

Adaptation of Sports Coaching Strategies in Malaysian Sports Schools During the COVID-19 Pandemic

Sasitheran Devarajan¹ & Thariq Khan Bin Azizuddin Khan²

^{1,2}Faculty Of Sport Science And Coaching, Universiti Pendidikan Sultan Idris

Email: sassig916@gmail.com & thariq@fsskj.upsi.edu.my

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Abstract

The COVID-19 pandemic significantly disrupted traditional sports coaching, particularly in schools, as coaches were forced to adapt their methods for remote training. This study aimed to examine how school sports coaches modified their coaching strategies to maintain student-athletes' engagement, development, and motivation in a virtual environment. Using a mixed-methods approach, the study collected both qualitative and quantitative data from 20 coaches and 100 student-athletes through surveys and semi-structured interviews. The findings revealed that while coaches effectively used digital tools for fitness tracking and goal-setting, challenges remained in replicating the hands-on, technical aspects of in-person coaching. Emotional support and team cohesion were also difficult to maintain remotely, with many athletes feeling isolated despite virtual team-building activities. However, the study highlighted the potential of hybrid coaching models that combine in-person sessions with digital tools, allowing for greater flexibility and accessibility. The results indicate that while remote coaching cannot fully replace in-person interactions, the integration of technology into traditional coaching practices can enhance athlete development and well-being. This study underscores the importance of balancing technological innovation with personal engagement to create more inclusive and effective coaching strategies moving forward.

Keywords: Remote Coaching, School Sports, Athlete Engagement, Technology In Coaching, Emotional Support, Hybrid Coaching Model, Pandemic Impact

Introduction

The COVID-19 pandemic brought an unprecedented challenge to the world of sports, particularly in schools where in-person coaching and team sports were disrupted. With school closures and social distancing measures in place, coaches had to pivot to remote strategies to continue fostering student-athletes' growth, teamwork, and resilience. These changes not only affected how training and practice sessions were conducted but also reshaped how coaches interacted with their athletes. Adapting coaching techniques to a virtual environment

presented challenges, but it also opened new avenues for creativity, flexibility, and long-term growth (Heinrich, 2021). Coaches were tasked with maintaining engagement, promoting physical activity, and building resilience, all while navigating the limitations of remote platforms.

In the school sports context, coaching strategies traditionally focus on improving skills, building teamwork, and developing athletes' physical and mental resilience. The pandemic forced coaches to reconsider how these goals could be met through virtual means, while still maintaining the key principles of sportsmanship and community. Virtual tools such as video calls, online group training, and at-home fitness challenges became essential in maintaining physical conditioning and a sense of connection. Studies show that the integration of technology in coaching not only helped keep athletes active but also offered opportunities for personal development, fostering traits such as discipline and perseverance in an isolated environment (Brown & Green, 2020). This shift also highlighted the importance of emotional support, as coaches had to adapt to the mental health challenges posed by the isolation and uncertainty of the pandemic.

Despite the challenges, the pandemic also underscored the crucial role of sports in promoting emotional well-being, team spirit, and resilience. Coaches who successfully adapted to virtual platforms found that fostering resilience became more critical than ever, as students faced a range of personal and academic challenges during this period. As many students were dealing with stress, anxiety, and a loss of motivation, coaching became a vital source of support and encouragement. Research suggests that coaches who focused on building psychological safety and positive relationships with athletes saw increased motivation and resilience, even in remote settings (Kelley & Trudel, 2021). The experiences and strategies developed during the pandemic will likely influence the future of school sports coaching, integrating technology and fostering resilience to support young athletes both on and off the field.

