LITERATURE REVIEW: THE APPLICATION OF THE TARL APPROACH IN INCREASING STUDENTS' INTEREST IN LEARNING

Gilang Eko Setyo Suharjono[1], Harianingsih[2], Decky Avrilianda[3], Ellianawati[4]
[1]Pendidikan Dasar, Sekolah Pascasarjana, Universitas Negeri Semarang
[2]Teknik Kimia, Universitas Negeri Semarang
[3]Pendidikan Non Formal, Universitas Negeri Semarang
[4]Pendidikan Fisika, Universitas Negeri Semarang
[1]gilangeko1122@gmail.com, [2]harianingsih@mail.unnes.ac.id,
[3]decky.avrilianda@mail.unnes.ac.id, [4]ellianawati@mail.unnes.ac.id

ABSTRACT

Low student interest in learning is still a serious challenge in education which has an impact on suboptimal student learning achievement. Traditional learning methods are often unable to generate student interest in learning. The Teaching at the Right Level (TaRL) approach as a learning innovation that focuses on students' abilities has the potential to increase interest in learning. This research aims to conduct a literature review of various relevant literature to examine the TaRL approach in increasing students' interest in learning. This research method is a systematic literature review (SLR) by applying the PRISMA protocol with article search using Publish or Perish software on the Google Scholar database indexed by SINTA for the period 2020-2025. From the initial 500 articles, the selection resulted in 10 relevant articles to be analyzed. The results showed that the TaRL approach proved effective in increasing students' interest in learning at various levels of education and subjects. The research showed an increase in learning interest in each learning cycle with the category of learning interest increasing from poor/low conditions to good/high to very good/very high in each learning cycle. Successful implementation is influenced by the quality of diagnostic assessments, learning activity design, teacher competence and social-emotional support. The main challenges include limited resources, time, as well as teachers' skills in developing diagnostic assessments. The TaRL approach shows high flexibility as it can be integrated with both learning models, approaches and media. Therefore, it is relevant to be applied in various learning contexts.

Keywords: TaRL Approach, Learning Interest, Systematic Literature Review (SLR)

ABSTRAK

Rendahnya minat belajar siswa masih menjadi tantangan serius dalam pendidikan yang berdampak pada pencapaian belajar siswa yang kurang optimal. Metode pembelajaran tradisional seringkali tidak mampu membangkitkan minat belajar

siswa. Pendekatan *Teaching at the Right Level* (TaRL) sebagai inovasi pembelajaran yang berfokus pada kemampuan siswa memiliki potensi untuk meningkatkan minat belajar. Penelitian ini bertujuan melakukan tinjauan pustaka dari berbagai literatur yang relevan untuk mengkaji tentang pendekatan TaRL dalam meningkatkan minat belajar siswa. Metode penelitian ini yaitu *systematic literature review* (SLR) dengan menerapkan protokol PRISMA dengan pencarian artikel menggunakan software Publish or Perish pada database Google Scholar terindex SINTA periode 2020-2025. Dari 500 artikel awal, diseleksi menghasilkan 10 artikel relevan untuk dianalisis. Hasil penelitian menunjukkan pendekatan TaRL terbukti efektif meningkatkan minat belajar siswa di berbagai jenjang pendidikan dan mata pelajaran. Penelitian menunjukkan peningkatan minat belajar di setiap siklus pembelajaran dengan kategori minat belajar meningkat dari kondisi kurang baik/rendah menjadi baik/tinggi hingga sangat baik/sangat tinggi di setiap siklus pembelajarannya. Keberhasilan implementasi dipengaruhi oleh kualitas asesmen diagnostik, desain aktivitas pembelajaran, kompetensi guru, dan dukungan sosial-emosional. Tantangan utama meliputi keterbatasan sumber daya waktu, waktu, dan juga keterampilan guru dalam penyusunan asesmen diagnostik. Pendekatan TaRL menunjukkan fleksibilitas tinggi karena dapat diintegrasikan baik dengan model, pendekatan, maupun media pembelajaran. Sehingga relevan untuk diterapkan dalam berbagai konteks pembelajaran.

Kata Kunci: Pendekatan TaRL, Minat Belajar, *Systematic Literature Review* (SLR)

A. Introduction

Education has an essential role in the development of a nation and is the main key in order to create quality human resources. However, the challenges in the world of education continue to grow along with the changing times and global demands which are also increasingly complex where in this case the teacher has an important role in educating the next generation of the nation to face various challenges that occur. One of the main challenges faced by teachers is low student interest in learning, which has a direct impact on achieving optimal learning outcomes (Putri et al., 2025; Siregar et al., 2023; Wicaksana et al., 2020).

Interest is a very important psychological factor in the learning process itself. Interest can be defined as a sense of preference and a sense of attachment to a thing or activity without anyone telling it to (Amiruddin et al., 2021; Fajri et al., 2021; Siregar et al., 2023). Referring to the learning context, learning interest can be interpreted as the tendency of students to pay attention and be

actively involved in learning activities because they realize the importance of what they are learning (Fajri et al., 2021; Jannah et al., 2025). Students who have a high interest in learning tend to understand the subject matter more easily, have better concentration power, and show high enthusiasm in participating in the learning process (Fuchs, 2023; Harefa, 2023; Sofna et al., 2023).

