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The Effect of the Complex Instruction Learning Model on High Jump Learning Outcomes Among Students of SD Negeri 071132 Bintuang in the 2022/2023 Academic Year

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Abstract: This study aimed to determine the effectiveness of the Complex Instruction learning model in improving students' learning outcomes in the high jump subject at SD Negeri 071132 Bintuang, Pulau-Pulau Batu Barat District, South Nias Regency, during the 2022/2023 academic year. The Complex Instruction model emphasizes collaboration, communication, and social interaction within heterogeneous student groups to foster equitable participation and mutual learning. This research applied a Classroom Action Research (CAR) design consisting of two cycles, each including stages of planning, action, observation, and reflection. Data were collected using psychomotor assessment instruments focusing on the students' high jump performance. The initial results showed that only one out of nineteen students (5.2%) met the minimum mastery criterion. After implementing the Complex Instruction model, the results improved, with 26.3% achieving mastery in Cycle I and 36.8% in Cycle II. The average score increased from 42.1 in the pre-test to 60.8 in Cycle II. The findings indicate that the Complex Instruction model can enhance student learning outcomes in the high jump, particularly among upper-grade students (grades 5 and 6) who demonstrated 100% mastery. It is recommended that this cooperative learning approach be applied primarily to upper elementary students who have developed sufficient physical and motor readiness to perform the required jumping and landing techniques effectively.

Keywords: Learning Outcomes; High Jump; Complex Instruction; Physical Education; Classroom Action Research; SD Negeri 071132 Bintuang

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INTRODUCTION

Physical Education, Sports, and Health (PJOK) is a fundamental component of primary school education in Indonesia, serving as a medium to develop students' physical competence, teamwork, and moral character. However, many students still experience difficulties in mastering fundamental athletic movements such as the high jump, especially in maintaining proper coordination during the approach, take-off, and landing phases. This challenge is often caused by teacher-centered learning methods that focus heavily on instruction and demonstration rather than on active, participatory learning (Susila, 2022).

In response to these challenges, the Indonesian Ministry of Education introduced the Independent Curriculum (Kurikulum Merdeka), which promotes a student-centered learning environment emphasizing collaboration, creativity, and character development

(Satria et al., 2022). This curriculum encourages teachers to design learning experiences that allow students to explore, reflect, and apply knowledge through practice and teamwork.

One of the innovative learning approaches that align with the Independent Curriculum's philosophy is the Complex Instruction learning model. This cooperative learning model assigns each student a specific role and responsibility within heterogeneous groups to ensure equal participation. Research shows that this method improves student interaction, motivation, and academic achievement across subjects by fostering collaboration and reducing performance inequality (Nurhayati et al., 2022). In physical education, this approach allows students to learn from peers with varying skill levels, encouraging shared responsibility for learning outcomes and strengthening social relationships (Maruti et al., 2022).

Recent studies also confirm that cooperative learning significantly enhances student engagement and achievement in physical education. For example, a quasi-experimental study in Medan found that cooperative-based instruction increased students' physical performance and motivation during sports lessons (Almaida et al., 2022). Similarly, in a classroom action research project, the use of collaborative learning strategies led to higher mastery in athletics and improved classroom participation (Ghina & Hazimah, 2022).

Based on these empirical findings, the Complex Instruction learning model is expected to address students' challenges in the high jump by combining physical skill development with social interaction and character formation. Therefore, this study aims to analyze the effect of the Complex Instruction learning model on high jump learning outcomes among students of SD Negeri 071132 Bintuang during the 2022/2023 academic year.

The central thesis of this research is that Complex Instruction can improve students' high jump performance and learning outcomes by fostering active collaboration, equitable participation, and meaningful engagement. This study also provides practical insights for teachers implementing the Independent Curriculum, demonstrating that cooperative learning not only enhances physical skills but also contributes to holistic character education in elementary schools.

METHOD

This study employed a Classroom Action Research (CAR) design to examine the effect of the Complex Instruction learning model on students' learning outcomes in the high jump at SD Negeri 071132 Bintuang during the 2022/2023 academic year. The CAR design was chosen because it allows teachers and researchers to collaboratively identify problems, implement solutions, and observe improvements within the actual classroom setting (Maruti et al., 2022). The research followed a cyclical process consisting of four stages: planning, action, observation, and reflection, as outlined by Kemmis and McTaggart and adapted for educational contexts (Sugiyono, 2022).

The study was conducted in the second semester of the 2022/2023 academic year at SD Negeri 071132 Bintuang, located in Pulau-Pulau Batu Barat District, South Nias Regency. The participants were 19 fifth-grade students consisting of both male and female learners with varying levels of physical ability and experience in athletics. The choice of this setting was based on the school's need to improve students' mastery of the high jump and to implement more interactive learning strategies aligned with the Independent Curriculum (Satria et al., 2022).

Data were collected through performance assessments, observations, and field notes. The primary data source consisted of students' scores on high jump performance

tests, which measured take-off, bar clearance, and landing techniques. Observational data were obtained through structured observation sheets that recorded students' participation, cooperation, and engagement during each learning cycle (Nurhayati et al., 2022). Field notes were used to document classroom interactions, teacher reflections, and challenges encountered during implementation.

