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Evaluation of the Futsal Extracurricular Program: Developing Students' Life Skills Vocational High School

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ABSTRACT

Purpose of the study: This study aims to evaluate the effectiveness of integrating life skills education into futsal extracurricular activities in vocational high schools. The research was conducted in response to the limited application of life skills learning in sports-based programs, particularly in futsal, which is often focused merely on technical performance.

Methodology: The study employed a quantitative descriptive approach using the CIPP (Context, Input, Process, Product) model. The participants were 13 students purposively selected from the extracurricular futsal program at Vocational High School Muhammadiyah Kutawinangun. Data were collected using validated questionnaires to measure life skills and performance tests to assess basic futsal skills (dribbling, passing, and shooting). The data were analyzed using paired sample t-tests and N-Gain to determine the effectiveness of the intervention.

Main Findings: The results showed a significant improvement in students' life skills ($M = 50.69$; $t = 8.957$; $p < 0.001$) and a moderate improvement in futsal skills ($M = 9.39$; $t = 3.501$; $p = 0.004$). The integration of structured life skills learning within futsal training proved effective in developing students' teamwork, communication, and self-management abilities.

Novelty/Originality of this study: The novelty of this study lies in its systematic combination of sports pedagogy and life skills education within an extracurricular setting, providing a new model for holistic learning in vocational education. The findings have practical implications for educators and policymakers in designing sports-based learning models that foster students' personal, social, and professional competencies in alignment with 21st-century education goals.

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1. INTRODUCTION

Many students face challenges in developing critical thinking skills because they are often confined to text-oriented and theory-based classroom learning approaches. Students' engagement with the applied learning strategies can also reflect their interest in physical education itself. However, traditional strategies such as summarizing, concept mapping, and group discussions often require extended implementation time and may not

fully engage students. Therefore, adopting more interactive and experiential approaches, such as physical education activities, can serve as an effective alternative for enhancing learning motivation and participation [1].

Physical education serves as a medium for fostering physical growth, psychological development, motor skills, knowledge, reasoning, and value appreciation—including attitude, mentality, emotional balance, sportsmanship, spirituality, social competence, and healthy lifestyle habits. These aspects collectively stimulate balanced physical and mental growth. However, the increasing emphasis on cognitive outcomes in education has often marginalized other essential domains such as moral, ethical, character, artistic, psychomotor, and life skills development. In this context, physical education not only promotes motor and cognitive growth but also integrates intellectual understanding with active learning. This integration contributes to the school's broader educational mission by supporting a balanced and holistic development process. Furthermore, the objectives of sports extend beyond physical performance to encompass the cultivation of social values, life skills, morality, and personal character, all of which are crucial in shaping students into competent and responsible individuals [2], [3].

Contemporary education increasingly acknowledges the importance of developing a comprehensive range of student competencies. True education should nurture learners harmoniously, encompassing their intellectual, emotional, physical, social, aesthetic, and spiritual potentials. Young people are regarded as highly productive members of society due to their physical vitality and intellectual capacity. Therefore, education is expected to guide students toward self-awareness, independence, and the ability to contribute positively to their communities, while recognizing their role as servants of the Almighty God. The ultimate goal of education, therefore, is to create a learning environment and process that holistically equips students with the knowledge, skills, attitudes, and values needed for life. Education should not be limited to the pursuit of academic knowledge alone, but must also focus on cultivating essential competencies that enable students to live meaningfully, interact harmoniously with others, and adapt responsibly to their surrounding environment [4], [5].

Physical education plays a crucial role in enhancing educational development as part of lifelong human growth. It provides students with opportunities to engage directly in a variety of experiences, learning through physical activities, games, and exercises conducted in a systematic, directed, and planned manner. Through these activities, students gain experiences that promote the development of a healthy and active lifestyle throughout their lives. Physical education also allows students to explore creative, innovative, and skillful activities, improve and maintain physical fitness, and develop the ability to motivate themselves and others. Sports education, as an integral part of national education, extends beyond school hours through extracurricular programs, offering students opportunities to actively participate in sports and build a foundation for lifelong engagement in physical activity [6]-[8].

The Holistic Education approach aims to develop the full potential of students in a balanced and harmonious manner, addressing intellectual, emotional, physical, social, aesthetic, and spiritual aspects. This approach focuses on the comprehensive development of the whole person, encompassing both cognitive and affective dimensions [9]. This education aims to develop people as much as possible so that they can become the best or most beautiful they can be and fully develop their "capacity to shape humanity [10].