The phenomenon of low student interest in learning has become a serious concern for educational practitioners and researchers in various countries, including Indonesia itself. Based on the results of PISA in 2018, Indonesia received an average score in reading literacy of 371 which is still below the OECD of 487, in mathematics it received an average score of 379 which is still below the OECD of 489, and in science it received an average score of 396 which is still below the OECD of 489 (OECD, 2019). Similarly, with the PISA results in 2022, Indonesia received an average score in reading literacy of 359 which is still below the OECD of 476, in mathematics it received an average score of 366 which is still below the OECD of 472, and in science it received an average score of 383 which is still below the OECD of 485 (OECD, 2023). These results show that there is still a significant gap between educational achievements in Indonesia and international standards. One of the contributing factors to impact the low achievement is the lack of interest in the subjects taught in school institutions (Hofverberg et al., 2022; Radišić et al., 2021).

Students' interest in learning can be influenced by various elements, including internal aspects and external aspects. Internal factors include motivation, intelligence, and physical condition. On the other hand, there are also external factors which include the family environment, school environment, learning methods applied by teachers, and also the availability of infrastructure for learning itself (Damayanti & Sadikin, 2023; Kurniawan et al., 2021; Putri et al., 2022; Tatiana et al., 2022). Among these factors, the learning methods used by teachers also have a very strategic role in order to arouse and maintain student interest in learning.

Traditional learning methods that are still widely applied in schools, such as the lecture method and giving monotonous assignments that are

only in accordance with the wishes of the teacher, are often unable to attract students' attention and arouse students' interest in learning (Kruk & Zawodniak, 2020; Widiawati & Ginanjar, 2024). This makes students appear to tend to be more passive towards the implementation of the ongoing learning process and only become recipients of information from the teacher without being actively involved in knowledge construction. This condition can certainly result in the implementation of learning to appear boring and also decrease the meaningfulness for the students themselves as recipients of learning, so this results in decreased student interest in learning. Therefore, the importance of learning planning must be harmonized based on student learning needs so that learning activities become more meaningful (Suharjono & Fitriyah, 2024).

In order to meet these challenges, there must also be innovation in learning approaches that can increase student engagement as well as interest in learning itself. One of the innovative approaches that has evidence of its effectiveness in order to increase the ability of students' interest in learning is the TaRL approach. The TaRL approach is known as a learning approach that focuses on each student's ability rather than the student's grade level (Lamaizi et al., 2024; Mustafa et al., 2024; Ramlawati et al., 2025). The basic philosophy of this TaRL approach is that students must have a variety of different ability levels, and learning activities will be more effective if they are tailored to the ability level of each student (Ismail et al., 2024; Lamaizi et al., 2024; Putri & Muldash, 2024). In its implementation, each individual student is grouped based on the student's current ability, not based on age or grade level, and then given learning that matches the level of the student's ability (Lamaizi et al., 2024; Mustafa et al., 2024; Ramlawati et al., 2025).

Based on the findings of the research results of Reswari et al., (2025) indicates that the implementation of the TaRL approach applied to students has been able to increase the achievement of learning interest of students in class X.8 SMAN Pakusari. This indicates the existence of student learning interest at the first cycle stage obtained an average with a percentage of 65,97% (sufficient). Then, students' interest in learning at

the second cycle stage increased on average with a percentage of 87% (good). This is in line with the research of Jauhari et al., (2023) which indicates that the implementation of the TaRL approach applied to students is able to increase the achievement of student interest in learning class VIII-F SMPN 54 Surabaya. This indicates that students' interest in learning at the first cycle stage obtained an average with a percentage of 50% (less). Then, students' interest in learning at the second cycle stage increased on average with a percentage of 66% (sufficient).

One of the main advantages of the TaRL approach is its ability to create meaningful and student-centered learning experiences. When students are given learning that suits their own abilities, this will encourage and help students to more easily capture the content of the learning material taught by the teacher, be more active, and feel progress in the implementation of the process and the receipt of learning knowledge (Ismail et al., 2024; Lamaizi et al., 2024; Putri & Muldash, 2024). This also reflects student-centered learning, which means that students themselves are more active and master learning, not always passive in learning and monotonous dependence on the teacher alone (Suharjono et al., 2024). So that this successful experience can increase student confidence and also ultimately be able to arouse students' own interest in learning to continue and always learn. Conversely, when students are given learning that is too difficult or too easy for the students themselves, this can lead to boredom which ultimately reduces their interest in learning (Embrey et al., 2024; Khasanah & Rigianti, 2023; Xie, 2021).

However, the application of this TaRL approach in the context of education in Indonesia still requires in-depth study, especially regarding its effectiveness in contributing to increasing students' interest in learning itself. This is because interest in learning itself is a predictor that has a strong influence and is very supportive of the achievement of long-term learning success and also the formation of student character as a lifelong learner.

Based on the background explanation described above, this research aims to conduct a literature review of various relevant literature to

examine the TaRL approach in increasing students' interest in learning. This goal can be realized through the analysis of primary studies conducted on student learning interest with the TaRL approach through a systematic literature review. The findings of the results will contribute to the literature with the information needed for further research related to student learning interest through the TaRL approach.

B. Research Methods

This study uses the SLR method. The SLR method involves a series of relevant literature collection related to the research topic, where the identification, selection, and critical analysis are conducted through a comprehensive review of various research results related to the theme being studied (Amjad et al., 2023; Jamaluddin et al., 2023). This systematic review was conducted using the PRISMA protocol to examine the effectiveness of the TaRL approach in increasing students' learning interest. The PRISMA protocol was chosen for this SLR review because it provides systematic and transparent guidelines for conducting comprehensive and structured reviews that facilitate the integration of research evidence in an objective and credible manner. There are four stages of PRISMA, including identification, screening, eligibility, and inclusion (Das & Sethi, 2023; Galletta et al., 2024).