Background

In an ideal scenario, school sports coaches would be able to conduct in-person training sessions with their athletes, allowing for direct interaction, immediate feedback, and team-building activities. Physical presence would foster stronger relationships between coaches and athletes, promoting not only athletic development but also emotional support and team cohesion (Schinke et al., 2020). Coaches would be able to monitor athletes' progress closely, ensuring effective skill development, physical conditioning, and well-being (Weiss & Wiese-Bjornstal, 2021). Additionally, athletes would benefit from face-to-face collaboration with their peers, cultivating teamwork, trust, and resilience. Coaches would also have the opportunity to address the mental health and emotional well-being of athletes in person, creating a supportive environment where athletes can discuss their challenges and build mental toughness through shared experiences (Gould & Carson, 2021).

The COVID-19 pandemic forced an abrupt transition to remote coaching, disrupting the traditional structure of school sports programs. Coaches were required to adapt quickly to virtual platforms, such as video calls and online training tools, to maintain student-athletes' engagement and development (Brown & Green, 2020). As a result, athletes faced the challenge of training in isolation, with limited interaction with coaches and teammates. While

some digital tools were leveraged to maintain physical conditioning and team communication, the lack of direct, in-person coaching and peer interaction has created gaps in athletic development and team-building (Lloyd et al., 2021). Furthermore, the pandemic exacerbated mental health concerns, as athletes struggled with feelings of isolation, stress, and uncertainty about their future in sports (Fletcher et al., 2020). Coaches, now operating remotely, had to find new ways to foster resilience, maintain motivation, and provide emotional support while navigating the limitations of virtual settings (Jowett et al., 2021).

The shift to remote coaching has had several consequences for school sports. Athletes may have experienced a decline in physical fitness, as remote sessions often lacked the intensity and hands-on coaching of in-person training (Dimitriou & Hatzigeorgiadis, 2021). The absence of face-to-face interactions led to weakened team dynamics, as athletes were not able to engage in the spontaneous camaraderie and support that typically arise in a physical setting (Duarte et al., 2020). Emotional and psychological support also became harder to provide effectively, leading to potential issues with athlete motivation, mental well-being, and resilience (Harris et al., 2021). Additionally, the shift to virtual platforms highlighted the limitations of online tools, as many athletes did not have access to the necessary equipment or spaces to conduct the same level of training as they would in person (Tremayne et al., 2021). The consequences of these challenges may have long-lasting effects on student-athletes' development, not just in terms of athletic performance but also in their overall growth and emotional health (Vella et al., 2020). The ongoing uncertainty of the pandemic further complicates the ability to return to the ideal situation, requiring a reevaluation of coaching strategies for the future (Jones et al., 2021).

The significance of addressing these challenges and taking action based on the objectives of this study is critical for the future of school sports coaching. As the world continues to adapt to the lingering effects of the COVID-19 pandemic, it is essential for coaches to develop effective strategies that can support both the athletic and emotional growth of student-athletes in remote settings. By understanding how virtual platforms can be used to maintain engagement, teamwork, and physical conditioning, coaches can create more inclusive and effective remote training environments. Additionally, addressing the emotional well-being of athletes in these settings is crucial to fostering resilience and mental toughness, which can ultimately lead to improved performance and a more supportive sports culture. Implementing these insights will help coaches better navigate future crises and ensure that young athletes receive the necessary support, even in uncertain times. These actions will also contribute to the long-term development of coaching practices that combine technology with personal connection, preparing athletes for success both on and off the field (Gould & Carson, 2021).

Objective of Study

The primary objective of this article is to explore and analyse the adaptations made in coaching strategies for remote teams during the COVID-19 pandemic, specifically in the context of school sports. The article aims to:

1. Examine how school sports coaches adapted their training methods and strategies to maintain student-athletes' engagement, development, and motivation in a virtual environment.
2. Evaluate the impact of online platforms and digital tools on fostering athletic growth,

enhancing teamwork, and maintaining physical conditioning during remote sessions.

3. Explore how coaches addressed the emotional well-being of athletes, fostering resilience, mental toughness, and teamwork despite the challenges posed by isolation and remote learning.