Holistic education is a pedagogical approach that addresses the needs of all types of learners, providing fulfillment and satisfaction for teachers while preparing future citizens who are attentive and responsible toward others, their communities, and the planet. This approach aligns with both local and global educational principles, emphasizing interdependence and interconnectedness. From this perspective, holistic education aims to create environments where people live in harmony with their surroundings. It challenges consumerism as the dominant way of life in modern society, instead promoting education grounded in the fundamental realities of nature and human existence. Holistic education seeks to connect individual parts with the broader whole, fostering a sense of unity and balance [11].

From a practical perspective, futsal extracurricular activities in vocational high schools often focus primarily on the technical aspects of the game, rather than systematically fostering life skills. This gap forms the basis for the present study, which seeks to integrate life skills into futsal learning and examine its impact on students' social-emotional competencies. The objectives of this study are to: 1) analyze the effectiveness of integrating life skills into futsal extracurricular activities in vocational high schools; 2) evaluate changes in students' life skills and futsal skills before and after the intervention, and; 3) provide recommendations for developing a life skills–based extracurricular learning model for vocational education units.

Theoretically, this study contributes to strengthening the holistic education paradigm in the context of physical education, while practically providing a basis for schools to design extracurricular activities that promote character and life skills development. The importance of this study is underscored by the requirement for students in the era of the independent curriculum to continuously develop their potential, particularly by enhancing their life skills, which in turn influence their scientific thinking patterns. Moreover, physical education promotes motor skills and knowledge of human growth, which can be sustained when theoretical knowledge is integrated with physical activity and the school's educational mission. This integration provides a balanced and

consistent approach to educating students holistically [4]. Therefore, it is essential for vocational high schools to incorporate life skills into physical education to ensure its meaningfulness and effectiveness. [12]

2. LITERATURE REVIEW

Life Skills

Life skills are psychosocial and interpersonal competencies that enable individuals to make sound decisions, solve problems, think critically and creatively, communicate effectively, build healthy relationships, empathize with others, and manage their lives in a productive and balanced manner. They allow individuals or groups to apply knowledge, attitudes, and values in practice, including the ability to identify problems, determine appropriate solutions, and implement effective strategies. Life skills can be effectively applied in various contexts, such as at school, at home, and in the wider community, through actions like communicating effectively with peers and adults, making informed decisions, asserting oneself in interpersonal relationships, and regulating intrapersonal behaviors objectively [13]-[15].

Life skills can be categorized into two types: intrapersonal skills, which relate to self-management and personal development, and interpersonal skills, which involve effective interaction with others. In society, life skills serve to promote children's health and development from early childhood through adolescence, prevent adverse outcomes, prepare young people to navigate social changes, foster responsible citizenship, enhance quality of life, and contribute to global peace. Applying life skills in the context of sports is a widely used approach, as it helps students develop abilities that are valuable not only in physical activities but also in other areas of life. Previous research indicates that sports provide an effective medium for developing and transferring life skills, as they offer meaningful social experiences and involve engagement in various movement-based components that promote personal and social growth [2].

Since ancient times, Plato emphasized that sports serve as a vehicle for personal development. The sports environment provides an ideal context for cultivating life skills, as the methods used to develop sports skills closely align with those used for life skills. In practice, both types of skills are fostered through structured steps such as demonstration, modeling, and guided practice. For example, skills such as goal setting, problem-solving, and working under pressure, which are essential in sports, can also be applied in classroom settings and professional environments. By developing these skills in one context, students can effectively transfer them to other areas of life [16]-[18]. The relationship between sports skills and life competencies is evident in sports environments, where students are required to collaborate, demonstrate courage, develop themselves, practice self-control, respect rules, show sportsmanship, maintain integrity, compete, exhibit leadership, and care for the environment. Youth development is often understood as the process of acquiring life skills defined as personal assets and abilities such as determination, emotional regulation, self-esteem, and a strong work ethic which can be nurtured through sports and transferred to non-sporting contexts. A better understanding of how sports can be structured to promote positive youth development is therefore essential for maximizing both personal and social growth in young people [19].

Previous studies have indicated that sports programs can be implemented in a structured manner to teach life skills, using sports games and physical activities to develop components such as leadership. In particular, futsal training methods can be integrated with systematically planned life skills to enhance both intrapersonal and interpersonal competencies. The framework of life skills, categorized into intrapersonal and interpersonal types, is illustrated in the following figure 1.