The identification process in the search for articles using the Publish or Perish (PoP) software was carried out using the keywords “TaRL Approach, Learning Interest.” The articles obtained discussed the application of the TaRL approach in increasing students' learning interest. The process of selecting and evaluating articles was applied to obtain articles relevant to the research topic under review. Only studies aligned with the research topic and meeting the analyzed criteria were included. The search process using the Publish or Perish software yielded 500 published articles, limited to the past five years (2020–2025). The search results comprised 500 articles from the Google Scholar database indexed in SINTA.

The next stage is the screening of primary studies selected through inclusion criteria, which include: (1) studies that examine the application of the TaRL approach in learning; (2)

study contexts that measure learning interest; (3) research samples, namely students; (4) studies published from 2020 to 2025. The screening resulted in 23 articles. The articles in the screening stage were then manually reviewed in the eligibility stage to ensure they aligned with the inclusion criteria. The articles and abstracts were read in full to identify the topics discussed, namely the application of the TaRL approach in enhancing students' learning interest. At this stage, 10 articles were reviewed and found to align with the inclusion criteria and are accessible. Finally, the final stage of inclusion comprises 10 articles that are included in the SLR. The article selection process is presented in Figure 1.

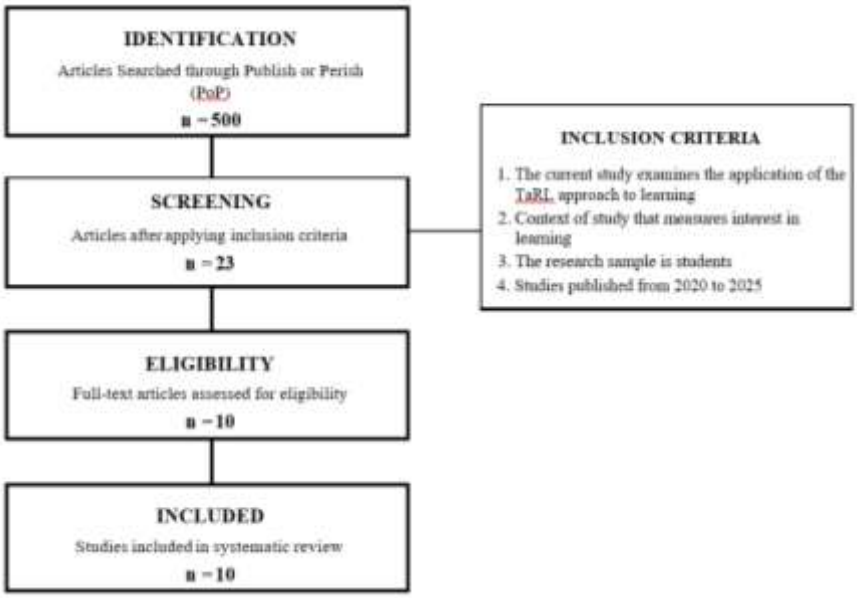

Figure 1 Article Selection Process

C. Results and Discussion

The research findings are presented as a description and analysis of the application of the TaRL approach in increasing student interest in learning, which was carried out by searching the Google Scholar database indexed by SINTA within the last 5 years (2020-2025). From the flow of PRISMA stages that have been applied, there are 10 articles that are relevant to the study of the topic being studied. This can be seen in Table 1.

Table 1 Findings of the TaRL Approach to Learning Interest

Author	Research Title	Results

Nabella et al., (2023)	Improving Students' Analytical Skills and Learning Interest Through the TaRL and CRT Approaches with The PBL Model on Chemical Buffer Material	TaRL and CRT approach with PBL model on chemical buffer material can increase the achievement of students' learning interest in class XI IPA 6 at SMAN 3 Jombang. This indicates the response of students' interest in learning before the learning is applied, which is obtained classically as much as 65% (medium). However, after the learning was applied, there was an increase in students' interest in learning which was classically 92% (high).
Afandi et al., (2024)	The Effectiveness of Differentiated Learning using the TaRL (Teaching at the Right Level) Approach for Improving Learning Interest and Learning Outcome	The implementation of differentiated learning through the TaRL approach has proven to be successful in optimizing the increase in learning interest of 8B grade students at SMPN 49 Surabaya. This indicates an improvement in students' interest in learning, where the condition that was originally in the poor category successfully increased to the good category at the end of the second cycle round for all aspects of learning interest indicators.
Gultom et al., (2025)	Implementation of Interactive Media and the TaRL Approach to Improve Students' Interest in Descriptive Text Learning	The implementation of interactive media and the TaRL approach can increase the achievement of student interest in learning descriptive text in class VII-A SMPN 1 Kisaran. This indicates that student learning interest at the pre-cycle stage obtained an average with a percentage of 62% (medium). Then, students' learning interest at the cycle I stage increased on average with a percentage of 74% (high). Furthermore, student learning interest at the second cycle stage experienced an average increase with a percentage of 87% (very high).
Yuniasti et al., (2024)	Meningkatkan Minat Belajar Siswa Kelas III SDN Model Terpadu Madani Palu Materi Operasi Hitung Pembagian Bilangan Cacah Sampai 100 melalui Pendekatan Teaching at the Right Level (TaRL)	The TaRL approach can increase the achievement of student learning interest in the material of counting operations of division of numerical numbers up to 100 in class III of SDN Model Terpadu Madani Palu. This indicates that student learning interest at the pre-cycle stage obtained an average with a percentage of 40%. Then, students' interest in learning at the first cycle stage increased on average with a percentage of 78,75%. Furthermore, student interest in learning at the second cycle stage increased on average with a percentage of 90%.
Yuli et al., (2023)	Pendekatan Teaching at the Right Level (TaRL) dengan Model PBL berbantuan Gallery Walk untuk Meningkatkan Minat Belajar Biologi Siswa Kelas XI MIPA 2 di SMAN 1 Muncar	TaRL approach with PBL model assisted by Gallery Walk can increase the achievement of biology learning interest of students of grade XI MIPA 2 at SMAN 1 Muncar. This indicates an increase in students' interest in learning biology in a very high category of 2,9% starting from the initial stage of the pre-cycle to the end of the second post-cycle.
Putri et al., (2024)	Penerapan Model Problem Based Learning Terintegrasi Pendekatan Teaching at the Right Level (TaRL) untuk Meningkatkan Minat Belajar Siswa	The application of PBL model integrated with TaRL approach can increase the achievement of students' learning interest in class X E-2 at SMAN 10 Medan. This indicates that the students' interest in learning at the first cycle stage obtained an average with a percentage of 58,6%. Then, students' interest in learning at the second cycle

