



Improving student achievement through evaluation of volleyball training program: A case study at SMAN 1 Kadupandak

Yesti Yustianti Fratiwi^{1*}, Akhmad Sobarna², Rony Mohamad Rizal³

^{1,2,3}Pasundan Teacher Training and Education College, Cimahi, Indonesia

¹vestyfratiwi@yahoo.com, ²ahmadsobarna@stkipasundan.ac.id, ³denrony@gmail.com

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ABSTRACT

This study aims to evaluate the effectiveness of the Volleyball Team Training Program at SMA Negeri 1 Kadupandak using the CIPP evaluation model, which encompasses context, input, process, and product. Context evaluation examines the alignment of program objectives with the school's vision and mission, while input evaluation covers the availability of human resources, facilities, and funding. Process evaluation focuses on training implementation, program management, and supervision, while product evaluation assesses program outcomes in the form of improved technical skills, character, and student achievement. This study used a descriptive approach with quantitative and qualitative methods. Data were collected through questionnaires, interviews, observation, and documentation. The results indicate that the volleyball training program was quite effective in improving student skills and resulting in achievements at the district and provincial levels. The program's objectives were deemed relevant to the school's vision, although socialization still needs improvement. Coach quality and student motivation are key strengths, but limited facilities, funding, and training schedule conflicts remain obstacles. Therefore, improvements in facilities, funding, and program coordination are recommended to enhance the sustainability and effectiveness of the training.



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INTRODUCTION

Sports have a very important role in the world of education, especially in developing the physical, mental, and social aspects of students. According to research conducted by Zulkarnain et al. (2020), sports can have a positive impact on student character development, which includes increasing discipline, confidence, and social skills such as cooperation and good communication. In addition, exercise also contributes to improving physical fitness which in turn can improve students' concentration and academic achievement (Kurniawan et al., 2022). This makes sports an integral part of the educational curriculum that focuses not only on the achievement of physical achievements, but also on character building.

One of the sports that is popular among students is volleyball. Volleyball not only relies on technical skills, but also requires teamwork, discipline, and a high fighting spirit. As one of the sports that is in high demand in schools, volleyball serves as a means of character formation and achievement that is useful in developing student quality. A structured and systematic volleyball training program can make a positive contribution to students' physical and mental development (Astuti et al., 2024). Therefore, the evaluation of volleyball training programs is very important to know the extent to which this program can contribute to the improvement of students' skills, achievements, and character.

Evaluation of a good training program should include an assessment of various aspects, both internal and external. The CIPP (Context, Input, Process, Product) model developed by Amin (2023) provides a comprehensive framework for evaluating programs. This model adopts a systematic approach that pays attention to four important dimensions in the program, namely context, inputs, processes, and products. Context evaluation focuses on analyzing the program's background, objectives,

and relevance to the needs of students. The input dimension measures the availability of resources required to run a program, including human resources, resources, and funds. The evaluation process includes an assessment of how the program is implemented, including organizing, implementing, and supervising. Meanwhile, the product evaluates the final results achieved, both in the form of achievements, skills, and other impacts on students.

Evaluation of the training program is a strategic step in assessing how well a program is running and the extent to which the goals to be achieved can be achieved effectively. One of the evaluation models that is widely used in sports education is the CIPP (Context, Input, Process, Product) model. This model provides a holistic and comprehensive approach to evaluating programs, involving four main components, namely context, inputs, processes, and products, all of which are interrelated in shaping program success (Rukajat et al., 2025). Using the CIPP model, the evaluation not only looks at the final result (product), but also pays attention to the planning aspects (context), available resources (inputs), and how the implementation process is going (process).