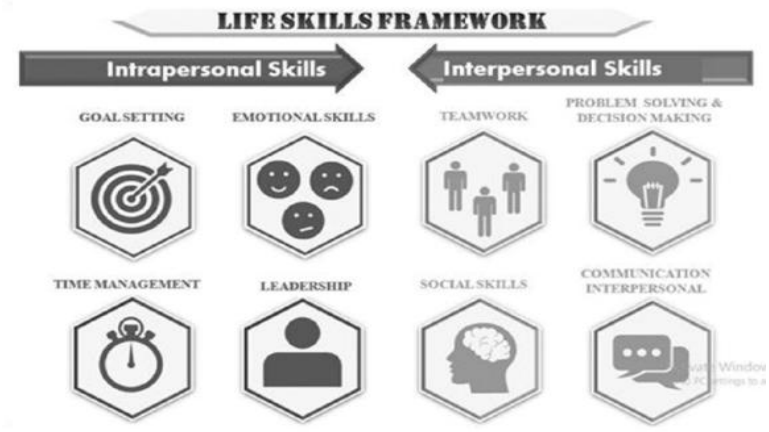

Figure 1. Life Skills Framework

As explained in the framework, balance is achieved by ensuring that life skills programs provide equal exposure to intrapersonal and interpersonal life skills.

Characteristics of Physical Education in Vocational High Schools

Physical education is an educational process through which individuals acquire skills, knowledge, physical fitness, and attitudes that contribute to optimal development and well-being. Teachers and coaches can guide students to focus on skill development rather than solely on winning, helping them to feel competent and appreciate participation in sports for enjoyment, health, and lifelong fitness [21]. Physical education (referred to in Indonesia as Physical Education, Sports, and Health) is a form of education that uses physical activity to comprehensively enhance the development of students in physical, mental, and emotional domains. It considers each participant as a whole entity, encompassing both body and mind. This perspective highlights physical education as a broad and engaging field of study, with a particular emphasis on improving human movement [22].

Physical education in vocational high schools (SMK) possesses specific characteristics that distinguish it from physical education at other educational levels. According to the Ministry of Education, Culture, Research, and Technology (2022), the characteristics of Physical Education, Sports, and Health are as follows: 1) Focuses on developing students who are physically literate and able to apply this literacy in real-life situations throughout their lives. 2) Engages students in direct, authentic experiences that enhance creativity, critical thinking, collaboration, communication skills, and higher-order thinking through physical activities. 3) Considers the characteristics of students, movement tasks, and supportive environments based on developmentally appropriate practices (DAP). 4) Is implemented in schools according to the noble values of the nation, aiming to shape the Pancasila Student Profile. 5) Incorporates elements of skill development, knowledge acquisition, practical application of movement, and character development, including the internalization of movement-related values.

Education that promotes healthy habits has received considerable attention due to concerns about obesity and unhealthy lifestyle behaviors among the population [23]. Extracurricular sports activities can support the development of healthy habits and encourage an active lifestyle. These positive habits not only offer social benefits but also contribute to sustainable development.

School Sports Activity Unit

Extracurricular activities, as a special component of the education system, are designed to provide students with a forum to develop their talents and interests. Therefore, these activities must be managed systematically and methodically to achieve the intended goals. To develop and organize extracurricular programs effectively, schools need to understand the methods and stages required to guide students in participating in them. Extracurricular activities serve as a platform for nurturing students' potential and positively influencing their educational character. Through these activities, students are expected to cultivate the Pancasila Student Profile, including global awareness, mutual cooperation, creativity, critical thinking, independence, loyalty, reverence for God Almighty, and noble behavior.

Extracurricular activities are programs conducted outside regular school hours, typically in the afternoon for schools that hold morning sessions. These activities aim to develop students' talents in accordance with their interests, guiding and supporting them to achieve optimal performance. Extracurricular activities can be broadly classified into two categories: sports and non-sports programs. While such activities generally address students' psychological and social development, not all students possess talents or potential in sports, and some may not yet fully recognize or understand their unique abilities and interests [24].

Life skills also encompass the ability to set goals, develop personal assets, establish youth organizations, build healthy relationships, and strengthen the environment. Although extracurricular activities offer numerous benefits, some argue that they may reduce the time available for academic studies. Nevertheless, these activities provide a platform for developing students' talents and interests, often aligning with their hobbies and skills. Participation in extracurricular programs also offers experience in organizing and managing activities, which positively impacts students' education and prepares them for higher education and future endeavors [25], [26].