		stage increased on average with a percentage of 74,9%.
Millah et al., (2024)	Peningkatan Minat dan Hasil Belajar IPA Materi Ekologi dan Keanekaragaman Hayati Indonesia dengan Pendekatan TaRL (Teaching at the Right Level)	The TaRL approach can increase the achievement of interest in learning science class VII B at SMPN 51 Surabaya. This indicates that the students' learning interest score in the high category increased by 35,2%, the moderate learning interest category increased by 14,5%, and the low learning interest category decreased by 49,9%.
Reswari et al., (2025)	Penerapan Pendekatan Teaching at the Right Level (TaRL) untuk Meningkatkan Minat Belajar Siswa X.8 di SMA Negeri Pakusari	The application of the TaRL approach is able to increase the achievement of student interest in learning class X.8 SMAN Pakusari. This indicates the existence of student learning interest at the first cycle stage obtained an average with a percentage of 65,97% (sufficient). Then, students' interest in learning at the second cycle stage increased on average with a percentage of 87% (good).
Jauhari et al., (2023)	Pembelajaran dengan Pendekatan TaRL untuk Meningkatkan Minat dan Hasil Belajar Matematika Peserta Didik	The application of the TaRL approach is able to increase the achievement of students' interest in learning mathematics in class VIII-F SMPN 54 Surabaya. This indicates that students' interest in learning at the first cycle stage obtained an average with a percentage of 50% (less). Then, students' interest in learning at the second cycle stage increased on average with a percentage of 66% (sufficient).
Fajri et al., (2024)	Pendekatan TaRL terintegrasi Social Emotional Learning (SEL) dengan Model PBL untuk Meningkatkan Minat dan Hasil Belajar Siswa	The TaRL approach integrated with Social Emotional Learning (SEL) with PBL model can increase the achievement of students' interest in learning class VIII at SMPN 1 Gresik. This indicates the average acquisition score of the percentage of student interest in learning before the action was 73,85% (sufficient) then increased to 79,97% (very high) after the provision of action.

Effectiveness of TaRL Approach in Increasing Learning Interest

In general, the findings from the ten articles analyzed show that the TaRL approach is effective in increasing students' interest in learning at various levels of education. This effectiveness is mainly due to the main principle in the TaRL approach, which is to adjust the level of learning difficulty to the actual ability level of the students themselves. Through the initial diagnostic assessment process, teachers can classify students into groups referring to alignment with their level of understanding so that each individual student is able to get challenges that match their intellectual abilities. The implementation of this approach is proven to optimize learning interest parameters such as feelings of pleasure, attention, involvement, and student interest in the continuity of following learning

(Jauhari et al., 2023; Yuniasti et al., 2024).

Significant increases in learning interest are reported in various contexts. For example, research at the elementary school level showed that the application of the TaRL approach to arithmetic operations material was able to progressively increase students' interest in learning from the low category to the high category (Yuniasti et al., 2024). At the junior secondary level, the application of the TaRL approach resulted in a consistent increase in student learning interest indicators from low/low to high/good (Afandi et al., 2024; Millah et al., 2024). Likewise, at the upper secondary level, the application of the TaRL approach is able to increase student interest in learning in each cycle, this is because learning has been adjusted based on the level of student ability (Nabella et al., 2023; Putri et al., 2024; Reswari et al., 2025; Yuli et al., 2023). This is in line with the theory of the Zone of Proximal Development (ZPD) proposed by Vygotsky, which states that effective learning occurs when students are given challenges that are slightly above their actual ability level, with adequate scaffolding from teachers and peers (Abdel-Al Ibrahim et al., 2023; Rigopouli et al., 2025; Zaretsky, 2021). This consistency can be explained through the basic principle of the TaRL approach, which emphasizes learning according to students' ability levels. When students learn at the right level, they will not experience frustration because the material is too difficult or boredom because the material is too easy.

The effectiveness of the TaRL approach is even clearer when combined with active learning models. The application of the TaRL approach combined with the PBL model or with learning media such as Gallery Walk for example, has proven successful in building a more pleasant and enjoyable and active learning climate. This research study shows a significant increase in the optimization of student learning interest after participating in learning activities with a combination of these approaches (Putri et al., 2024; Yuli et al., 2023). Similarly, the integration of the TaRL approach with the social emotional approach (SEL) resulted in a steady increase in learning interest as well, as students not only felt cognitively challenged, but also felt emotionally safe and motivated to actively

participate in learning (Fajri et al., 2024). Through this TaRL approach, students are given material according to the level of students' abilities, so that students more easily experience learning success. This success becomes an intrinsic motivation booster that encourages students to be more involved in learning. This is in line with the findings of Afandi et al., (2024), that the application of the TaRL approach makes students who previously lacked interest to show increased involvement and enthusiasm in their learning interests.

