually.

Motivation and Interest

The TaRL strategy increases student motivation and interest in Physical Education, especially because the learning becomes more personalized and tangible results are visible. This is reflected in the statement by Pandya Hastu Kinawang, who expressed: *"I feel more motivated because the TaRL strategy makes learning more personal and suited to my abilities, which makes me feel capable of achieving my learning goals."*

In line with this opinion, Nella Avisa Faletta also stated: *"After using this strategy, I feel more interested in actively participating in sports activities because I know I will receive support tailored to my needs."*

3.2 Discussions

This study shows that the Teaching at the Right Level (TaRL) learning model significantly improves student learning outcomes, as evidenced by the increase in the average pretest to posttest scores, from 82.44 to 93.33 and from 1.80 to 3.13. The statistical test results support these findings, with a normal data distribution, fulfilled homogeneity, and significant differences ($p = 0.000$). Additionally, this approach creates a meaningful, relevant, and flexible learning experience that tailors the instruction to students' individual needs, thereby increasing their motivation and interest in learning. This finding is in line with previous research, such as Maisaroh & Untari (2024) This finding aligns with previous studies that emphasize how individualized learning can bridge understanding gaps, improve practical skills, and foster active student participation. Furthermore, intrinsic motivation theory supports the idea that relevant learning that meets individual needs can significantly enhance student engagement (Widayanthi et al., 2024). The TaRL approach is not only effective in improving learning outcomes but also in creating an inclusive learning environment, allowing students with lower abilities to catch up without feeling pressured (R. Lestari et al., 2021).

Pedagogically, this strategy enables teachers to adapt the learning process according to each student's individual ability level (D. I. Lestari & Kurnia, 2023), This aligns with the principles of differentiated instruction in physical education (Efendi et al., 2023). The implementation of TaRL facilitates the enhancement of learning effectiveness through grouping students based on ability, optimizing learning time, and making it easier to evaluate student progress (Lina & Rakhmawati, 2024).

This study reinforces the evidence that a systematic and adaptive teaching approach plays a crucial role in bridging learning gaps while improving students' academic achievement (Pritchett & Beatty, 2015). The TaRL approach, which accommodates students' actual learning levels and provides focused instruction on fundamental skills, effectively addresses learning issues at their core, allowing students to build a strong foundation for academic achievement (Ismail et al., 2024).

However, the implementation of TaRL in Indonesia faces several challenges that need to be carefully considered. The complexity of nationwide implementation requires significant resource support and meticulous logistical management, particularly in areas with limited facilities and large numbers of students in a single class (Pane et al., 2015). In addition, maintaining consistency in quality and accuracy in the implementation of TaRL across diverse situations and conditions presents a unique challenge that must be addressed (Tomlinson, 2017).

The research on the influence of the Teaching at the Right Level (TaRL) strategy on learning outcomes in Physical Education at Vocational High Schools provides several significant contributions to the field of education. The primary contribution lies in the application of TaRL in a unique context, namely in Physical Education at Vocational High Schools, which differs from its usual application in academic subjects. The use of a mixed-methods methodology offers a more

comprehensive understanding of TaRL's effectiveness, while the adaptation of TaRL to Physical Education demonstrates how these principles can be applied in practice-based learning.

This study also provides practical implications, offering empirical evidence and guidance for Physical Education teachers in implementing TaRL. Furthermore, it contributes to the development of knowledge by enriching the literature on Physical Education learning strategies at the vocational school level and fills the research gap concerning the application of TaRL in vocational education contexts and practical subjects.

4. Conclusion

The Teaching at the Right Level (TaRL) approach has proven effective in improving student learning outcomes in both cognitive and psychomotor domains within Physical Education (PJOK) lessons, as evidenced by the significant improvement in pretest to posttest scores. This strategy creates a more inclusive and meaningful learning experience by grouping students according to their abilities, allowing each student to learn at their own pace and according to their individual needs. In addition to enhancing students' understanding and skills, TaRL also fosters motivation and interest in learning by providing relevant and personalized instruction. This study demonstrates that the implementation of TaRL in the context of physical education in Indonesia can serve as a solution to bridge learning gaps.

References

Afandi, R. A., Ningtyas, N. S., Susiyawati, E., & Pratiwi, P. (2024). The effectiveness of differentiated learning using the TaRL (teaching at the right level) approach for improving learning interest and learning outcome. *Jurnal Pijar Mipa*, *19*(4), 657–662.