The importance of evaluating volleyball training programs cannot be separated from the need to improve student achievement in the field of sports. Given that achievement sports aim not only to achieve victory in competitions, but also to build character, discipline, and a champion mentality, program evaluation is very important. SMA Negeri 1 Kadupandak was chosen as the research location because the school has an active and sustainable extracurricular volleyball program and consistently participates in various competitions at the district and provincial levels. In recent years, the school's volleyball team has shown significant increases in student participation and achievement, indicating an ongoing coaching process that has never been systematically evaluated. Furthermore, the school also faces limited sports facilities and infrastructure and relatively limited funding, conditions common to public schools in non-urban areas. This situation makes SMA Negeri 1 Kadupandak a relevant and representative context for assessing the effectiveness of sports training programs at the secondary school level. A comprehensive evaluation is needed to ensure that the achievements are truly supported by appropriate planning, resources, and implementation processes. Therefore, assessing the SMA Negeri 1 Kadupandak volleyball training program using the CIPP model is considered relevant to determine the program's strengths and weaknesses.

SMA Negeri 1 Kadupandak, as one of the schools that actively implements sports extracurricular programs, particularly volleyball, aims to improve student achievement in the field of sports as part of holistic student development. The volleyball training program is designed not only to enhance students' technical skills, such as serving, passing, attacking, and team tactics, but also to foster physical fitness, discipline, teamwork, and sportsmanship. In the long term, the program seeks to prepare students to compete effectively in interschool competitions at the district and provincial levels while supporting the school's reputation in non-academic achievements. However, the implementation of this program faces several practical challenges, including limited sports facilities and infrastructure, such as the availability of a single shared volleyball court, suboptimal court conditions, insufficient lighting, and a limited number of standard training equipment. In addition, the program operates under constrained funding, which affects equipment procurement, facility maintenance, coach incentives, and opportunities for competition exposure. Despite these constraints, the program continues to be implemented with the expectation of achieving measurable improvements in student skills, participation consistency, competitive performance, and character development. Therefore, a systematic evaluation is necessary to assess the extent to which these goals have been achieved and to identify areas requiring improvement. Based on these considerations, this study aims to evaluate the volleyball training program at SMA Negeri 1 Kadupandak using the CIPP evaluation model, focusing on the context, input, process, and product dimensions.

Previous studies have demonstrated the effectiveness of the CIPP model in evaluating sports training programs in educational settings. Patimah & Suherman (2025) reported that the application of systematic evaluation models in extracurricular sports programs contributes to improved student discipline and performance. Research by Lyle (2021) emphasized that program evaluation is essential for identifying gaps in coaching quality, facilities, and management that may affect athlete development. In addition, Asril et al. (2021) highlighted that adequate resource allocation and continuous evaluation play a critical role in sustaining school sports programs and improving

competitive achievement. Despite these contributions, most previous studies tend to focus on a single evaluation dimension or emphasize outcomes without thoroughly examining the interrelationship among context, input, process, and product.

SMA Negeri 1 Kadupandak is one of the schools that actively implements a volleyball extracurricular program aimed at enhancing student achievement in sports. The program has been running for several years and has produced notable achievements at the district and provincial levels, indicating its potential effectiveness. However, similar to many school-based sports programs, it faces persistent challenges, particularly related to limited facilities and infrastructure, such as inadequate training courts and equipment, as well as constrained funding that limits program development and competition exposure. These conditions highlight the need for a systematic and comprehensive evaluation to determine whether the program's achievements are supported by adequate planning, resources, and implementation strategies.

The novelty of this study lies in the comprehensive application of the CIPP evaluation model to assess a school-based volleyball training program in a non-urban educational context. Unlike previous studies that primarily prioritize outcomes or isolated aspects of program implementation, this research integrates all four CIPP dimensions to provide a holistic evaluation of program effectiveness. Furthermore, this study links explicit evaluation findings to practical recommendations for improving facilities, funding, scheduling, and coaching management. By addressing the limitations of prior research and offering context-specific insights, the results of this study are expected to contribute both theoretically to the literature on sports program evaluation and practically to the development and improvement of volleyball training programs at SMA Negeri 1 Kadupandak and similar schools in the future.