Implications of the TaRL Approach in Various Subjects

The application of TaRL shows broad and relevant implications in various fields of study. In mathematics, the application of the TaRL approach helps teachers to overcome the prerequisite understanding gap that often becomes an obstacle in learning. By grouping students by ability level, teachers can provide appropriate exercises so that students no longer feel burdened by abstract concepts that are too difficult. Research proves that the application of the TaRL approach increases students' engagement and interest in learning mathematics (Jauhari et al., 2023; Putri et al., 2024; Yuniasti et al., 2024).

In science subjects, especially biology and ecology. The TaRL approach allows students to link abstract concepts with real experiences. Through integration with PBL models and Gallery Walk media, students are more active in concept exploration, reduce misconceptions, and are more interested in discussing and participating in learning (Millah et al., 2024; Yuli et al., 2023). Similar implications are also seen in chemistry learning, where the application of the TaRL approach combined with the Culturally Responsive Teaching (CRT) approach encourages students to link chemical concepts with relevant cultural contexts, so that learning interest increases (Nabella et al., 2023).

In Indonesian and English subjects, the application of the TaRL approach, which in its application emphasizes adjustments to students' abilities in the learning process, encourages student involvement in writing skills and understanding texts. In the learning of negotiation texts and descriptive texts, the implementation of the TaRL approach is proven to

increase students' participation, confidence, and also work results (Gultom et al., 2025; Reswari et al., 2025). This reflects that learning that has been adapted to the level of students' abilities will be able to arouse their interest in learning which when students have an interest in their learning, it will encourage their participation in learning and not just be passive. This will certainly encourage not only the acquisition of optimal learning outcomes, but also student learning activeness. Student learning activeness can be seen from the enthusiasm in participating in the learning process provided by the teacher (Suharjono et al., 2025).

This supports the theory of constructivism which emphasizes that learning becomes more meaningful when students actively build knowledge based on their own experiences, with materials that match their actual abilities (Du Plessis, 2020; Supratman et al., 2025; Tomljenović & Vorkapić, 2020; Yakov et al., 2021). Of course, in this case, knowledge formation comes from students' individual experiences, so effective learning must build connections with students' prior knowledge and experiences. Learning is not just a process of receiving information from educators or reading materials. However, what is more important is the active involvement of students in constructing their understanding independently and generating new knowledge from the learning experiences they experience (Nurhayati et al., 2024). This cross-curricular implication indicates that the TaRL approach is not only a technical strategy, but also a flexible learning paradigm and can also be integrated into various models, approaches, and teaching aids that are aligned with the characteristics of the discipline and the specific needs of the students.

Factors Affecting the Successful Implementation of the TaRL Approach

The successful implementation of TaRL is influenced by several key factors. First, the quality of diagnostic assessments. A valid and reliable initial mapping instrument is essential to determine students' ability levels. Without proper diagnosis, there will be difficulties in grouping aligned learning based on student needs (Jauhari et al., 2023). Second, design learning activities that are both challenging and accessible. Research results show

that activities arranged in stages (very advanced, advanced, and need guidance) allow all students to participate according to their ability level and generate a sense of interest, attention, pleasure, and involvement in the learning process (Putri et al., 2024). Third, social-emotional support is instilled in students. Through giving attention to the emotional aspects and social relationships of students, the TaRL approach can be more successful in fostering sustainable interest in learning in each cycle (Fajri et al., 2024). Fourth, teachers' competence and ability to carry out appropriate learning reflection. Teachers who consistently reflect on improvements in each lesson have proven to be able to improve the quality of the implementation of the TaRL approach, so that learning interest indicators can continue to increase well (Gultom et al., 2025; Reswari et al., 2025; Yuli et al., 2023). Thus, the successful implementation of the TaRL approach is not only determined by the concept, but also by teachers' skills in diagnosing, designing, and managing a responsive learning process for students.

Challenges of Implementing the TaRL Approach

Despite its great potential, the implementation of TaRL faces a number of challenges. One of the challenges is the accuracy in preparing diagnostic assessments for students. Teachers must be able to compile and plan diagnostic assessments as a first step in determining student learning groups in accordance with their ability levels. So that before implementing this TaRL approach, teachers need to get training or activities to increase insight into how to conduct diagnostic evaluations and group students effectively, so that teachers can create inclusive learning activities which are aligned based on the ability level of the students themselves (Yuniasti et al., 2024). The next challenge is limited time and resources. The process of assessment, mapping and structuring multilevel activities requires intensive preparation, especially in large classes, while the allocation of learning time is often limited (Jauhari et al., 2023). Another challenge is the difficulty in measuring learners' competency levels precisely, especially in large capacity classes or in the presence of dishonest student

behavior during diagnostic assessments, which makes it difficult for researchers to design learning that is aligned with the specific needs of each learner (Jauhari et al., 2023).

D. Conclusion

Based on a systematic analysis of 10 publications that have been reviewed regarding the application of the TaRL approach, it can be concluded that the TaRL approach is effective in order to increase students' interest in learning at various levels of education and subjects. The effectiveness can be seen from the main principle of the TaRL approach which adapts learning to the level of the student's own ability, so that students can learn at the appropriate level of ability so that students can learn comfortably without feeling frustrated or bored about the difficulty of understanding learning material. The implementation of the TaRL approach not only increases student engagement, but also generates student confidence and intrinsic motivation to continue learning. The TaRL approach is also flexible because it can be integrated with learning models such as PBL, learning approaches, learning media, or integration with Social Emotional Learning (SEL), so it is relevant to be applied in various fields of study such as math, science, and language. However, the successful implementation of TaRL is strongly influenced by the quality of diagnostic assessments, the design of appropriate learning activities, teachers' competence and ability to reflect, and students' emotional support. The challenges that need to be anticipated include limited time, resources, and teacher skills in compiling and accurately mapping students' initial abilities.