By participating in extracurricular activities, students gain exposure to the organization of sporting events. Sports events are common community activities and often feature various matches and competitions. Organizing such events is not a recent phenomenon but has been part of cultural development in society for a long time. While some events are held formally, many occur informally or spontaneously on a temporary basis. Formal sporting events, particularly those associated with specific competition levels or the Olympic model, require established reputations and recognition in international rankings [27].

At the formal level, sporting events include Regional Sports Weeks, Provincial Sports Weeks, National Sports Weeks, the Southeast Asian Games, the Asian Games, and the Olympics. In contrast, numerous informal sporting events are held in diverse forms, such as sports festivals and entertainment competitions organized by

various event organizers (EOs). The success of these events is crucial not only for the effectiveness of sports programs but also for promoting destination tourism. From a management perspective, event success depends on the effective coordination of organizational components, with various stakeholders collaborating to enhance the overall event experience.

Community Recreational Sports

According to Article 11 of the Sports Law, sports activities may be carried out by individuals, educational units, institutions, associations, or sports organizations. The objectives of these activities include promoting physical activity, fostering enjoyment and well-being, improving health and fitness, building social relationships, preserving and enhancing regional and national cultural heritage, strengthening positive social interactions, reinforcing national social resilience, and increasing national economic productivity.

Recreation consists of activities designed to refresh the mind and body, including sports undertaken for enjoyment and personal satisfaction. These activities are generally performed during leisure time, which refers to periods outside essential biological functions and work-related activities. Recreation encompasses mental, emotional, physical, and social activities aimed at restoring individuals from the demands of daily life and is carried out consciously. It can be performed individually or collectively, in both indoor and outdoor settings. Recreational sports are physical activities performed during leisure time according to individual interests and preferences. These activities provide enjoyment, promote emotional well-being, and help restore both physical and mental health. By engaging in recreational sports, individuals can maintain fitness, enhance overall health, and achieve a sense of holistic well-being [28].

Recreational sports are considered essential in human life, with many individuals prioritizing these activities in their daily routines, often scheduling them weekly [29]. These activities are undertaken during leisure time to refresh both physical and mental health. Common forms of recreation include tourism, sports, games, and hobbies, and they are generally practiced on weekends or holidays. Recreational activities can be passive, such as watching television, or active, such as participating in sports. The primary objectives of recreational sports are enjoyment, satisfaction, health promotion, freedom from obligation, and the opportunity to engage either individually or in groups. Overall, these activities aim to rejuvenate both body and mind through enjoyable and purposeful experiences.

Life Skills Learning

Learning life skills through sports emphasizes the role of emotions and affective states in shaping students' overall performance, motivation, and engagement. Emotions are not merely reactions to events but are integral components that influence learning and performance. A thorough understanding of these emotional processes can inform more effective training methodologies and enhance performance outcomes.

Table 1. Learning Steps

Learning Stages	Teacher Activities
Stage 1 Orient students to the problem	Explain learning objectives, explain indicators of life skills
Stage 2 Peer Discussion	Students define and organize learning related to the task
Stage 3 Life skills task	Encourage students to gather relevant information and conduct experiments to obtain explanations and solutions to problems.
Stage 4 Reflection	Evaluate results Learn about the material studied/request group presentation results Work

3. RESEARCH METHOD

This study employed a quantitative descriptive approach using the CIPP evaluation model (Context, Input, Process, Product) to assess the effectiveness of integrating life skills into futsal extracurricular activities. The research design combined elements of program evaluation and quasi-experimental methods to measure changes before and after the intervention.

The study was conducted at Vocational High School Muhammadiyah Kutawinangun, Kebumen Regency, Indonesia. The participants consisted of 13 students (from a population of 16) who were actively involved in the school's futsal extracurricular program. The participants were selected using purposive sampling, with inclusion criteria such as regular attendance, active participation, and consent to join the full 16-session intervention. The small sample size was deemed adequate for detecting large effect sizes in educational interventions involving intact groups.

Life Skills Scale for Sport [30], a standardized questionnaire adapted to measure intrapersonal and interpersonal life skills including communication, teamwork, goal setting, time management, and leadership. Futsal Basic Skills Test, performance tests assessing dribbling, passing, and shooting accuracy based on FIFA training guidelines. The data collection grid aligned each instrument item with specific indicators of life skills and futsal competence, ensuring construct validity. All instruments underwent expert validation by three physical education lecturers, resulting in a content validity index (CVI) of 0.87, indicating strong consistency.