Aliya, N., Amin, S. M., Muawanah, M., Indrati, J., & Nafi'ah, U. (2024). Penerapan Pendekatan TaRL Berbantuan Media Wordwall Dalam Meningkatkan Hasil Belajar Peserta Didik Kelas II-C SDN Margorejo VI. *Jurnal Ilmiah Profesi Pendidikan*, *9*(2), 1094–1103. https://doi.org/10.29303/jipp.v9i2.2203

Amoah, E., Mwangangi, M., Rastogi, T., Snow, E., Werner, L., & Gershenson, J. (2022). Technology Applications in Teaching at the Right Level Programs. *2022 IEEE Global Humanitarian Technology Conference, GHTC 2022*, 285–291. https://doi.org/10.1109/GHTC55712.2022.9910613

Ananda, I.I. Ulfa, J.F., & Yorianda, A. (2024). Teaching at the Right Level (TaRL) as a Potential Solution for Improving Middle School Education: A Systematic Review of the Literature International Journal of Academic Pedagogical Research (IJAPR) Teaching at the Right Level (TaRL) as a Potential Soluti. *International Journal of Academic Pedagogical Research*, *8*(4), 1–12. https://doi.org/10.5281/zenodo.11240915

Banerjee, A., Banerji, R., Berry, J., Duflo, E., Kannan, H., Mukherji, S., Shotland, M., & Walton, M. (2016). *Mainstreaming an effective intervention: Evidence from randomized evaluations of "Teaching at the Right Level" in India*. National Bureau of Economic Research.

Banerjee, A., Banerji, R., Berry, J., Duflo, E., Kannan, H., Mukherji, S., Shotland,

M., & Walton, M. (2021). Title Mainstreaming An Effective Intervention: Evidence From Randomized Evaluations Of “Teaching At The Right Level” In Indi. *Angewandte Chemie International Edition, 6(11), 951–952.*, 2013–2015.

Berbasis, T., Pada, G., Kelas, S., & Negeri, S. D. (2024). *3 1,2,3*. *09*(September), 295–310.

Efendi, P. M., Muhtar, T., & Herlambang, Y. T. (2023). Relevansi Kurikulum Merdeka Dengan Konsepsi Ki Hadjar Dewantara: Studi Kritis Dalam Perspektif Filosofis-Pedagogis. *Jurnal Elementaria Edukasia*, *6*(2), 548–561.

Gregory, L., Thomure, H. T., Kazem, A., Boni, A., Elsayed, M. A. A., & Taibah, N. (2021). Advancing Arabic language teaching and learning. *World Bank*, *10*, 35917.

Ismail, I. A., Qadhafi, R., Huza, O., & Yorinda, Y. (2024). Teaching at the right level (TaRL) as a potential solution for improving middle school education: A systematic review of the literature. *International Journal of Academic Pedagogical Research (IJAPR)*, *8*(4), 126–138.

Lestari, D. I., & Kurnia, H. (2023). Implementasi model pembelajaran inovatif untuk meningkatkan kompetensi profesional guru di era digital. *JPG: Jurnal Pendidikan Guru*, *4*(3), 205–222.

Lestari, R., Sari, M. P., & Syah, A. (2021). Pentingnya Kreativitas Guru dalam Upaya Peningkatan Mutu Pendidikan. *Peran Guru Dalam Membentuk Karakter Siswa (Antologi Esai Mahasiswa Pendidikan Guru Sekolah Dasar)*, *120*.

Lina, Y. P., & Rakhmawati, A. (2024). Implementasi Pendekatan Teaching At The Right Level (Tarl) Melalui Pembelajaran Berdiferensiasi Pada Materi Teks Biografi Kelas X Di Sma N 2 Surakarta. *Literasi: Jurnal Bahasa Dan Sastra Indonesia Serta Pembelajarannya*, *8*(2), 300–309.

Maisaroh, A. A., & Untari, S. (2024). Transformasi Pendidikan Karakter Melalui Kebijakan Pemerintah Di Indonesia Menuju Generasi Emas 2045. *Jurnal Kebijakan Pemerintahan*, 18–30.

Mawaddah, P. R., Wicaksono, V. D., Firnanda, Z. I., & Surabaya, U. N. (2024). *JKIP : Jurnal Kajian Ilmu Pendidikan Implementation Of Teaching At The Right Level Based PBL To Improve Students ’ Cognitive Learning Outcomes In Ecosystem Material For Class 5 SDN Kalisari 02 Surabaya Penerapan TaRl Berbasis PBL Untuk Meningkatkan Hasil* . *5*(2), 246–254.