REFERENCES

Abdel-Al Ibrahim, K. A., Carbajal, N. C., Zuta, M. E. C., & Bayat, S. (2023). Collaborative Learning, Scaffolding-Based Instruction, and Self-Assessment: Impacts on Intermediate EFL Learners' Reading Comprehension, Motivation, and Anxiety. *Language Testing in Asia*, *13*(1), 1–33. https://doi.org/10.1186/s40468-023-00229-1

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. https://doi.org/10.29303/jpm.v19i

4.6860

Amiruddin, A., Nurdin, N., & Ali, M. (2021). Islamic Education Teacher Communication Strategy in Increasing Students' Learning Interest. *International Journal of Contemporary Islamic Education*, *3*(1), 41–61.

Amjad, A., Kordel, P., & Fernandes, G. (2023). A Review on Innovation in Healthcare Sector (Telehealth) through Artificial Intelligence. In *Sustainability* (Vol. 15, Issue 8, pp. 1–24). https://doi.org/10.3390/su15086655

Damayanti, M., & Sadikin, I. S. (2023). Factors Influencing Students' Interest Towards Learning English as a Foreign Language. *Eltin Journal: Journal of English Language Teaching in Indonesia*, *11*(2), 193–211. https://www.e-journal.stkipsiliwangi.ac.id/index.php/eltin/article/view/4112

Das, A., & Sethi, N. (2023). Cash Transfers and Human Capital Outcomes of Children in LMICs: A Systematic Review using PRISMA. *Heliyon*, *9*(4), 1–13. https://doi.org/10.1016/j.heliyon.2023.e14758

Du Plessis, E. (2020). Student Teachers' Perceptions, Experiences, and Challenges Regarding Learner-Centred Teaching. *South African Journal of Education*, *40*(1), 1–10. https://doi.org/10.15700/saje.v40n1a1631

Embrey, J. R., Mason, A., & Newell, B. R. (2024). Too Hard, Too Easy, or Just Right? The Effects of Context on Effort and Boredom Aversion. *Psychonomic Bulletin & Review*, *31*, 2801–2810. https://doi.org/10.3758/s13423-024-02528-x

Fajri, N. L., Nurita, T., & Muslimah, M. (2024). Pendekatan TaRL terintegrasi Social Emotional Learning (SEL) dengan Model PBL untuk Meningkatkan Minat dan Hasil Belajar Siswa. *PENDIPA Journal of Science Education*, *8*(2), 139–145. https://doi.org/10.33369/pendipa.8.2.139-145

Fajri, Z., Baharun, H., Muali, C., Farida, L., & Wahyuningtiyas, Y. (2021). Student's learning motivation and interest; the effectiveness of online learning during COVID-19 pandemic. *Journal of Physics: Conference Series*, *1899*(1), 12178.

Fuchs, K. (2023). Exploring the Opportunities and Challenges of NLP Models in Higher Education: is Chat GPT a Blessing or a Curse? *Frontiers in Education*, *8*, 1–4. https://doi.org/10.3389/feduc.2023.1166682

Galletta, S., Mazzù, S., Naciti, V., & Paltrinieri, A. (2024). A PRISMA Systematic Review of Greenwashing in the Banking Industry: A Call for Action. *Research in International Business and Finance*, *69*, 1–13. https://doi.org/10.1016/j.ribaf.2024.102262

Gultom, K. U., Sari, P. L. P., Lubis, W. H., Hasibuan, A., & Sirait, L. (2025). Implementation of Interactive Media and the TaRL Approach to Improve Students' Interest in Descriptive Text Learning. *Jurnal Pendidikan Tambusai*, *9*(2), 22160–22166. https://jptam.org/index.php/jptam/article/view/30113

Harefa, D. (2023). The Relationship Between Students' Interest in Learning and Mathematics Learning Outcomes. *Afore : Jurnal Pendidikan Matematika*,

2(2), 1–11. https://doi.org/10.57094/afore.v2i2.1054

Hofverberg, A., Eklöf, H., & Lindfors, M. (2022). Who Makes an Effort? A Person-Centered Examination of Motivation and Beliefs as Predictors of Students' Effort and Performance on the PISA 2015 Science Assessment. *Frontiers in Education*, *6*, 1–17. https://doi.org/10.3389/feduc.2021.791599

Ismail, I. A., Qadriati, Jhora, F. U., & 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)*, *8*(4), 126–138. http://ijeais.org/wp-content/uploads/2024/4/abs/IJAPR240422.html

Jamaluddin, F., Saleh, N. M., Abdullah, A., Hassan, M. S., Hamzah, N., Jaffar, R., Aziz, S. A. A. G., & Embong, Z. (2023). Cooperative Governance and Cooperative Performance: A Systematic Literature Review. *SAGE Open*, *13*(3), 1–21. https://doi.org/10.1177/21582440231192944

Jannah, A., Arifin, S., & Puspitasari, I. (2025). Penerapan Proyek Penguatan Profil Pelajar Pancasila terhadap Peningkatan Minat Belajar Siswa. *Didaktika: Jurnal Kependidikan*, *14*(1), 539–550. https://doi.org/10.58230/27454312.1549

Jauhari, T., Rosyidi, A. H., & Sunarlijah, A. (2023). Pembelajaran dengan Pendekatan TaRL untuk Meningkatkan Minat dan Hasil Belajar Matematika Peserta Didik. *Jurnal PTK Dan Pendidikan*, *9*(1), 59–74. https://doi.org/10.18592/ptk.v9i1.9290