The intervention was implemented over 16 training sessions (three sessions per week for approximately six weeks). The program integrated explicit life skills instruction into futsal learning activities, following structured stages: (1) problem orientation, (2) peer discussion, (3) skill application, and (4) reflection. Data were collected during the pre-test and post-test phases using the same instruments. Figure 2 illustrates the flowchart of the data collection process used in this study. It describes the sequential steps taken from participant selection, data gathering, to data analysis, ensuring the validity and reliability of the research process.

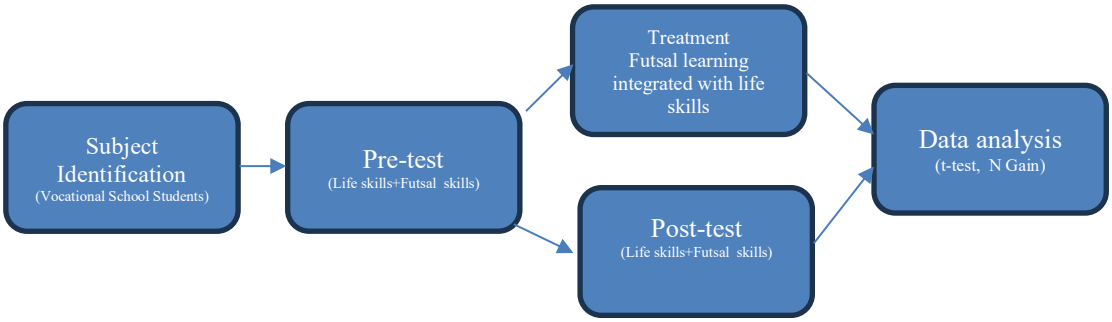

Figure 2. Data Collection Flowchart

Data were analyzed using both descriptive and inferential statistics. Descriptive analysis was used to determine the mean, standard deviation, and percentage improvement of each variable. Inferential analysis employed a paired sample t-test to identify significant differences between pre-test and post-test scores, and the N-Gain formula to measure the magnitude of improvement. The statistical analysis was performed using SPSS version 26. A significance level of $p < 0.05$ was applied.

Although the sample consisted of only 13 participants, the observed effect size (Cohen's $d = 1.8$) indicated a strong intervention effect, corresponding to a statistical power of 0.95, confirming that the sample size was sufficient to detect meaningful differences. Internal validity threats (e.g., maturation, testing effects, and selection bias) were controlled through consistent implementation procedures, standardized instructions, and uniform training conditions. External validity was strengthened by the use of standardized instruments and replicable futsal-based learning models.

4. RESULTS AND DISCUSSION

The analysis results indicate that the intervention provided to students had a significant effect on improving the measured variables, namely life skills and basic futsal skills. The descriptive and inferential findings are presented in the following tables and figure. Before presenting the findings in Table 2, it is important to highlight that the paired sample t-test was conducted to evaluate whether there were significant differences in students' life skills and futsal skills between the pre-test and post-test phases.

Table 2. Results of Pre-Test and Post-Test Difference Tests

Variabel	Mean Pre–Post	Std. Deviasi	Std. Error	95% CI (Lower-Upper)	t	df	Sig. (2-tailed)
Life Skills	50.692	20.406	5.660	38.361 – 63.023	8.957	12	0.000
Basic Futsal Skills	9.385	9.666	2.681	3.544 – 15.225	3.501	12	0.004

As presented in Table 2, students' life skills increased significantly ($t = 8.957$; $p < 0.001$), while futsal skills also showed a statistically significant improvement ($t = 3.501$; $p = 0.004$). These findings confirm that integrating life skills into futsal practice yields meaningful changes in both social-emotional and technical domains. To complement the t-test results, the normalized gain score (N-Gain) was calculated to measure the magnitude of improvement in both variables. The results are summarized in Table 3.

Table 3. Gain Score

No.	Life Skill	Futsal Skills
1	0.46	-0.03
2	0.65	0.28
3	0.49	0.41
4	0.72	0.44
5	0.53	0.65
6	0.32	0.45
7	0.80	0.14
8	0.76	0.13
9	0.34	0.17
10	0.56	0.40
11	0.74	0.17
12	0.17	-0.05
13	0.44	0.17
Mean	0.54	0.26

Based on Table 3, the average gain score of 0.54 for life skills indicates a “moderate to high” level of improvement, while the futsal skill gain score of 0.26 falls within the “fair” category. This demonstrates that the life skills component of the intervention had a stronger and more consistent impact than the technical futsal component. Before presenting the graphical findings, it is essential to illustrate the overall pattern of improvement in both variables. Figure 3 below depicts the comparative trend of life skills and futsal skill progress across all observation points.