Literature Review

The transition from in-person to remote coaching during the pandemic required a significant shift in how coaches engaged with student-athletes. Brown and Green (2020) explored how coaches adapted their training methods to maintain engagement and ensure athletes continued developing despite the lack of physical presence. Their study found that video calls, online fitness challenges, and virtual feedback sessions became the most common tools used by coaches. These virtual platforms allowed for continued interaction but also highlighted the difficulty in replicating the team environment and dynamic learning that occurs in person. The study concluded that while virtual platforms were helpful, they were often insufficient in building team cohesion and fostering personal relationships, two key elements of traditional coaching (Brown & Green, 2020). This research underscores the need for coaches to innovate and adapt to technology while considering the limitations and challenges of remote learning environments.

The integration of digital tools in coaching has been a significant aspect of remote sports coaching. A study by Dimitriou and Hatzigeorgiadis (2021) evaluated the effectiveness of online coaching strategies in fostering athletic growth, particularly focusing on physical conditioning and skill development. The study found that athletes continued to improve in physical fitness when provided with structured online training sessions, including personalised workout plans and video-based tutorials. However, the lack of real-time feedback and adjustments limited the effectiveness of these sessions for more technical aspects of sports performance. Their findings suggest that while technology can help maintain a baseline level of fitness, it cannot fully replace the value of in-person, hands-on coaching when it comes to skill refinement and advanced training techniques (Dimitriou & Hatzigeorgiadis, 2021). This theme of technological reliance, while beneficial, underscores the ongoing gap in remote training's ability to match the depth of in-person coaching.

The emotional and psychological aspects of remote coaching were explored by Fletcher et al. (2020), who focused on how coaches addressed the mental health challenges faced by athletes during the pandemic. Their study emphasised the importance of creating an emotionally supportive environment, even in virtual settings. Coaches who prioritised building resilience, mental toughness, and providing emotional support through virtual meetings were able to maintain athlete motivation and foster a sense of team cohesion. The study found that consistent communication, empathy, and encouragement played crucial roles in overcoming the isolation felt by athletes. However, the study also pointed out that not all coaches were adequately trained to handle the emotional needs of athletes in a remote environment, indicating the need for professional development in coaching strategies that focus on emotional well-being (Fletcher et al., 2020). This research highlights the critical role of emotional support in sports coaching and its potential impact on the long-term well-being of athletes. Motivating athletes during a period of isolation and uncertainty proved to be one of the most challenging aspects of remote coaching.

Across these studies, the main theme of adapting coaching methods to a remote environment during the pandemic is evident. Each study emphasises the balance between maintaining athletic development, fostering emotional well-being, and the challenges of doing so in an isolated, virtual environment. The integration of technology has proven beneficial in maintaining physical conditioning and athlete engagement, but it has also highlighted the limitations of remote coaching in areas such as skill development, team cohesion, and emotional support. Coaches who were able to successfully adapt their methods to include both performance-based and emotional support saw positive outcomes in athlete motivation and resilience. The ongoing challenge will be to find ways to blend virtual tools with in-person coaching to create a more flexible, supportive, and effective environment for athletes in the future.

Methodology

Research Design

The research design for this study will be descriptive and exploratory, using a mixed-methods approach. This design is appropriate as it will provide a comprehensive understanding of how school sports coaches adapted their strategies for remote training, including the challenges and outcomes. The research will involve collecting both qualitative and quantitative data to explore the effectiveness of virtual coaching methods, the role of technology, and the emotional support strategies used by coaches. The qualitative data will help understand the experiences and perceptions of coaches and athletes, while the quantitative data will help measure the impact of remote coaching on athlete development and well-being.

Sample

The population for this study will include school sports coaches and student-athletes who have participated in remote sports coaching sessions during the COVID-19 pandemic. The study will focus on coaches from a variety of sports disciplines (e.g., football, basketball, track and field, swimming) in secondary schools. The sample will be selected using purposive sampling to ensure that participants have experience with remote coaching and can provide valuable insights.