Khasanah, F., & Rigianti, H. A. (2023). Teachers' Efforts in Dealing with Students Who Experience Boredom During Learning in Elementary School. *Renjana Pendidikan Dasar*, *3*(4), 266–277. https://prospek.unram.ac.id/index.php/renjana/article/view/507

Kruk, M., & Zawodniak, J. (2020). A Comparative Study of the Experience of Boredom in the L2 and L3 Classroom. *English Teaching & Learning*, *44*, 417–437. https://doi.org/10.1007/s42321-020-00056-0

Kurniawan, R., Kurniawan, A. W., & Wijaya, D. (2021). Students' Interest in Physical Education Learning: Analysis of Internal and External Factors. *Journal Sport Area*, *6*(3), 385–393. https://doi.org/10.25299/sportarea.2021.vol6(3).7402

Lamaizi, E. M., Zraoula, L., & Wahbi, B. El. (2024). The Impact of TaRL Approach on Learning Convergence of Numerical Sequences: A Case Study in the Moroccan Educational Context. *Mathematics Teaching Research Journal*, *16*(5), 265–280. https://mtrj.commons.gc.cuny.edu/volume-16-n-5/

Millah, A. I., Widodo, W., Haryono, E. D. P., & Grahani, N. P. S. (2024). Peningkatan Minat dan Hasil Belajar IPA Materi Ekologi dan Keanekaragman Hayati Indonesia dengan Pendekatan TaRL (Teaching at the Right Level). *LEARNING : Jurnal Inovasi Penelitian Pendidikan Dan Pembelajaran*, *4*(3), 451–

458. https://doi.org/10.51878/learning.v4i3.3123

Mustafa, S., Riana, R., Baharullah, B., & Maming, K. (2024). The Collaboration of Teaching at The Right Level Approach with Problem-Based Learning Model. *Open Education Studies*, *6*(1), 1–15. https://doi.org/10.1515/edu-2024-0046

Nabella, D. G. K., Rinaningsih, & Setyawati, L. D. (2023). Improving Students' Analytical Skills and Learning Interest Through the TaRL and CRT Approaches with The PBL Model on Chemical Buffer Material. *Jurnal Penelitian Pendidikan IPA*, *9*(12), 10715–10720. https://doi.org/10.29303/jppipa.v9i12.4720

Nurhayati, S., Haluti, F., Nurteti, L., Pilendia, D., Haryono, P., Hiremawati, A. D., Afrizawati, A., Nurmiati, N., Saidah, E. M., Bariah, S., Indiati, I., Sembiring, D. A. K., Herlina, H., & Sulaiman. (2024). *Buku Ajar Teori Belajar dan Pembelajaran* (1st ed.). PT. Sonpedia Publishing Indonesia.

OECD. (2019). *PISA 2018 Results (Volume I): What Students Know and Can Do*. PISA, OECD Publishing. https://doi.org/10.1787/5f07c754-en

OECD. (2023). *PISA 2022 Results (Volume I): The State of Learning and Equity in Education*. PISA, OECD Publishing. https://doi.org/10.1787/53f23881-en

Putri, A. Y., & Muldash, M. P. (2024). Exploring Differentiated Learning: A Teaching at the Right Level Approach in Elementary Schools. *Journal for Lesson and Learning Studies*, *7*(2), 232–239. https://doi.org/10.23887/jlls.v7i2.77274

Putri, D. J., Angelina, S. A., Rahma, S. C., & Mujazi, M. (2022). Faktor-Faktor yang Mempengaruhi Minat Belajar Siswa di Kecamatan Larangan Tangerang. *Seminar Nasional Ilmu Pendidikan Dan Multi Disiplin*, *5*, 49–53. https://prosiding.esaunggul.ac.id/index.php/snip/article/view/226

Putri, F., Aulan, Jayan, A. A., Safitri, S., & Syarifuddin. (2025). Transformasi Peran Guru Dalam Meningkatkan Motivasi Belajar Siswa: Strategi Inovatif dan Tantangan Kontemporer. *JURNAL PENDIDIKAN DAN PEMBELAJARAN: Kajian Teori Dan Praktik Kependidikan*, *6*(1), 1–21. https://doi.org/10.1212/vhq8jd73

Putri, Z. F., Rahman, A. A., & Tanjung, A. F. (2024). Penerapan Model Problem Based Learning Terintegrasi Pendekatan Teaching at the Right Level (TaRL) untuk Meningkatkan Minat Belajar Siswa. *Kognitif: Jurnal Riset HOTS Pendidikan Matematika*, *4*(2), 933–942. https://doi.org/10.51574/kognitif.v4i2.1869

Radišić, J., Selleri, P., Carugati, F., & Baucal, A. (2021). Are Students in Italy Really Disinterested in Science? A Person-Centered Approach using the PISA 2015 Data. *Science Education*, *105*(2), 438–468. https://doi.org/10.1002/sce.21611

Ramlawati, R., Sari, N. I., Kusumawati, R., Yesin, M., Ilmi, N., & Arsyad, A. A. (2025). The Effect of Differentiated Science Inquiry Learning Model Based on Teaching at the Right Level on Students' Critical Thinking and

Science Process Skills. *Jurnal Pendidikan IPA Indonesia*, *14*(1), 1–16. https://doi.org/10.15294/jpii.v14i1.19479

