




Analysis of Learning Outcomes with TARL and CRT Approaches Through PBL and PjBL Models at SDN-SN Kebun Bunga 4 Banjarmasin

¹Alya Annida, ¹Anisa Zahra, ¹Hafiza Nurlatifa, ¹Helda Fahrina, ²Yusniarti, ³Ali Rachman 

¹Students of PPG Lambung Mangkurat University

²Teacher of SDN Kebun Bunga 4 Banjarmasin

³Primary School Teacher Education Department, Universitas Lambung Mangkurat Banjarmasin, Indonesia.

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ABSTRACT

Background: Elementary school education plays a crucial role in shaping students' understanding of fundamental concepts, including an appreciation for cultural diversity. This research study aims to investigate the impact of the Teaching at the Right Level (TaRL) and Culturally Responsive Teaching (CRT) approaches on teaching cultural diversity to fourth-grade students in class IV B at SDN-SN Kebun Bunga 4. **Method:** applying a qualitative research method with a case study design, the study involved 16 students over three learning cycles. **Results and Discussion:** the applied instructional models included Problem-Based Learning (PBL) and Project-Based Learning (PjBL), which were integrated with the TaRL and CRT approaches to ensure the learning process was relevant to students' abilities and cultural backgrounds. The results revealed a significant improvement in the students' conceptual understanding, critical thinking skills, and practical abilities, increasing from 75% in the first cycle to 94% by the third cycle. **Conclusion:** The implementation of PBL and PjBL, adapted to individual learning levels and cultural relevance, proved effective in enhancing student outcomes, motivation, and participation. The study recommends the use of adaptive and culturally responsive approaches to strengthen student learning and character development.

Keywords: Culturally Responsive Teaching (CRT), Teaching at the Right Level (TaRL), Project-Based Learning (PjBL) and Problem-Based Learning (PBL)

Corresponding Author:

Ali Rachman,
Primary School Teacher Education Department,
Universitas Lambung Mangkurat,
Brig Jend. Hasan Basri Road, North Banjarmasin, Banjarmasin, South Kalimantan, Indonesia.
Email: ali.bk@ulm.ac.id

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INTRODUCTION

Elementary education is crucial for developing students' grasp of fundamental concepts, including cultural diversity. Saito and Smith (2020) highlight that in the Society 5.0 era, which integrates technology to enhance societal welfare, fostering an understanding of diversity is essential for cultivating tolerance and appreciation for differences from a young age. Consequently, the effectiveness of educational approaches plays a pivotal role in achieving optimal learning outcomes. Culture, encompassing abstract views, values, and perceptions of the world, profoundly influences and reflects individual behavior. Recognizing the role of cultural factors in facilitating meaningful learning, Indonesia has introduced the Independent Curriculum. According to Indarta et al. (2022), aligning curriculum development with societal needs enhances its effectiveness. Addressing Indonesia's cultural crisis necessitates prompt action, exemplified by the Independent Curriculum. This curriculum integrates the Pancasila Student Profile, which focuses on character development through six core aspects: (1) faith and devotion to God, (2) cooperation, (3) global diversity, (4) independence, (5) critical thinking, and (6) creativity.

According to Ki Hajar Dewantara, as cited in Amalia et al. (2024), education should fundamentally address the development of character, personality, and disposition. This perspective emphasizes that education aims not only to enhance students' scientific competencies but also to cultivate individuals who embody character and cultural values aligned with their national heritage. Learning approaches such as TaRL (Teaching at the Right Level) focus on tailoring the teaching and learning process to students' ability levels—whether low, medium, or high—rather than strictly adhering to grade levels or age (Banerji & Chavan, 2020). Ensuring that learning materials are appropriately matched to individual students' abilities is a key objective of this approach. It is crucial to integrate students' cultural backgrounds into the educational context to enhance their connection with the material and reinforce their cultural identity. With the rapid pace of technological progress and the extensive flow of global information, students are increasingly encountering foreign cultures, which often become more familiar and preferred over local cultures (Ceipek et al., 2021; Mehrvarz et al., 2021).