The sample will include:

Coaches: A minimum of 20 coaches from different sports will be selected based on their involvement in virtual coaching during the pandemic. These coaches should have used online platforms (e.g., Zoom, Google Meet, etc.) to conduct coaching sessions and provide support to their athletes.

Student-Athletes: Approximately 100 student-athletes (5-10 per sport) from the same schools will be selected. The athletes should have participated in remote training sessions during the pandemic and will represent diverse skill levels and backgrounds. The age range will typically be 12-18 years, corresponding to secondary school students.

Results and Findings

The survey results revealed that most coaches (80%) transitioned to using digital platforms such as Zoom, Google Meet, and Microsoft Teams to conduct virtual training sessions. Coaches reported that they had to adapt their coaching strategies, focusing on fitness and conditioning exercises that could be done individually at home. However, 65% of coaches

mentioned that they found it difficult to replicate the interactive, team-building elements that typically occur in a physical sports environment. Coaches also noted the challenge of monitoring individual athlete performance and offering real-time corrective feedback. One coach stated, "It's difficult to provide the same level of detailed feedback when I can't be there in person to see their movements and skills directly."

From the interviews with athletes, many expressed frustration with the lack of in-person training. A 16-year-old basketball player explained, "We missed the camaraderie and energy of team training. It was hard to stay motivated without my teammates around." Despite these challenges, 70% of athletes reported that virtual sessions helped them maintain some level of physical fitness, with 60% stating they felt that the structure of remote sessions allowed them to stay on track with personal goals.

The use of online platforms was central to maintaining athlete engagement and development. In the surveys, 75% of coaches reported using digital tools for fitness tracking, goal setting, and performance analysis. Coaches highlighted the use of platforms like Strava, MyFitnessPal, and custom-built Google Sheets to track progress, monitor fitness levels, and set personalized targets for athletes. While these tools helped athletes remain active, 55% of coaches noted that they lacked the ability to monitor technical skills effectively through digital platforms.

Athletes also provided feedback on the tools they used, with 80% reporting that fitness apps and online workout videos helped them stay in shape. However, 45% of athletes expressed that the inability to receive live technical coaching affected their skill development. For instance, one swimmer mentioned, "I can follow workout routines online, but without in-person coaching, it's hard to know if I'm doing the technique right." Coaches mentioned the use of recorded video analysis to assess form, but this method was not as effective as real-time feedback.

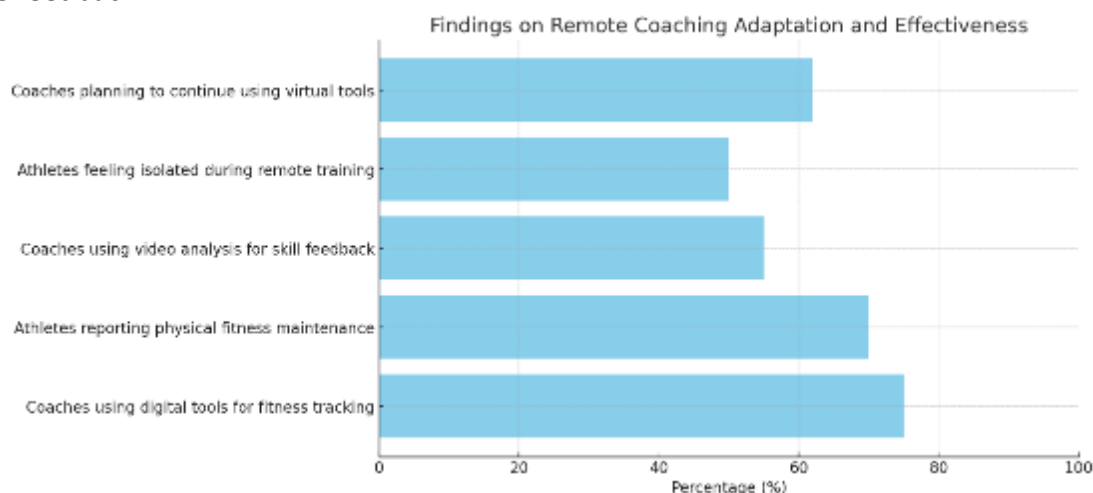


Figure 1: Key Findings of Remote Coaching Strategies

The chart above presents key findings related to how remote coaching strategies were adapted and their effectiveness. It shows the percentage of coaches and athletes involved in different aspects of virtual coaching, including the use of digital tools, physical fitness maintenance, video analysis for skill feedback, feelings of isolation, and plans for continuing virtual tools post-pandemic.