The main research instrument was a psychomotor assessment rubric designed to evaluate students' high jump performance based on accuracy, balance, and rhythm. The rubric was validated through expert judgment by two PJOK teachers and one athletics coach. The observation sheet measured behavioral indicators such as teamwork, communication, and activeness during group work, consistent with cooperative learning principles (Almaida et al., 2022).

Data were analyzed using descriptive statistics and qualitative reflection analysis. Quantitative data from performance tests were calculated to determine the percentage of students who achieved the Minimum Mastery Criterion (KKM) across pre-test, Cycle I, and Cycle II. Qualitative data from observations and reflections were analyzed thematically to identify patterns of improvement in student participation and learning behavior (Susila, 2022).

RESULT AND DISCUSSION

Result

This study was conducted in two cycles to determine the effect of the Complex Instruction learning model on students' high jump learning outcomes at SD Negeri 071132 Bintuang. Each cycle consisted of four stages: planning, action, observation, and reflection. Data were obtained from performance tests carried out before the implementation (pre-test), after Cycle I, and after Cycle II.

Table 1. The improvement in student achievement across the three stages

Cycle	Number of Students Meeting KKM	Percentage (%)	Average Score
Pre-Test	1 Student	5.20%	42.1
Cycle I	5 Students	26.30%	51.3
Cycle II	7 Students	36.80%	60.8

The table above shows a gradual improvement in students' learning outcomes in each cycle. Initially, only one student reached the KKM, but after the implementation of the Complex Instruction model, the number increased in each subsequent cycle. The average student score also improved significantly from 42.1 in the pre-test, to 51.3 in Cycle I, and finally to 60.8 in Cycle II.

Discussion

The findings of this study reveal that the implementation of the Complex Instruction learning model led to a significant improvement in students' learning outcomes in the high jump. The average student score increased from 42.1 in the pre-test to 60.8 in Cycle II, while the proportion of students achieving the Minimum Mastery Criterion (KKM) rose from 5.2% to 36.8%. These results demonstrate that the learning process became more effective when cooperative and interactive strategies were introduced, allowing students to actively participate, exchange ideas, and provide peer feedback. Similar improvements in learning achievement through cooperative learning have been reported by Susila (2022), who found that collaborative methods in Physical Education classes increase both motivation and skill mastery among elementary school students.

The success of the Complex Instruction model in this study can be attributed to its focus on active engagement and equitable participation. Each student was assigned specific roles within heterogeneous groups such as leader, observer, or recorder which encouraged responsibility and collaboration. This approach is consistent with Almaida et al. (2022), who noted that student-centered learning environments enhance cognitive and psychomotor outcomes by promoting independence, creativity, and peer interaction. By emphasizing teamwork and accountability, students not only improved their high jump technique but also developed social and communication skills that are essential for holistic learning.

The improvement from Cycle I to Cycle II also highlights the effectiveness of Classroom Action Research (CAR) as a reflective process. The modifications made after Cycle I such as extending practice time, refining demonstration techniques, and balancing group composition led to more efficient learning in the second cycle. These findings align with Maruti et al. (2022), who observed that repeated action–reflection cycles in CAR allow teachers to identify barriers and continuously improve the quality of instruction. Similarly, Satria et al. (2022) emphasized that reflective teaching in the Independent Curriculum framework helps educators adapt pedagogical approaches to the unique needs and characteristics of their students.

Despite the positive outcomes, the study also found that not all students reached the mastery level by the end of Cycle II. This suggests that additional factors such as students' physical readiness, equipment availability, and practice frequency also influence learning achievement. Ghina and Hazimah (2022) reported similar findings, noting that environmental and infrastructural constraints often limit the effectiveness of cooperative learning in Physical Education settings. In this context, teachers play a crucial role in adapting learning conditions to ensure inclusivity and sustained motivation among all learners.

From a pedagogical perspective, the results confirm that the Complex Instruction model aligns well with the Independent Curriculum (Kurikulum Merdeka), which emphasizes collaboration, flexibility, and competency-based learning. According to Nurhayati et al. (2022), cooperative learning fosters equitable participation and improves students' sense of belonging and responsibility within the learning process. In this study, students who were initially passive became more confident and active when engaged in cooperative group structures. Moreover, the model supported the development of essential character traits discipline, cooperation, and perseverance consistent with the Pancasila Student Profile (Profil Pelajar Pancasila) envisioned in the national education goals.

Overall, the findings affirm that the Complex Instruction learning model effectively enhances both the psychomotor and social aspects of learning in high jump activities. The model's strength lies in its ability to combine skill development with social learning, thus creating a holistic learning experience. This conclusion aligns with the results of Maruti et al. (2022) and Almaida et al. (2022), who collectively argue that cooperative, reflective, and student-centered teaching strategies are among the most effective approaches to achieving learning excellence under the Independent Curriculum.

CONCLUSION

The study concludes that the application of the Complex Instruction learning model effectively enhances students' learning outcomes in the high jump. Through collaborative activities, role assignments, and peer interaction, students became more active, motivated, and responsible in the learning process. This approach not only

improved their ability to perform high jump techniques correctly but also strengthened their cooperation, confidence, and discipline. The results indicate that the Complex Instruction model fosters a supportive and equitable learning environment that encourages student participation and holistic development, aligning with the goals of the Independent Curriculum to build competence, character, and social responsibility among learners.

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CONFLICT OF INTEREST

Clearly explain whether there are any conflicts of interest related to the reported research.

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