Within this framework, education holds a strategic responsibility to both shape and reinforce students' character, ensuring they not only comprehend foreign cultures but also value and embrace their own national culture. This objective can be met by embedding students' cultural backgrounds into the curriculum and teaching methods, thereby making the educational material more relevant and contextual. However, empirical evidence suggests that such integration is often inadequately realized in classroom practices (Wang et al., 2020). Consequently, a comprehensive educational reform is necessary to shift the focus from merely developing cognitive competencies to also enhancing cultural identity and character in alignment with societal cultural contexts.

The Merdeka Belajar Policy grants both teachers and students the autonomy to set goals, select methods, choose materials, and conduct learning evaluations. This policy shift towards a student-centered approach under the Independent Curriculum contrasts with the prior teacher-centered model. Izza et al. (2020) argue that this autonomy allows teachers to interpret the curriculum independently before presenting it to students, thereby enhancing their ability to address students' needs effectively. Lukum, as cited in Putriani and Hudaidah (2021), defines three key competences for the twenty-first century: thinking, performing, and dwelling in the global neighborhood. Critical thinking, creative thinking, and problem-solving are a few indicators of thinking competencies. Communication skills, cooperation, digital literacy, and technological literacy are all examples of efficiency abilities. Existing throughout various places skills contain capability, independence, global awareness, and social duty.

The specified competencies hold significant relevance to cultural diversity, especially within the realms of global understanding and social responsibility. Critical and creative thinking competencies are essential for grasping and appreciating diverse perspectives in a multicultural society. Action-oriented competencies, including collaboration and digital literacy, are crucial for effectively functioning within culturally diverse teams and utilizing technology to bridge cultural gaps. Additionally, life-in-the-world competencies, such as global understanding and social responsibility, play a pivotal role in developing individuals who can contribute positively to a globally interconnected and culturally varied society. Thus, mastering 21st-century competencies not only facilitates personal success in the modern world but also enhances one's capacity to live and work harmoniously within an increasingly diverse global community.

Based on the issues identified in this study, the implementation of diverse and adaptive learning strategies is imperative. One effective approach involves incorporating the TaRL methodology, which tailors instruction to the varying abilities of students. Additionally, the integration of the CRT approach is necessary, as it connects students' cultural backgrounds with the content being delivered. The

incorporation of digital learning media in this process is anticipated to enhance student motivation, as such tailored and relevant learning experiences are more likely to engage and resonate with them.

METHOD

This research takes a qualitative approach as its primary methodological design. For novice researchers, selecting an appropriate approach and effectively aligning research problems, questions, data collection, and analysis can present significant challenges. While numerous texts and articles elucidate qualitative methods, there is a scarcity of sources that provide a succinct distinction among the most prevalent qualitative approaches.

Qualitative research is designed to explore and elucidate phenomena in depth through non-numerical data, distinguishing itself from quantitative research, which emphasizes measurement and hypothesis testing via numerical data. This method is particularly suited to describing and explaining relationships, individual experiences, and group norms. The present article examines the essence, nature, and advantages of qualitative research through a comprehensive review of relevant literature (Oranga & Matere, 2023).

The framework of case studies employed in this study in order for a thorough examination of a single problem in its practical environment. This method aligns with the research objective of comprehensively understanding the complexity and dynamics of the situation, offering detailed and contextual insights crucial for examining the unique aspects of the case under investigation.

This research was conducted at SDN-SN Kebun Bunga 4, involving 16 students from grade IV B as the primary participants. The study was designed to span 10 days, organized into 3 cycles, with the objective of evaluating and analyzing student learning outcomes. The research implemented the TaRL and CRT approaches to enhance learning effectiveness. TaRL focuses on customizing training to students' skill levels, while CRT emphasizes the importance of cultural relevance in education. By integrating these two approaches, this study seeks to achieve a deeper understanding of their combined impact on the learning outcomes of grade IV B students at SDN-SN Kebun Bunga 4. According to Oranga and Matere (2023) defines qualitative research as a variety of designs, including narrative, grounded theory, phenomenological, case study, and ethnographic design. Purposive, criteria, convenience, and snowball sampling are among the most frequent sample methods used in qualitative research. Data for this study were gathered through observation and analysis of learning outcomes. The data gathering method began with the deployment of Cycles 1-3, which used the TaRL and CRT approaches as teaching models. Data were acquired by classroom learning observations across three cycles, as well as Student

Worksheet outcomes (LKPD). This information served as the foundation for evaluating the effectiveness of the TaRL and CRT techniques in phase B of the study.