Mulyatiningsih, E. (2015). PENGEMBANGAN MODEL PEMBELAJARAN Endang. *Islamic Education Journal*, 35,110,114,120,121.

Ningsyih, S., Yuliance, S., Haryati, M. S., Syarifudin, Zulharman, & Ahyar. (2022). Analisis Kemampuan Literasi Membaca Peserta Didik Melalui Pembelajaran TaRL pada Program Gemar Literasi Sekolah Dasar. *STKIP Taman Siswa Bima*, 1–5.

Pane, J. F., Steiner, E. D., Baird, M. D., & Hamilton, L. S. (2015). Continued Progress: Promising Evidence on Personalized Learning. *Rand Corporation*.

Pasien, P., & Studi, H. (2024). *3 1,2,3*. *4*(September), 2020–2025.

Pritchett, L., & Beatty, A. (2015). Slow down, you're going too fast: Matching curricula to student skill levels. *International Journal of Educational Development*, *40*, 276–288.

Rahman, A. (2023). Meningkatkan Hasil Belajar Shooting Bola Basket melalui Metode Pembelajaran Teaching at the Right Level (TaRL) pada Siswa Kelas X-3 SMAN 3 Jombang Tahun pelajaran 2022-2023. *Journal on Education*, *6*(1), 2036–2043. https://doi.org/10.31004/joe.v6i1.3186

Ridzky Aryandi, M., & Usman, A. (2024). *Global Journal Sport Peningkatan Motivasi Belajar Peserta Didik Dengan Menggunakan Pendekatan Teaching at The Right Level Pada Mata Pelajaran PJOK*. *2*, 1–8.

Santoso, N., Pambudi, A. F., Prayadi, H. Y., Utami, N. S., Yudhistira, D., & Virama, L. O. A. (2024). How do the Learning Models of Teaching Game for Understanding and Problem-Based Learning Influence Fundamental Football Skills in Physical Education? Conducting an Analysis in the Elementary School Context. *Physical Education Theory and Methodology*, *24*(5 SE-Original Scientific Articles), 793–798. https://doi.org/10.17309/tmfv.2024.5.15

Tomlinson, C. A. (2017). Differentiated instruction. In *Fundamentals of gifted education* (pp. 279–292). Routledge.

Uno, H. B., & Umar, M. K. (2023). *Mengelola kecerdasan dalam pembelajaran: sebuah konsep pembelajaran berbasis kecerdasan*. Bumi Aksara.

Wardhani, A. C. (2016). *Character Education Based on Life of Pi Novel in the English Designed Material for Junior High School Students*. SANATA DHARMA UNIVERSITY.

Widayanthi, D. G. C., Subhaktiyasa, P. G., Hariyono, H., Wulandari, C. I. A. S., & Andrini, V. S. (2024). *Teori Belajar dan Pembelajaran*. PT. Sonpedia Publishing Indonesia.

Wirasti, N. K. (2024). *Widyadari PENERAPAN PENDEKATAN TEACHING AT THE RIGHT LEVEL (TARL) UNTUK Indonesia yang mengalami merupakan Negara di matematika sebagai subjek pembelajaran memiliki tujuan untuk meningkatkan keterampilan berpikir dan logika , serta mampu membantu pesert*. *25*(2), 240–249. https://doi.org/10.59672/widyadari.v25i2.4125

Wulandari, I. S., Januar, H., Rini, A. S., Wijayanti, A., Semarang, U. P., Islam, S. D., & Madina, A. (2024). Penerapan Pendekatan TaRL dalam Meningkatkan Kemampuan Literasi Numerasi Kelas II Pembelajaran Matematika. *INNOVATIVE: Journal Of Social Science Research*, *4*(4), 9529–9538.

Wyss, M. C., Qargha, G. O., Arenge, G., Mukoyi, T., Elliott, M., Matsheng, M., & Clune, K. (2023). Adapting, Innovating, and Scaling Foundational Learning: Four Lessons from Scaling Teaching at the Right Level in Botswana. *Center for Universal Education at The Brookings Institution*.

Zahra, K., Diansyah, A., & Gultom, I. M. (2024). Penerapan Pendekatan Teaching at the Right Level (TaRL) untuk Meningkatkan Hasil Belajar Sejarah Peserta Didik. *ALACRITY : Journal of Education*, *2*(2), 107–118. https://doi.org/10.52121/alacrity.v4i1.248.