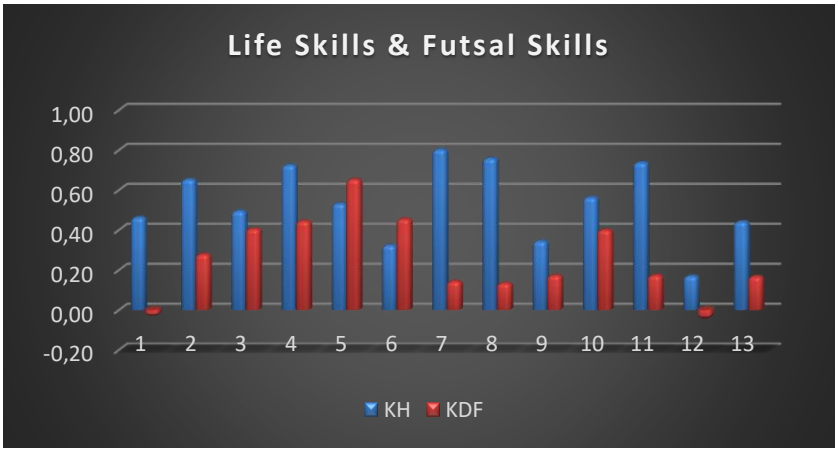

Figure 3. Graph of improvement in life skills and basic futsal skills

As shown in Figure 3, life skills (blue bars) consistently display higher improvement levels compared to futsal skills (orange bars). The stability of life skills growth suggests that the intervention emphasizing social interaction, communication, and teamwork produced more sustained outcomes. In contrast, futsal skills exhibited fluctuations, reflecting the need for longer technical training to achieve measurable improvement. Futsal skills were assessed alongside life skills at 13 observation points. In general, life skills scores tended to be higher than basic futsal skills scores at almost all points, suggesting that improvements in life skills were more pronounced than in futsal skills. At certain points, such as 4, 7, and 10, the difference was particularly notable, with life skills reaching their peak while futsal skills remained low. Conversely, at points 3 and 6, futsal skills approached or slightly exceeded life skills; however, the overall trend indicates that life skills improvements were dominant throughout the observation period.

The pattern indicates that life skills consistently increased and maintained higher values throughout the observation period, whereas futsal skills exhibited more fluctuation and generally lower values. This suggests that the processes or factors influencing life skills were more effective or optimal compared to those affecting futsal skills within the context of the integrated program. Additionally, negative values observed in futsal skills at certain points may reflect performance obstacles, while life skills consistently remained positive. In conclusion, the integration of life skills proved to be more stable and successful than the development of futsal skills, as evidenced by the data presented..

The improvements in life skills and futsal skills directly influence the overall trend observed in the graph. Life skills exhibit a consistent and stable upward pattern across nearly all observation points, with only minor fluctuations. Values for life skills generally remain above zero and are often higher than those for futsal skills, thereby contributing significantly to the overall stability. In contrast, futsal skills are more volatile, with some points showing sharp declines to near or below zero. These fluctuations create variations in the graph, but because futsal skill values are generally lower than life skills, their effect on overall stability is comparatively smaller.

Overall, the stability of the graph is primarily influenced by improvements in life skills. When life skills increase and remain stable, the graph generally maintains its stability, despite fluctuations in futsal skills. Conversely, sharp declines in futsal skills only cause localized disruptions at specific points, without substantially affecting the overall trend, which remains stable due to the dominant contribution of life skills.

Life Skills

Prior to displaying Figure 4, it should be noted that this graph specifically focuses on the trajectory of life skills development throughout the training sessions.

