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Sports Coaches' Knowledge and Readiness in Micro-Cycle Training

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Abstract

This study explored the knowledge and readiness of sports coaches in Batangas City regarding micro-cycle training, with the aim of proposing relevant extension activities. Specifically, it assessed coaches' understanding of training load, periodization, and individualization, as well as their preparedness to implement micro-cycle training in areas of skill development and strength and conditioning. The study also examined the relationship between coaches' knowledge and their readiness to apply micro-cycle methods, and identified misconceptions or knowledge gaps. Using a descriptive research design, data were collected through a survey administered to 80 elementary and secondary level coaches. Results indicated that while coaches showed strong knowledge in training load, they demonstrated moderate understanding of periodization and individualization. Similarly, coaches were highly prepared to integrate skill development but showed moderate readiness in strength and conditioning. These findings support the development of an extension activity focused on improving knowledge and implementation skills in periodization and individualization.

Keywords: micro-cycle training, performance tests, somatotype

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Introduction

Sports periodization is a structured and systematic training approach designed to enhance athletic performance while preventing overtraining and injury (Rodríguez et al., 2024). Through the strategic manipulation of training variables over time, periodization enables athletes to peak at appropriate moments and maintain optimal recovery. Despite strong empirical support for its effectiveness, the application of micro cycle training, which refers to short term, structured training periods within the broader periodization framework, remains underutilized, particularly in Batangas City. This continued reliance on outdated training practices underscores the need for a transition toward evidence-based training models.

Periodization integrates multiple components of athletic preparation, including exercise prescription, recovery strategies, nutrition, and psychological skills, to support sustained performance development across different sports contexts (Stone et al., 2021; Mujika et al., 2018). By organizing training into planned cycles, coaches can systematically develop specific fitness attributes while minimizing excessive fatigue. This structured approach is particularly important in competitive settings where improper load management may compromise both performance and athlete well-being.

Several key models of periodization have been identified in the literature. Traditional periodization emphasizes long term training cycles divided into distinct phases that progressively build specific physical capacities. In contrast, block periodization focuses on concentrated training blocks that target specific performance goals and has been shown to be effective for both individual and team sports (Issurin, 2014; Stone et al., 2021). These models provide flexible frameworks that can be adapted based on sport demands, athlete level, and available resources.

Building on these established models, researchers have examined the outcomes associated with structured periodized training. The benefits of periodized training are well documented. Research indicates that periodized programs lead to superior performance outcomes compared to non-periodized or randomly structured training approaches (Fisher & Csapo, 2021). Moreover, by systematically managing training loads and incorporating planned recovery, periodization reduces the risk of overtraining and sport related injuries (Stone et al., 2021). These advantages highlight the importance of adopting micro cycle training as a practical and actionable component of periodization, particularly in local settings such as Batangas City, where structured and individualized training approaches are still developing.

To better understand the role of micro cycle training within periodization, it is important to examine its theoretical foundation. Rooted in Dr. Hans Selye's General Adaptation Syndrome, periodization is a systematic approach to training that involves the manipulation of training variables across macro cycles (annual plans), meso cycles (monthly phases), and micro cycles (weekly or daily plans). Among these phases, micro cycle training is particularly critical because it directly regulates daily training loads, recovery periods, and short-term performance outcomes. Effective micro cycle design ensures that athletes are exposed to appropriate stress while allowing sufficient recovery to promote physiological adaptation and prevent maladaptation.

From this theoretical perspective, empirical studies further emphasize the practical value of micro cycle training. Existing literature highlights the central role of micro cycle training in optimizing athletic performance. By precisely adjusting training intensity and volume on a daily or weekly basis, micro cycles help manage fatigue and reduce the likelihood of overtraining. This structured approach to load regulation allows athletes to develop endurance, strength, and technical skills in a progressive and sustainable manner. Furthermore, the deliberate incorporation of recovery sessions within micro cycles has been shown to significantly reduce injury risk, particularly in high performance and high-volume training environments (Bompa & Haff, 2017).

Beyond managing fatigue and injury risk, micro cycle training also plays a key role in maximizing performance outcomes. In addition to injury prevention, micro cycle training contributes to performance optimization by ensuring consistency and quality in training stimuli. Carefully planned training sessions enhance neuromuscular adaptation and skill acquisition, which are essential for peak performance during competition periods (Mujika et al., 2018). As such, micro cycle planning serves as the foundation of effective periodization, translating long term training goals into actionable daily practices.

Despite these well documented benefits, the practical adoption of micro cycle training remains uneven across different contexts. Despite strong empirical support for micro cycle training, its application in the Philippine sports context remains limited. Many athletes and coaches continue to rely on outdated, high intensity, and non-individualized training methods, often due to constraints in resources, limited access to updated coaching education, and lack of awareness regarding contemporary training principles (Bompa & Buzzichelli, 2019). This practice increases the risk of injury and burnout while limiting long term athletic development.