RESEARCH METHODS

This study employed an evaluative research approach to assess the effectiveness of the Volleyball Team Training Program at SMA Negeri 1 Kadupandak using the CIPP (Context, Input, Process, Product) evaluation model. A descriptive quantitative and qualitative method was applied to obtain a comprehensive understanding of program implementation and outcomes (Ryan et al., 2022). The quantitative approach was used to analyze numerical data related to program components, while the qualitative approach explored deeper insights into the program context, implementation process, and perceived impacts through interviews, observations, and documentation.

The research design followed the CIPP framework, which evaluates program effectiveness through four interconnected dimensions. Context evaluation examined the alignment of program objectives with the school's vision, mission, and student needs. Input evaluation focuses on the availability and quality of resources, including coaches, facilities, and funding. Process evaluation assessed the implementation of training activities, organization, frequency, and supervision, while product evaluation measured outcomes such as skill improvement and student achievements in volleyball.

The study was conducted at SMA Negeri 1 Kadupandak, Cianjur Regency, West Java, from January to March 2024. The population consisted of all students participating in the volleyball training program. Purposive sampling was used to select 30 active students, along with 3 coaches and 2 program supervisors. Data were collected using questionnaires, semi-structured interviews, direct observations, and documentation of training schedules and achievement records.

Research instruments included questionnaires based on CIPP dimensions using a five-point Likert scale, interview guidelines, and observation sheets. Instrument validity was ensured through expert judgment, while reliability was tested using the split-half technique. Quantitative data were analyzed descriptively using percentages and frequencies, while qualitative data were analyzed thematically. Data validity was strengthened through triangulation of sources and methods to enhance credibility and minimize bias.

RESULTS AND DISCUSSION

RESULT

This study aims to evaluate the Volleyball Team Training Program at SMA Negeri 1 Kadupandak using the CIPP (Context, Input, Process, Product) evaluation model. The results of the research will be discussed based on the four dimensions of evaluation in the CIPP model, namely context, input, process, and product. The evaluation was carried out using data obtained from questionnaires, interviews, observations, and documentation. Below, the findings of each dimension and relevant interpretations will be discussed.

Context Evaluation

The contextual aspect in the evaluation of the volleyball training program assesses the suitability between the program's goals and the school's vision and mission, as well as the relevance of the program to the needs of the students. The results of the evaluation show that the objectives of the volleyball training program of SMA Negeri 1 Kadupandak are in line with the school's vision and mission, which emphasizes the importance of developing students' potential as a whole, both in the academic and non-academic fields. As one of the extracurricular programs that the school has, volleyball is expected to help students develop their physical, mental, and character abilities, which supports the school's goal of producing competent and characterful individuals.

According to Pérez-Ordás et al. (2019), the goals of sports extracurricular programs must be in line with the needs of students as well as the school's vision to provide benefits in the long term. In this case, the volleyball training program at SMA Negeri 1 Kadupandak has fulfilled this goal by providing a forum for students to develop sports skills and form character such as discipline, cooperation, and confidence. This is also in line with research conducted by Naji (2025), which shows that sports extracurricular programs, such as volleyball, have a significant impact on improving students' social skills and discipline.

However, even though the program's objectives are in accordance with the school's vision and mission, there are challenges in terms of needs analysis that are not fully optimal. Some students feel a lack of information and socialization about the benefits of participating in a volleyball training program. This can be an inhibiting factor in increasing student participation in training programs. According to a study conducted by Dung (2024), the importance of effective communication in introducing extracurricular programs to students can affect their level of participation in the program.

Evaluation of Inputs

The evaluation of the input dimension focuses on the availability of resources needed for program implementation, including human resources, facilities and infrastructure, and funding. The results of the evaluation show that the volleyball training program at SMA Negeri 1 Kadupandak is supported by competent and experienced coaches. Most coaches have official coaching licenses and have managed training well, following training methodologies that have proven to be effective. This is in line with previous findings that revealed that the quality of coaches greatly influences the success of sports training programs (Lyle, 2021). Skilled and experienced coaches can improve the quality of students' exercises and skills, which in turn can affect the achievement of student achievements.