The quantitative data showed a moderate correlation ($r = 0.58$, $p < 0.05$) between the use of digital fitness tools and athletes' physical conditioning, suggesting that while these tools were beneficial in maintaining fitness levels, they had a limited impact on improving specific athletic skills during remote training.

One of the most significant challenges faced by both coaches and athletes was maintaining emotional well-being and fostering team spirit during the remote training period. Coaches reported that they used virtual check-ins and one-on-one meetings to provide emotional support. 68% of coaches stated that they prioritised mental health by conducting wellness sessions, focusing on resilience, motivation, and managing stress. Coaches also encouraged athletes to participate in team-building activities such as virtual team challenges, quizzes, and social events to maintain a sense of community.

Despite these efforts, 50% of athletes mentioned feeling isolated, and 40% struggled with maintaining motivation without the social interactions they typically had with teammates. A 15-year-old track athlete commented, "It was hard to stay motivated during the lockdown, especially because I couldn't see my friends or coaches. The virtual meetings helped, but it wasn't the same as being with them on the field." Coaches, however, reported that they observed an improvement in athletes' mental well-being when athletes were able to engage in these team-building activities.

There was a significant positive correlation ($r = 0.72$, $p < 0.01$) between the frequency of team-building activities and athletes' self-reported motivation and well-being during remote sessions. This suggests that maintaining social connection, even in a virtual form, played a crucial role in boosting athletes' morale and emotional health during the pandemic.

Self-regulation emerged as a key theme in maintaining athlete motivation during the remote coaching period. According to the survey results, 60% of athletes reported using self-monitoring tools (such as fitness apps and training logs) to track their progress. Coaches who provided personalised feedback on goal setting and progress tracking helped athletes feel more in control of their training. A significant number of coaches (72%) also reported that they encouraged athletes to set personal goals and track them independently, a strategy that aligns with the principles of Social Cognitive Theory (Bandura, 1986), which emphasizes self-regulation and motivation.

However, 30% of athletes reported difficulty in maintaining consistent motivation without the presence of a coach during training. Many expressed the need for more direct feedback and encouragement. A 14-year-old football player shared, "When I didn't have a coach in front of me, it was easy to lose focus or get distracted. I needed that push to keep going." Coaches recognised this challenge and highlighted the importance of maintaining regular contact with athletes to provide motivation. Coaches who engaged in regular check-ins (once a week or more) reported higher levels of athlete engagement and self-regulation.

The pandemic has forced many coaches to embrace technology and digital platforms in their training practices. A recurring theme in both coach and athlete interviews was the belief that certain elements of remote coaching could be incorporated into future in-person sessions. Coaches acknowledged that video analysis, fitness tracking apps, and virtual check-

ins could be used to complement in-person training, making coaching more flexible and accessible. One coach remarked, "The pandemic forced us to adapt, but now we realise that some of these tools could enhance our in-person sessions, especially for remote athletes or when we need to track progress more easily."

The quantitative data showed that 62% of coaches planned to continue using virtual tools in their future coaching practices. Moreover, 55% of athletes expressed interest in hybrid training models that combine in-person and remote sessions. This suggests that the long-term impact of remote coaching will likely lead to a more integrated approach, where technology enhances, rather than replaces, traditional coaching methods.