Given these challenges, strategic interventions are necessary to improve coaching practices and training quality. Consequently, there is a pressing need to strengthen education and professional development initiatives for coaches and practitioners in the Philippines. Increasing awareness of the benefits of micro cycle training and evidence based periodization strategies can lead to improved athletic performance, reduced injury rates, and more sustainable training environments (Eshtayev et al., 2020). Addressing these challenges is essential for aligning local training practices with internationally recognized standards in sports science and athlete development.

This need is particularly evident at the local level, where gaps in coaching preparation directly affect athlete outcomes. In Batangas City, public school sports coaches lack proper training methodologies, affecting athletes' competitiveness in tournaments. Addressing this issue requires education, seminars, and workshops to equip coaches with contemporary, science backed training strategies. Implementing micro cycle training will not only improve athletic performance but also foster a more sustainable and effective sports development framework in the region.

Objectives

This study aimed to assess the level of knowledge and readiness of sports coaches in Batangas City in implementing micro-cycle training as a basis for developing a teaching guide. Specifically, it sought to determine the level of knowledge of sports coaches in micro-cycle training in terms of training load, periodization, and individualization. It also assessed the readiness of sports coaches in implementing micro-cycle training in their programs relative to skill development and strength and conditioning. Furthermore, the study compared the sports coaches' level of knowledge and readiness by examining the relationship between their knowledge of training load, periodization, and individualization and their preparedness to implement micro-cycle training in terms of skill development and strength and conditioning. In addition, the study identified the misconceptions or knowledge gaps of sports coaches regarding micro-cycle training. Finally, based on the findings of the study, a teaching guide was developed to enhance coaches' knowledge and readiness in the effective implementation of micro-cycle training.

Methods

Research Design

This study employed a descriptive research design to examine the knowledge and readiness of sports coaches in Batangas City regarding micro-cycle training. It also aimed to propose extension activities that would enhance these areas. A survey questionnaire was the primary tool used to gather data, as this method allowed the researchers to capture specific and measurable information relevant to the research objectives.

Descriptive research was chosen because it effectively presents the current conditions and characteristics of a population. According to Siedlecki (2020), this method is suitable for describing a phenomenon, identifying trends, and understanding the frequency and distribution of certain traits across a group. In this study, it helped assess how coaches' knowledge and readiness relate to training parameters like load, periodization, individualization, skill development, and strength and conditioning.

Participants

The participants were 80 sports coaches from both elementary and secondary public schools in Batangas City. They were selected using a stratified sampling method, which ensured fair representation across various sports disciplines offered in schools. Coaches were

grouped based on the types of sports they handled, and participants were then randomly selected from each group.

This sampling approach was chosen because conducting a full census of all Batangas City coaches was not feasible due to time and resource constraints. However, the selected sample was sufficient to represent the broader population and provide meaningful insights into the topic. The coaches were selected based on their experience in handling sports teams, ensuring that the data gathered reflected authentic coaching practices.

Instrument

The main data collection tool was a structured survey questionnaire that included both closed-ended and open-ended items. Closed-ended items used a four-point Likert scale to assess coaches' knowledge and readiness in areas such as training load, periodization, individualization, skill development, and strength and conditioning. Open-ended items allowed respondents to express deeper insights, experiences, or challenges. To ensure the validity of the questionnaire, it was reviewed by three experts in educational research and sports science. Their feedback helped refine the content for clarity and relevance. A pilot test was also conducted with a small group of coaches in Batangas City. Based on their responses, some ambiguous items were reworded for clarity. The tool's reliability was confirmed through Cronbach's alpha, which demonstrated strong internal consistency. The final questionnaire was distributed online to ensure convenience, safety, and wider reach. Participants were provided with an informed consent form explaining the purpose of the study, their rights as participants, and how their data would be kept confidential and anonymous. Participation was voluntary, and they were allowed to withdraw at any point without consequence. The study also secured ethical clearance from the relevant university research ethics committee before data collection. This ensured that all procedures aligned with ethical research standards, including respect for privacy, informed consent, and responsible data handling.

Scoring of responses

After gathering the needed information, the data were submitted to a statistician for appropriate statistical analysis and interpretation. The following range and verbal interpretation in the Likert scale were used.

Table 1. Scoring of Responses for Level of knowledge of sports' coaches in micro-cycle training

Option	Range	Verbal Interpretation
4	3.50-4.00	Very Knowledgeable
3	2.50-3.49	Moderately Knowledgeable
2	1.50-2.49	Slightly Knowledgeable
1	1.00-1.49	Not Knowledgeable

Table 2. Scoring of Responses for Readiness of sports' coaches in implementing micro-cycle training

Option	Range	Verbal Interpretation
4	3.50-4.00	Very Much Ready
3	2.50-3.49	Moderately Ready
2	1.50-2.49	Slightly Ready
1	1.00-1.49	Not Ready

Table 3. Scoring of Responses for Misconceptions or Knowledge Gaps of Sports' Coaches in Micro-Cycle Training

Option	Range	Verbal Interpretation
4	3.50-4.00	Strongly Agree

3	2.50-3.49	Agree
2	1.50-2.49	Disagree
1	1.00-1.49	Strongly Disagree

Interview

To ensure data accuracy and authenticity, the researchers conducted a focused group discussion with the parents of the pupil-athletes. This step helped confirm that the coaches themselves completed the questionnaires and provided honest answers. It also served as a form of community engagement, promoting transparency and trust between the researchers and the participants' school communities.