However, there are shortcomings in terms of the availability of facilities and infrastructure, especially limited training facilities. The existing volleyball courts do not have adequate facilities, such as adequate lighting and a court surface that is not ideal for intense training. In addition, training equipment such as volleyballs, nets, and vests are also limited. This is in accordance with research conducted by Ishak et al. (2025), which found that lack of adequate training facilities and equipment can hinder the development of athletes' skills and achievements at the school level. The availability of good facilities and infrastructure is very important to support the smooth and effective training program.

In addition, funding is also one of the obstacles in the implementation of training programs. Although most of the funds come from schools and committee support, there is not enough funding available to develop the training program to the fullest. Research conducted by Asril et al. (2021) shows that the success of sports training programs is greatly influenced by the allocation of sufficient funds, which includes the procurement of facilities, equipment, and coaches' honorarium.

Process Evaluation

The evaluation of the process dimension focuses on the implementation of the training program, including the organization, implementation of activities, and supervision carried out by coaches and trainers. The results of the evaluation showed that the volleyball training program at SMA Negeri 1 Kadupandak was carried out regularly and structured. Exercises are conducted three times a week with sufficient duration to improve students' physical and technical skills. Coaches also use a variety of varied training methods, such as basic techniques, game strategies, and physical and mental exercises, which support the holistic development of students' skills. This is in line with the results of studies showing that the variety of exercise methods used in sports training programs can increase the effectiveness of athletes' learning and skills (Zemková & Hamar, 2018).

However, even though the training program went well, there were several technical obstacles that affected the smooth implementation. One of the main obstacles is the clash of schedules between the practice program and other activities at school, such as exams and other academic activities. This causes some students to not be able to follow the exercises consistently. According to research conducted by Yanti et al. (2023), schedule coordination between extracurricular activities and academic activities is essential to ensure that students can follow the practice program to the fullest without sacrificing their academic activities. Therefore, it is important to improve coordination between the school and sports coaches in developing a schedule that can accommodate the needs of students.

In addition, the limitations of training facilities, such as inadequate dressing rooms and exercise equipment, are also a problem in the implementation of the program. Although the coach is trying his best to maximize the available resources, the issue of facilities remains an obstacle that needs to be addressed immediately.

Product Evaluation

Evaluation on the product dimension focuses on the results achieved from the training program, both in the form of skill improvement and student achievement. The results of the evaluation showed that the volleyball training program at SMA Negeri 1 Kadupandak gave very positive results. Students who follow a training program consistently show significant improvements in volleyball technique skills, such as serving, passing, and spiking. In addition, the volleyball team of SMA Negeri 1 Kadupandak also managed to achieve achievements at the district level and penetrated the final round at the provincial level. This success shows that the training program has successfully achieved its goal of developing students' sports skills and improving team performance (Hemphill et al., 2019).

In addition to the achievements achieved, other positive impacts seen are the improvement of students' character, such as discipline, teamwork, and confidence. Volleyball training programs not only focus on developing physical skills, but also form positive characters in students, which is crucial for their future personal development. Research conducted by Bisa (2023) shows that achievement sports can help shape students' character, including discipline, cooperation, and champion mentality, which are important elements in personal development.