RESULTS AND DISCUSSION

Results

The data from three cycles of implementation demonstrated a significant improvement in students' learning outcomes

regarding cultural diversity at each meeting. This improvement was observed through the use of the TaRL and CRT strategies, which employed the PBL model in cycles 1 and 2, and the PjBL model in cycle 3. The table below shows the progression of learning outcomes over three cycles using the PBL and PjBL models:

Table 1. Developing Learning Outcomes with the TaRL and CRT Approaches

Cycle 1				
Learning Model	Activities	Measured Learning Outcomes	Success Indicators	Development Notes
Problem-Based Learning (PBL)	<ul style="list-style-type: none"> • Problem identification • Group discussion • Problem solving 	<ul style="list-style-type: none"> • Understanding of basic concepts • Critical thinking skills 	<ul style="list-style-type: none"> • $\geq 75\%$ of students showed an increase in basic concept understanding scores of $\geq 10\%$ from pre-test to post-test 	<ul style="list-style-type: none"> • Some students still show difficulties in understanding basic concepts. • Interaction between students is quite good, but needs to be improved.
Cycle 2				
Problem-Based Learning (PBL)	<ul style="list-style-type: none"> • Solution development • Analysis and Reflection • Presentation of results 	<ul style="list-style-type: none"> • Application of concept • Analytical Capabilities 	<ul style="list-style-type: none"> • $\geq 81\%$ of students showed an increase in concept application scores of $\geq 15\%$ from pre-test to post-test 	<ul style="list-style-type: none"> • Students' conceptual application and analytical skills have significantly improved. • Student interaction and active participation increases
Cycle 3				
Project Based Learning (PjBL)	<ul style="list-style-type: none"> • Project planning • Project implementation • Project evaluation 	Proficiency in practical skills.	<ul style="list-style-type: none"> • $\geq 94\%$ of students showed an increase in practical skills scores of $\geq 20\%$ from pre-test to post-test. 	<ul style="list-style-type: none"> • Significant improvement in students' mastery of practical skills and creativity • Collaboration among students is increasing at a remarkable rate

In Cycle 1, the PBL model was implemented in conjunction with CRT and TaRL approaches. The results indicated an achievement index of 75%, classified as "Satisfactory."

In Cycle 2, maintaining the PBL model along with the CRT and TaRL approaches led to a significant improvement in learning outcomes, with the achievement index rising to 81%, categorized as "Good."

In Cycle 3, the instructional model transitioned to PjBL, while still incorporating the CRT approach. This shift resulted in an even greater enhancement of student learning outcomes, with the achievement index reaching 94%, classified as "Excellent."

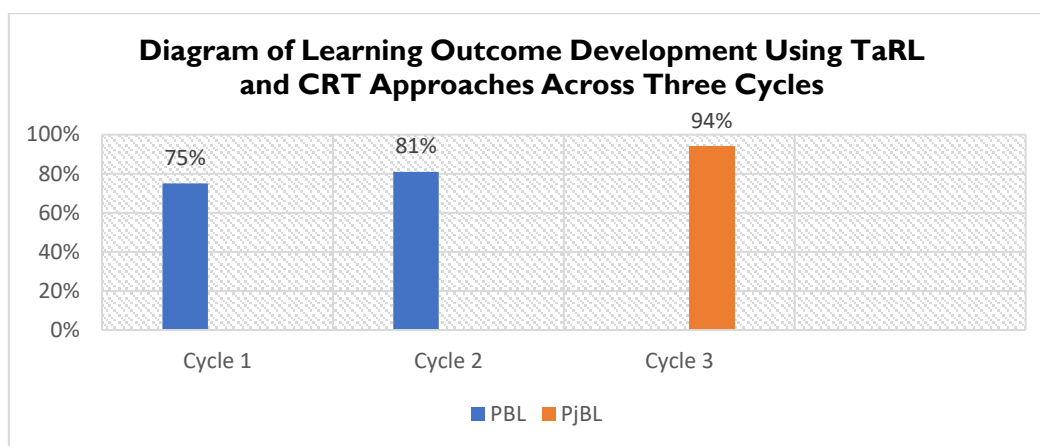


Figure 2. Learning Outcomes Using TaRL and CRT Approaches

The implementation of both learning models resulted in an increased achievement index from Cycle 1 to Cycle 3. The integration of relevant approaches, including CRT and TaRL, has proven effective in enhancing students' comprehension of cultural diversity material.