Reswari, B. B., Susetyo, A. M., & Aidah, C. (2025). Penerapan Pendekatan Teaching at the Right Level (TaRL) untuk Meningkatkan Minat Belajar Siswa X.8 di SMA Negeri Pakusari. *JIIP - Jurnal Ilmiah Ilmu Pendidikan*, *8*(5), 5348–5353. https://doi.org/10.54371/jiip.v8i5.7935

Rigopouli, K., Kotsifakos, D., & Psaromiligkos, Y. (2025). Vygotsky's Creativity Options and Ideas in 21st-Century Technology-Enhanced Learning Design. *Education Sciences*, *15*(2), 1–20. https://doi.org/10.3390/educsci15020257

Siregar, T. I., Anilafiza, U., Atia, S., & Lestari, H. I. (2023). Analyze Students Learning Interest in the Subjects They Like. *International Journal of Education and Teaching Zone*, *2*(1), 139–147. https://doi.org/10.57092/ijetz.v2i1.77

Sofna, A., Sakinah, Y., Misbah, M., & Pentang, J. T. (2023). Analysis of Student Learning Interest in Physics in Subject Force Material. *International Journal of Education and Teaching Zone*, *2*(1), 25–39. https://doi.org/10.57092/ijetz.v2i1.58

Suharjono, G. E. S., & Fitriyah, C. Z. (2024). Peningkatan Hasil Belajar Pendidikan Pancasila melalui Model Kooperatif Tipe STAD pada Siswa Kelas V Sekolah Dasar. *Jurnal Ilmiah Pendidikan Profesi Guru*, *7*(2), 257–269. https://doi.org/10.23887/jippg.v7i2.78492

Suharjono, G. E. S., Fitriyah, C. Z., Finali, Z., Hutama, F. S., & Puspitaningrum, D. A. (2025). Group Guidance Services Assisted by Learning Animation Video on Students' Learning Activeness as Pancasila Learners in Elementary School. *Jurnal Ilmiah Pendidikan Dan Pembelajaran*, *9*(2), 352–362. https://doi.org/10.23887/jipp.v9i2.94095

Suharjono, G. E. S., Tyas, D. M., Zainuri, A., Trapsilasiwi, D., & Mahmudah, N. (2024). Peningkatan Hasil Belajar IPAS melalui Strategi Pembelajaran Scaffolding guna Mewujudkan Pembelajaran yang Berpihak kepada Peserta Didik Kelas V di SDN Kepatihan 05 Jember. *ELEMENTARY SCHOOL JOURNAL PGSD FIP UNIMED*, *14*(2), 182–193. https://doi.org/10.24114/esjpgsd.v14i2.57439

Supratman, U. S., Harianingsih, H., Avrilianda, D., & Ellianawati, E. (2025). Effectiveness of RME Model Using Rocket Miniset Manipulatives on Fraction Understanding in Elementary School Students. *Jurnal Elementaria Edukasia*, *9*(2), 26–37. https://doi.org/10.31949/jee.v9i2.13932

Tatiana, S., Hanna, J., Kristiina, M., Jouni, P., & Sanna, J. (2022). The Changes in Lower Secondary School Students' Interest During Collaborative Learning. *Scandinavian Journal of Educational Research*, *66*(7), 1127–1140. https://doi.org/10.1080/00313831.2021.1958377

Tomljenović, Z., & Vorkapić, S. T. (2020). Constructivism in Visual

Arts Classes. *Center for Educational Policy Studies Journal*, *10*(4), 13–32. https://doi.org/10.26529/cepsj.913

Wicaksana, E. J., Atmadja, P., Wikanso, W., Putri, L. N., & Muthia, G. A. (2020). Edmodo as a Solution to Enhance Student Learning Interest in High School Biodiversity During the COVID-19 Pandemic. *Biosfer: Jurnal Pendidikan Biologi*, *13*(2), 216–229. https://doi.org/10.21009/biosferjpb.v13n2.216-229

Widiawati, R., & Ginanjar, A. (2024). Faktor-Faktor yang Mempengaruhi Minat Belajar Siswa Kelas VIII di SMP Al Islam Klaten pada Mata Pelajaran IPS. *Sosiolium: Jurnal Pembelajaran IPS*, *6*(2), 122–134. https://doi.org/10.15294/sosioliu m.v6i2.1807

Xie, J. (2021). The Effects of Boredom on EFL Learners' Engagement. *Frontiers in Psychology*, *12*, 1–4. https://doi.org/10.3389/fpsyg.2021.743313

Yakov, G., Riskin, A., & Flugelman, A. A. (2021). Mechanisms Involved in the Formation of Professional Identity by Medical Students. *Medical Teacher*, *43*(4), 428–438. https://doi.org/10.1080/0142159X.2020.1854706

Yuli, R. R., Utomo, A. P., & Sukoco, S. (2023). Pendekatan Teaching at the Right Level (TaRL) dengan Model PBL berbantuan Gallery Walk untuk Meningkatkan Minat Belajar Biologi Siswa Kelas XI MIPA 2 di SMAN 1 Muncar. *Education Journal : Journal Educational Research and Development*, *7*(2), 239–254. https://doi.org/10.31537/ej.v7i2.1285

Yuniasti, N. K., Astija, & Rumondor, P. (2024). Meningkatkan Minat Belajar Siswa Kelas III SDN Model Terpadu Madani Palu Materi Operasi Hitung Pembagian Bilangan Cacah Sampai 100 melalui Pendekatan Teaching at the Right Level (TaRL). *EDU RESEARCH*, *5*(4), 433–441. https://doi.org/10.47827/jer.v5i4.346

Zaretsky, V. K. (2021). One More Time on the Zone of Proximal Development. *Cultural-Historical Psychology*, *17*(2), 37–49. https://doi.org/10.17759/chp.2021170204