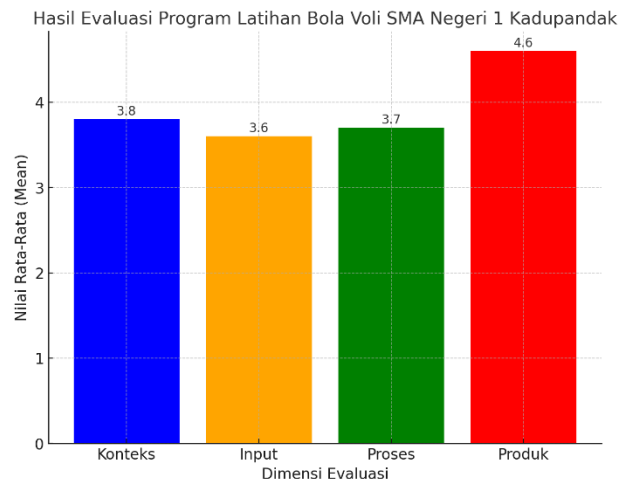


Figure 1. Evaluation of the Training Program

The graph presents the results of the evaluation of the volleyball training program at SMA Negeri 1 Kadupandak based on the four dimensions of the CIPP model, namely Context, Input, Process, and Product, by illustrating the mean score of each dimension. The context dimension, with a mean score of 3.8, indicates that the program objectives are generally well aligned with the school's vision and mission, although there is still some room for improvement. The input dimension obtained a mean score of 3.6, reflecting strong trainer quality and high student motivation, while also highlighting limitations in facilities and infrastructure as the main challenges. The process dimension, which recorded a mean score of 3.7, demonstrates that the training activities have been implemented effectively, despite constraints related to schedule coordination. The product dimension shows the most satisfactory results, with a mean score of 4.6, indicating excellent outcomes in terms of student skill improvement and competitive achievements achieved by the volleyball team.

DISCUSSION

This study aims to evaluate the Volleyball Team Training Program at SMA Negeri 1 Kadupandak using the CIPP evaluation model, which encompasses context, input, process, and product. The evaluation results indicate that the program has generally been effective and has had a positive impact on student skill development and achievement. The evaluation was conducted comprehensively, combining quantitative and qualitative data obtained from questionnaires, interviews, observations, and documentation. This approach enabled researchers to obtain a comprehensive picture of the program's strengths and weaknesses. Therefore, the discussion focuses on an integrated analysis of each CIPP dimension. These findings serve as a basis for assessing the sustainability and future development of the training program.

Regarding the context dimension, the results indicate that the objectives of the Volleyball Training Program align with the school's vision and mission, which emphasize the development of students' academic and non-academic potential. The program provides a platform for students to develop physical, mental, and character abilities in a balanced manner. These findings align with research by McCabe et al. (2020), which states that the alignment of extracurricular programs with the school's vision is a critical factor in long-term success. Furthermore, Bessa et al. (2019) also emphasized that school sports activities contribute significantly to the development of students' discipline and social skills. However, there are still limitations in the program's socialization to all students. This indicates the need to strengthen communication strategies to ensure the program's benefits are widely understood.

The lack of program socialization in the context dimension results in suboptimal student participation in training activities. Some students do not fully understand the long-term benefits of involvement in the volleyball program. This finding supports the research of Bisa (2023), which states that effective communication significantly influences student interest and engagement in extracurricular activities. Therefore, the success of the program context is determined not only by the appropriateness of objectives but also by the information delivery strategy. Schools need to strengthen the role of teachers and coaches in socializing the program. This effort is crucial to ensure the program reaches a wider and sustainable audience.

Evaluation of the input dimension indicates that the quality of human resources is a key strength of the volleyball training program at SMA Negeri 1 Kadupandak. Competent and experienced coaches are able to implement systematic training methods tailored to students' needs. This finding aligns with the research of Lyle (2021) stated that the quality of coaches significantly influences the improvement of student athletes' skills and achievements. High student enthusiasm and motivation are also contributing factors to the program's success. However, this superior human resource base is not fully supported by adequate facilities and infrastructure. This imbalance poses a major challenge to program optimization.

Limited facilities and infrastructure, such as field conditions and training equipment, pose a significant constraint on the input dimension. This condition has the potential to hinder the intensity and quality of training students should receive. This finding aligns with research by Ishak et al. (2025), which confirms that inadequate facilities can hinder the development of athlete skills at the school level. Furthermore, An (2024) also stated that adequate sports facilities are a key prerequisite for effective training programs. Funding issues exacerbate these limitations by limiting the procurement of facilities and equipment. Therefore, the input dimension demonstrates the need for stronger structural support from schools and stakeholders.