The substantial increase in learning outcomes from 75% in Cycle 1 to 94% in Cycle 3 indicates an enhancement in the quality of learning, coinciding with the implementation of student-centered learning strategies. This finding aligns with existing literature, which demonstrates that PBL and PjBL not only boost student engagement and motivation but also facilitate the development of critical thinking and advanced problem-solving skills (Berhиту, Rehena, & Tuaputty, 2020).

The integration of TaRL and CRT approaches in the instruction of Pancasila, particularly within the theme of cultural diversity, enhances the meaningfulness and enjoyment of learning activities. This tailored approach not only fosters student enthusiasm but also aligns with their individual learning abilities and the cultural contexts surrounding them. Furthermore, the application of PBL and PjBL models effectively enhances students' motivation, critical thinking skills, problem-solving abilities, and collaboration skills.

Discussion

The analysis of the data reveals that the integration of PBL and PjBL models in Pancasila instruction for Class IV B, utilizing the TaRL and CRT approaches, effectively enhances active learning. This approach encourages students to address real-world problems within culturally relevant contexts while being instructed at an appropriate skill level (Harjono & Sari, 2024). The findings of this study suggest that combining the most effective elements of PBL and PjBL, while adhering to the principles of TaRL and CRT, can significantly improve student learning outcomes.

By improving learning through the CRT approach and tailoring the difficulty level to align with students' abilities using the TaRL method, this approach facilitates optimal development for each learner. Additionally, the integration of an experiential learning framework with PBL and PjBL fosters a dynamic learning environment that motivates students to

actively engage in the educational process (Chao, et al., 2022).

This study examines student learning outcomes utilizing two instructional models: PBL in Cycles 1 and 2, and PjBL in Cycle 3. The approaches employed in this research are TaRL and CRT, aimed at ensuring that learning is tailored to students' ability levels and aligned with their cultural contexts.

Cycle 1: Problem Based Learning (PBL)

In the first cycle, the implementation of PBL focused on problem identification, group discussions, and problem-solving activities. Observational results indicated that 75% of students demonstrated an improvement in their understanding of basic concepts, with an increase of $\geq 10\%$ from pre-test to post-test scores. Furthermore, 80% of students actively participated in group discussions, as evidenced by the observation sheet utilized.

The PBL model in this cycle proved effective in enhancing student engagement and comprehension of fundamental concepts. However, there were indications that some students continued to struggle with more complex concepts. This finding highlights the need for a more intensive approach or additional support for those who encounter difficulties in the initial stages of learning.

Cycle 2: Problem Based Learning (PBL)

In the second cycle, PBL was implemented with a focus on solution development, analysis, reflection, and presentation of results. Data indicated that 81% of students demonstrated improvement in concept application, with an increase of $\geq 15\%$ in scores from pre-test to post-test. Additionally, 85% of students effectively presented their solutions, as assessed by the prepared presentation rubric.

The outcomes of this cycle revealed a significant enhancement in students' analytical skills and application of concepts. PBL has proven effective in fostering critical thinking and enabling students to conduct in-depth analyses of the challenges they encounter. However, despite these improvements, some students still require guidance in developing more advanced analytical skills.

Cycle 3 : Project-Based Learning (PjBL)

In the third cycle, the PjBL model was employed, engaging students in the planning, implementation, and evaluation of the project. Results demonstrated that 94% of students experienced an increase in practical skills, with scores rising by $\geq 20\%$ from pre-test to post-test. Additionally, 90% of students exhibited active participation in the project, as assessed using the participation and collaboration rubric.

Students' involvement in projects relevant to their daily lives, supported by the principles of CRT, enables them to integrate concepts and skills within a more authentic context. The high levels of participation and collaboration observed in this cycle suggest that PjBL effectively enhances students' motivation and engagement in the learning process.