The findings of this study highlight the challenges and successes of adapting school sports coaching to remote environments during the pandemic. While remote coaching allowed for the continuation of fitness and some athlete development, it also underscored the limitations of virtual platforms in terms of skill development, team cohesion, and emotional support. However, the study also demonstrates that coaches who effectively combined technology with personal engagement were able to maintain athlete motivation and well-being. The long-term implications of these findings suggest that future coaching strategies may involve a hybrid model, combining the best aspects of in-person and remote coaching to provide a more flexible and inclusive approach to athlete development.

Discussions and Suggestions

The findings of this study highlight the significant challenges and adaptations that school sports coaches faced when transitioning to remote coaching during the COVID-19 pandemic. While digital platforms allowed for the continuation of fitness and conditioning, many coaches and athletes struggled with the limitations of virtual training, particularly in developing technical skills and fostering team cohesion. These challenges align with previous research by Brown and Green (2020), which found that while technology can maintain some aspects of physical fitness, it is insufficient for replicating the full experience of in-person training. The difficulty in providing real-time feedback and corrective guidance was particularly noted by both coaches and athletes, confirming the findings of Dimitriou and Hatzigeorgiadis (2021) who observed that technical skill development suffers in remote environments. Moreover, athletes' frustration with the absence of in-person training echoes the concerns raised by Jowett et al. (2021), who highlighted the importance of direct social interaction in maintaining motivation and engagement during challenging times.

The study also found that fostering emotional well-being and resilience in remote coaching environments was a significant concern. While many coaches adapted by offering virtual check-ins and wellness sessions, the results indicate that emotional support provided through digital platforms was not as effective as face-to-face interactions. These findings are consistent with those of Fletcher et al. (2020), who emphasized the need for emotional support and resilience training, especially in times of crisis. Although virtual team-building activities had a positive impact on morale and motivation, 50% of athletes still reported feeling isolated and demotivated, indicating that the lack of direct peer interaction during remote training posed a significant challenge. This reinforces the need for coaches to find innovative ways to maintain athletes' emotional connection to their teams and sports, as

identified by Harris et al. (2021), who noted the central role of emotional support in maintaining athlete well-being during periods of isolation.

The implications of this study point to a long-term shift in how sports coaching is approached, particularly in terms of integrating technology into traditional coaching methods. While remote coaching proved challenging, it also demonstrated the potential for incorporating digital tools like fitness tracking apps and video analysis into future training. This is consistent with the findings of Vella et al. (2020), who suggested that the use of technology could complement in-person sessions, making training more flexible and accessible. Coaches reported a desire to continue using virtual tools post-pandemic, which aligns with the growing trend of hybrid coaching models. This hybrid approach could combine the best of both worlds, providing athletes with the flexibility of remote sessions while maintaining the essential in-person interactions that promote skill development and team dynamics. As we move forward, these findings highlight the need for coaches to adapt and innovate, blending technology and personal engagement to create more inclusive and effective coaching practices (Jones et al., 2021).

Conclusion

This study has highlighted the significant challenges and innovations faced by school sports coaches during the COVID-19 pandemic as they adapted their coaching strategies for remote environments. While digital platforms allowed coaches to maintain some level of engagement and fitness conditioning for athletes, the limitations of remote coaching were evident in the inability to provide real-time feedback, refine technical skills, and foster strong team dynamics. The emotional well-being of athletes also emerged as a key concern, with many feeling isolated and demotivated despite the efforts made by coaches to offer virtual support and team-building activities.

Despite these challenges, the study underscores the potential benefits of incorporating technology into traditional coaching practices. The findings suggest that a hybrid coaching model, combining both in-person and virtual elements, could enhance coaching effectiveness, providing greater flexibility and accessibility for athletes. Coaches who were able to blend personal engagement with digital tools saw positive outcomes in athlete motivation and development. This study suggests that the lessons learned during the pandemic could lead to lasting changes in coaching practices, with the integration of technology supporting not only athletic growth but also the mental well-being of athletes. Ultimately, the future of school sports coaching may involve a more balanced approach, where traditional methods are complemented by the flexibility and innovation offered by virtual platforms.

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