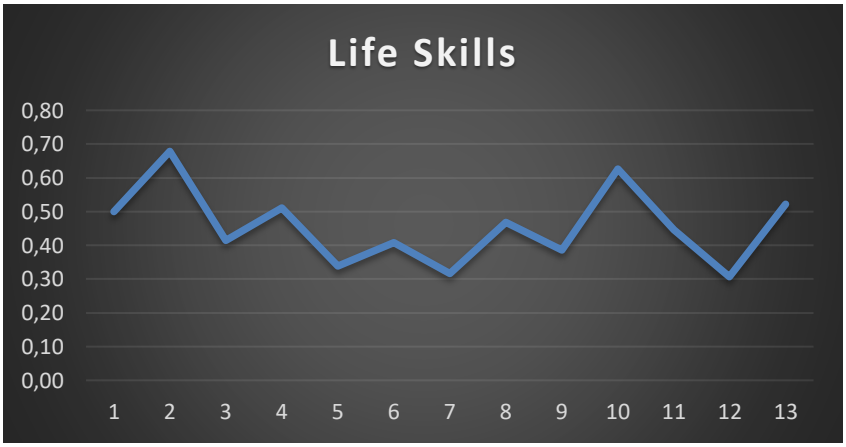

Figure 4. Life Skills Improvement Graph

As illustrated in Figure 4, the progression of life skills demonstrates a steady upward trend. Students exhibited significant enhancement in cooperation, leadership, and emotional regulation, particularly in the latter sessions. This finding aligns with the results of [2], which emphasize the effectiveness of sports as a medium for developing transferable life skills. The study focused on the direct learning of life skills, such as communication, teamwork, and time management, through notable improvements in futsal experiences that influenced life skills outcomes. Further analysis indicates that team dynamics in futsal, including coordination and strategic role distribution, are key factors in enhancing students' life skills. These findings support the theory that group activities in sports provide an effective medium for developing social and emotional competencies. [31].

Furthermore, futsal, as a dynamic and fast-paced sport, demands real-time coordination among team members, thereby enhancing time management and collaborative decision-making skills. The sport's emphasis on cooperation also fosters a sense of collective responsibility and empathy, which are central components of social-emotional life skills. According to [32], participation in sports activities designed to develop soft skills can increase self-confidence, perseverance, and openness in facing challenges. Significant improvements in life skills highlight the value of meaningful, contextual learning for vocational high school students. Futsal serves not only as a recreational activity but also as a medium for strengthening character, discipline, and work ethic. When students encounter practical situations during gameplay, they are prompted to apply their interpersonal skills directly, making learning more relevant and applicable. A recent study by [33] indicates that sports programs designed with a life skills-oriented approach can provide a strong foundation for work readiness and adult life.

The improvement in life skills is facilitated by a structured approach that emphasizes cooperative play, communication, time management, and responsibility during futsal training. For instance, in training sessions, students are encouraged to share roles—as attackers, defenders, or goalkeepers and to resolve conflicts that arise during gameplay. Intensive focus on life skills over 14 sessions enables the internalization of values such as leadership and adaptability. These findings are consistent with research by [34], which suggests that group activities in sports enhance social and emotional competence. In addition to role distribution, the dynamics of futsal, demanding rapid coordination and strategic collaboration, also train students in joint decision-making. Complex game situations encourage students to think collaboratively and act efficiently to achieve team success. This approach fosters a learning environment that promotes individual responsibility within a group context and

has been shown to be effective in developing life skills [35]. Students not only acquire technical skills but also learn to function as part of a system that requires positive and productive interactions.

Reflective activities after practice, such as group discussions and peer feedback, play a crucial role in reinforcing the internalization of social skills. By discussing their experiences during practice, students learn to evaluate their actions and understand the impact of their decisions on others. This reflection strategy has been shown to effectively enhance self-awareness and empathy, two critical components of life skills [36]. Moreover, reflection helps students recognize the importance of values such as cooperation, tolerance, and discipline in real-world contexts. These findings provide evidence that an experiential learning approach in extracurricular sports activities, such as futsal, can significantly enhance students' social and emotional competencies. A training model that emphasizes not only technical skills but also the development of soft skills is particularly relevant for vocational high schools, given the importance of life skills in professional contexts. Support from teachers and coaches, acting as facilitators of these values, further reinforces the program's effectiveness. A study by [37] concluded that explicitly integrating life skills into physical education and sports promotes more meaningful and enduring learning experiences for students.

In conclusion, the results of this study make a significant contribution to the development of extracurricular models that address the need to strengthen students' character and life skills. Schools should consider designing activities that not only focus on physical performance but also explicitly and systematically integrate social-emotional learning. These findings align with the 21st-century holistic education approach, which emphasizes the development of soft skills as a fundamental component of the education curriculum. [37].

Futsal Skills

To provide a comprehensive view of technical performance, Figure 5 illustrates the observed changes in futsal skills following the intervention.