As a student in the Teacher Education Program (PPG), the improvement in learning outcomes achieved can be attributed to the synergistic integration of 21st-century skills, commonly referred to as the 4Cs: Creative Thinking, Critical Thinking and Problem Solving, Communication, and Collaboration, within the context of learning about cultural diversity. The application of these skills enables students to develop not only the cognitive and interpersonal competencies necessary for a modern learning environment but also an increased awareness of pluralistic values in a multicultural society (Anisa S, Gultom, & Debora, 2023). Research indicates that this approach fosters greater student engagement in the learning process and enhances respect and tolerance for individuals from diverse cultural backgrounds, which is particularly relevant in today's era of globalization and digitalization.

In a study signified by Ahmad et al. (2024), the TaRL approach was investigated to assess its impact on enhancing students' reading literacy skills, particularly through the adjustment of learning methods according to individual ability levels. This study is closely related to ongoing research in the form of Classroom Action Research (CAR), which also employs the TaRL approach with elementary school students across three cycles. However, this research distinguishes itself through the application of CRT and the integration of PBL and PjBL models.

In the journal by Harjono and Sari (2024), the integration of three pedagogical approaches-PBL, TaRL, and CRT-is explored as a complementary strategy to enhance the effectiveness of science education. The TaRL approach facilitates targeted instructional differentiation by tailoring learning methods to individual student competency levels. Conversely, CRT is pivotal in ensuring that learning strategies align with the cultural and social contexts of students, thereby fostering greater active involvement and a sense of ownership in the learning process. This study closely relates to ongoing research in Classroom Action Research (CAR), which also employs PBL, TaRL, and CRT approaches with elementary school students across three cycles. However, a key distinction in this study is the integration of the PjBL

model, which introduces an additional dimension for developing student skills through a project-based approach.

This study signifies the research carried out by Ahmad et al. (2024) demonstrates the value of the TaRL method for improving children's proficiency in reading by adapting learning techniques to individual abilities. This finding is relevant to Classroom Action Research (CAR), which also employs TaRL with elementary school students, but it distinguishes itself through the application of CRT and the integration of PBL and PjBL. Additionally, the journal by Harjono and Sari (2024) discusses how the combination of PBL, TaRL, and CRT can improve science learning outcomes. TaRL aids in adjusting learning methods to align with students' abilities, while CRT ensures that these methods are culturally appropriate for the students' backgrounds. The incorporation of PBL and PjBL further contributes to skill development through a project-based approach. The integration of these three pedagogical strategies shows significant potential for enhancing learning outcomes in a more effective and relevant manner.

CONCLUSION

This study indicates that the implementation of PBL in the first two cycles effectively enhanced students' conceptual understanding and analytical skills, while PjBL in the third cycle was successful in fostering practical skills and creativity. The application of the TaRL approach ensures that each student learns according to their individual ability levels, while CRT facilitates culturally relevant learning, thereby contributing to increased student participation and engagement. This research indicates to review and assess learner results across three cycles utilizing TaRL and CRT.

The significant improvement in test scores from 75% in Cycle 1 to 94% in Cycle 3 indicates the level of learning has improved as a result of the implementation of student-centered learning strategies. Overall, the integration of these learning models has led to an enhanced achievement index from Cycle 1 to Cycle 3. Relevant approaches, such as CRT and TaRL, have proven effective in strengthening students' understanding of cultural diversity content.

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In light of the findings of this study, the sustained implementation of PBL and PjBL has been shown to effectively enhance students' conceptual understanding, as well as their practical skills and creativity. The consistent application of TaRL is essential for tailoring learning methods to the individual abilities of students. Furthermore, the continued integration of CRT is necessary to ensure that learning remains relevant to students' cultural backgrounds, thereby increasing their engagement and participation. Regular evaluation and adjustment of learning strategies are critical for improving the quality of the teaching process. Additionally, professional development for teachers in the

implementation of PBL, PjBL, TaRL, and CRT will further strengthen the effectiveness of these pedagogical models.