In the process dimension, the training program was deemed to be well-organized and well-structured. Training was conducted routinely using a variety of methods covering basic techniques, game strategies, and physical and mental training. This approach supported the holistic development of student skills. This finding aligns with research by Sandbakk et al. (2023), which stated that varying training methods can improve the effectiveness of sports learning. However, the process implementation still faced challenges in the form of scheduling conflicts with academic activities. This situation led to inconsistent attendance by some students.

The problem of scheduling coordination between academic and extracurricular activities was a major challenge in the process dimension. This finding supports the research of Mehra et al. (2023), which emphasized the importance of integrated schedule management to maintain a balance between academic and non-academic achievement. Lack of schedule synchronization can reduce training effectiveness and impact program outcomes. Furthermore, limited supporting facilities, such as changing rooms and equipment, also impacted the comfort of training. Although coaches attempted to maximize existing resources, structural constraints remained a barrier. Therefore, improvements in coordination and facilities were urgently needed.

Evaluation of the product dimension showed very positive results compared to other dimensions. Students participating in the program consistently experienced significant improvements in their basic volleyball technical skills. Furthermore, the SMA Negeri 1 Kadupandak volleyball team achieved success at the district level and reached the provincial finals. This finding aligns with research by Zhang (2023), which found that a structured training program directly contributes to improved athletic performance. These results demonstrate that, despite limitations in input and process, the program still produced optimal output. This reflects the effectiveness of the coach's role and the students' commitment.

Beyond achievement, the product dimension also demonstrated a positive impact on student character development. Values such as discipline, teamwork, responsibility, and self-confidence developed through the training and competition process. This finding aligns with research by Bisa (2023), which confirmed that competitive sports play a crucial role in student character development. The novelty of this study lies in the comprehensive application of the CIPP model to evaluate a

volleyball training program at the high school level. This study not only assessed the final outcome but also examined the process and supporting factors. Thus, this study provides a more comprehensive evaluative picture than previous studies.

This research contributes both theoretically and practically, particularly in developing an evaluation of school sports programs based on the CIPP model. The results can serve as a reference for schools in systematically designing, implementing, and evaluating extracurricular sports programs. For future research, it is recommended that the scope of the study be expanded to include more schools or different sports. Longitudinal research is also needed to examine the program's long-term impact on student achievement and character. Furthermore, the development of more specific evaluation instruments can improve the accuracy of the findings. Therefore, further research is expected to enrich the study of educational sports program evaluation.

CONCLUSION

The evaluation of the Volleyball Team Training Program at SMA Negeri 1 Kadupandak using the CIPP (Context, Input, Process, Product) model indicates that the program has been implemented effectively and has largely achieved its intended objectives. The program objectives are aligned with the school's vision and mission and are relevant to students' interests and needs, although program socialization remains limited. The availability of competent coaches and high student enthusiasm constitute major strengths of the program, while limitations in facilities, infrastructure, funding, and schedule coordination present notable challenges. Despite these constraints, the training process has been carried out properly, and the program has produced positive outcomes, as reflected in improved technical skills, character development, and achievements at district and provincial levels. Overall, the volleyball training program has contributed positively to student development and school performance, but several supporting aspects still require improvement to ensure long-term sustainability.

To enhance the effectiveness and continuity of the program, it is recommended that the school improve training facilities and infrastructure, increase funding support, and strengthen coordination between training schedules and academic activities to minimize conflicts. Greater institutional and external support, including collaboration with school committees, local government, or sponsors, is necessary to support facility development and competition participation. In addition, continuous professional development for coaches should be prioritized to improve training quality and program management. Increased program socialization to students and parents is also important to broaden participation and support, while regular and systematic evaluations should be conducted to ensure the program remains relevant, effective, and capable of fostering both athletic performance and character development through sports.

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