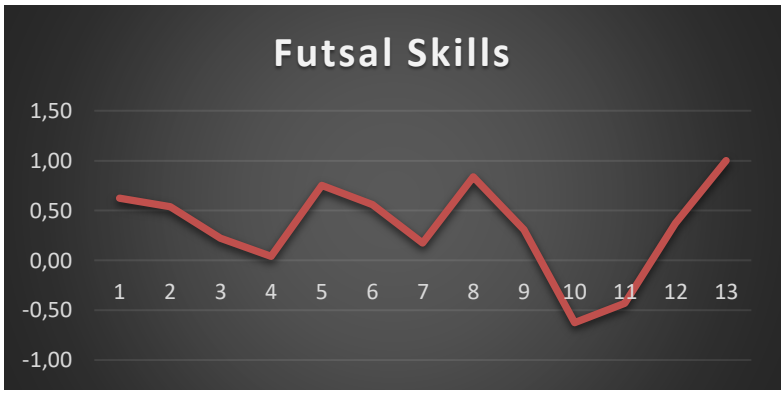

Figure 5. Improvement in Futsal Skills

Based on Figure 6, the increase in futsal skills was present but less substantial compared to life skills. These results are consistent with the findings of [38], indicating that technical mastery in futsal requires longer exposure and repetitive training cycles. The fluctuation pattern observed in this study highlights the importance of integrating biomechanical and individualized approaches in future training designs. The findings regarding futsal skill variables indicate that the intervention did not lead to substantial improvement. These results are consistent with research by [38], which emphasizes that mastering basic techniques in team sports such as futsal requires a specific approach based on biomechanical analysis and structured repetition. The study further revealed that generic training programs, without consideration of individual physiological profiles, tend to be ineffective in producing significant differences between groups.

Training duration can pose a significant limitation, as highlighted in a meta-analysis by [39]. The study found that a minimum of 120 hours of guided training is required to achieve measurable improvements in dribbling, passing, and shooting techniques among novice athletes. This finding is further supported by a FIFA report (2025), which recommends an 8–12 week training cycle with 4–5 sessions per week to attain optimal neuromuscular adaptation. The methodological aspects of training also warrant careful consideration. Research by [40] critiques conventional training models that overemphasize static drills at the expense of dynamic, game-based simulations. Their study demonstrates that integrating augmented reality into training can enhance skill retention by up to 35% compared to traditional methods, suggesting that innovative intervention designs may be necessary to achieve more measurable impacts.

Individual variability in motor learning capacity also plays a crucial role. [41] found that individual responses to basic technique training are strongly influenced by genetic factors and prior physical activity. Participants with lower motor coordination require a micro-learning approach with shorter intervals, unlike those

with higher baseline abilities. These findings underscore the importance of conducting pre-assessments before interventions to group participants according to their ability profiles.

Limitations in measurement instruments can serve as an additional explanatory factor. Davids et al., developed a computer vision-based assessment system capable of quantifying kicking precision and reaction speed in real time, revealing disparities of up to 22% compared to manual assessment, which may explain why conventional studies may fail to detect differences between groups [42]. The integration of wearable device technology, as proposed by Erduran Avci and Korur, could further provide more accurate biomechanical data for skill evaluation [43]. The practical implications of this study call for a reorientation of the futsal training paradigm. UNESCO recommends a gradual development model that integrates technical, tactical, and psychological aspects from the early stages. A longitudinal study by Yang and Feng indicates that combining technical training with video analysis sessions can increase transfer learning to competitive situations by 40% [44]. Future research should consider intervention designs that combine quantitative measures with qualitative observations based on actual performance.

5. CONCLUSION

This study concludes that integrating life skills education into futsal extracurricular activities significantly enhances students' social-emotional competencies, particularly in communication, teamwork, leadership, and self-management. The structured futsal learning process that emphasizes cooperation and reflection provides meaningful opportunities for students to develop and apply essential life skills in real-life contexts. Although the improvement in basic futsal skills was moderate, the results indicate that a pedagogical design combining technical and social learning components can support students' holistic development. The findings demonstrate that futsal can serve not only as a physical activity but also as a transformative educational medium for character and life skills formation. The theoretical implication of this study lies in strengthening the holistic education paradigm, positioning sports-based extracurricular programs as an effective vehicle for fostering 21st-century competencies. The practical implication suggests that schools and educators should systematically integrate life skills instruction into sports training programs, while policymakers should recognize extracurricular sports as strategic instruments for youth empowerment and moral development in vocational education settings.

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