REFERENCES

- Ahmad, Fuaddudin, Iriyanti, Riningsih, & Syarifuddin. (2024). Pengaruh Pendekatan TaRL Terhadap Kemampuan Literasi Siswa Sekolah Dasar. *AULADUNA: Jurnal Pendidikan Dasar Islam*, 11(1), 19 - 30.
- Amalia, S., Safrida, S., & Ulva, S. M. (2024). The Application of (TaRL) and Culturally Responsive Teaching (CRT) Approach to Increase the Motivation and Learning Outcomes of Students on the Material of Transport through Membranes. *Journal of Research in Science Education*, 10(1), 270–274.
- Anisa S, P., Gultom, F., & Debora, M. (2023). Penerapan Optimalisasi Keterampilan 4C (Creative Thinking, Critical Thinking And Problem Solving, Communication, Collaboration) Dalam Pembelajaran Contextual Oral Language Skills. *JURNAL ILMIAH KORPUS*, 7(3), 391 - 399.
- Banerji, R., & Chavan, M. (2020). A twenty-year partnership of practice and research: The Nobel laureates and Pratham in India. *World Development*, 127.
- Berhitu, M., Rehena, J., & Tuaputty, H. (2020). The Effect of Project-Based Learning (PjBL) Models on Improving Students' Understanding of Concepts, Retention, and Social Attitudes. *Formatif Jurnal Ilmiah Pendidikan MIPA*, 10(2), 143-152.
- Ceipek, R., Hautz, J., Petruzzelli, A. M., Massis, A. D., & Matzler, K. (2021). A motivation and ability perspective on engagement in emerging digital technologies: The case of Internet of Things solutions. *Long Range Planning*, 54(5).
- Chao, C.-T., Tsai, C.-L., Lin, M.-W., Yang, C.-W., Ho, C.-C., Chen, H.-L., . . . Sheu, B.-C. (2022). Fully digital problem-based learning for undergraduate medical students during the COVID-19 period: Practical considerations. *Journal of the Formosan Medical Association*, 121(10), 2130-2134.
- Dewi, A. S., Prabawa, A. H., Prayitno, H. J., Pratiwi, D. R., Lukman, L., & Syar'i, A. (2024). Kesantunan Berbahasa Dakwah Gus Baha pada Media Sosial Youtube: Kebermanfaatannya bagi Pembelajaran Bahasa Indonesia. *Jurnal Keilmuan Dan Keislaman*, 4(1), 16–29. <https://doi.org/10.23917/jkk.v4i1.64>
- Harjono, & Sari, M. (2024). PBL-TARL-CRT: Integrating Innovative Approaches to Improve Science Learning Outcomes in Grade 8. *BIOMA: Jurnal Ilmiah Biologi*, 13(1), 69 - 83.
- Indarta, Y., Jalinus, N., Waskito, W., Samala, A. D., Riyanda, A. R., & Adi, N. H. (2022). Relevansi Kurikulum Merdeka Belajar dengan Model Pembelajaran Abad 21 dalam Perkembangan Era Society 5.0. *Edukatif : Jurnal Ilmu Pendidikan*, 4(2), 3011 - 3024.
- Izza, A. Z., Falah, M., & Susilawati, S. (2020). Studi Literatur: Problematika Evaluasi Pembelajaran Dalam Mencapai Tujuan Pendidikan Di Era Merdeka Belajar. *Konferensi Ilmiah Pendidikan Universitas Pekalongan*, 10–15.
- Mehrvarz, M., Heidari, E., Farrokhnia, M., & Noroozi, O. (2021). The mediating role of digital informal learning in the relationship between students' digital competency and their academic performance. *Computers & Education*, 167.
- Nurmeidina, R., Zaqiyah, N. N., Nugroho, A. G., Andini, A., Faiziyah, N., Adnan, M. B., & Syar'i, A. (2024). Analysis of students' problem-solving abilities in solving contextual problems of Linear Equations with Three Variables in terms of Habits of Mind. *Indonesian Journal on Learning and Advanced Education (IJOLAE)*, 7(1), 117–135. <https://doi.org/10.23917/ijolae.v7i1.23550>
- Oranga, J., & Matere, A. (2023). Qualitative Research: Essence, Types and Advantages. *OALib*, 10(12), 1-9.
- Putriani, J. D., & Hudaidah, H. (2021). Penerapan Pendidikan Indonesia Di Era Revolusi Industri 4.0. *Edukatif: Jurnal Ilmu Pendidikan*, 3(3), 830–838.
- Saito, T., & Smith, A. B. (2020). Society 5.0 and Its Implications for Higher Education: An Overview. *Educational Technology Research and Development*, 68(2), 1-10.
- Wang, W., Weizi, L., Ning, Z., & Kecheng, L. (2020). Portfolio formation with preselection using deep learning from long-term financial data. *Expert Systems with Applications*, 143.