Results and Discussion

Level of knowledge of sports' coaches in micro-cycle training

To effectively measure and assess the level of knowledge of sports coaches in micro-cycle training, underlying variables must be considered. Hence, it is necessary to include training load, periodization, and individualization to optimize sports coaches' level of knowledge. The assessment of the level of knowledge of sports coaches in micro-cycle training is tabulated in Tables 4-5.

Training load

Table presents the level of knowledge of sports coaches in micro-cycling training in terms of training load. Table 4 data indicates that the respondents are very knowledgeable in Training Load based on the composite mean of 3.54. As shown from the table, sports coaches in Batangas City believe they are very knowledgeable about training load in micro-cycle training. The highest mean score (3.61) with the statement "Continuously assess the athlete's response to the training load, and make necessary adjustments to ensure long-term progression and avoid stagnation" suggests that coaches are most aware of the need to continuously monitor the athlete's response to training loads and adjust accordingly when necessary. This reflects a commitment to long-term progression without stagnation.

In contrast, the lowest mean score of 3.46 with the statement "Raise the training load incrementally throughout the micro-cycle to challenge the athlete's capabilities" reflects an even greater degree of knowledge on incrementally raising the training load throughout the micro-cycle. This suggests that coaches understand the progression challenge for athletes but could improve further by creating a micro-cycle to raise the intensity to enhance optimal adaptations gradually. Improving the methodology in this field would lead to better skill acquisition and performance for athletes, challenging them more without risking injury or overtraining.

This implies that sports coaches effectively specify training loads for their athletes in micro-cycle training. On the other hand, sports coaches in Batangas City are moderately knowledgeable in raising the training load incrementally throughout the micro-cycle to challenge the athlete's capabilities. That is why the approach becomes efficient for student-athletes as they are guided by the appropriate training loads required for their needs. Sports coaches highlight that they are very knowledgeable about integrating strategic recovery days with reduced training loads to allow athletes to have physical and mental rejuvenation. This is affirmed by Nunes et al. (2014), who authored that recovery days will enable athletes to be more prepared for competition, indicating improvements in recovery-stress state and physical performance.

Table 4. Level of knowledge of sports' coaches in micro-cycle training as to Training Load

Training Load	Weighted Mean	Verbal Interpretation
Continuously assess the athlete's response to the training load, and make necessary adjustments to ensure long-term progression and avoid stagnation.	3.61	Very Knowledgeable
Implement varying intensity levels during the micro cycle to stimulate different energy systems and enhance overall fitness.	3.58	Very Knowledgeable
Integrate strategic recovery days with reduced training load to allow for physical and mental rejuvenation.	3.57	Very Knowledgeable
Maintain a harmonious blend of training volume and intensity to optimize performance gains.	3.55	Very Knowledgeable
Implement planned deloading phases to reduce training load temporarily and facilitate supercompensation for enhanced performance.	3.55	Very Knowledgeable
Tailor the training load based on each athlete's fitness level, ensuring a personalized approach to development.	3.54	Very Knowledgeable
Modify the training load based on the athlete's recovery status to prevent overtraining and promote optimal performance.	3.53	Very Knowledgeable
Regularly assess the athlete's fatigue levels and adjust the training load accordingly to prevent burnout and injury.	3.51	Very Knowledgeable
Apply a progressive overload principle, steadily increasing the load to stimulate continuous adaptation and improvement.	3.50	Very Knowledgeable
Raise the training load incrementally throughout the micro cycle to challenge the athlete's capabilities.	3.46	Moderately Knowledgeable
Composite Mean	**3.54**	**Very Knowledgeable**

Note: VK – Very Knowledgeable (3.50-4.00)

Periodization

Table 5 presents the level of knowledge of sports' coaches in micro-cycling training in terms of periodization. Furthermore, Table 5 data indicates that the respondents are moderately knowledgeable in Training Load based on the composite mean of 3.29. The table below revealed that sports coaches in Batangas City agreed they are moderately knowledgeable about periodization in micro-cycle training. The highest mean score (3.43) with the statement "Customize the periodization plan based on individual athlete responses, adjusting timelines and priorities to suit their specific requirements" indicated that coaches have better knowledge that a periodized plan should be adjusted according to specific responses of an individual athlete. The above indicates self-awareness in adjusting the timelines and training priorities. This understanding empowers a coach to have the flexibility in training to answer the different demands of each athlete, promoting good outcomes and avoiding overtraining or undertraining.

On the contrary, the lowest mean score (3.22) with the statement "Break down the annual plan into distinct phases, each serving a specific purpose in skill development and conditioning" relates to the knowledge about breaking down the annual plan into phases since each phase represents a specific area of skill and conditioning development. This indicates that despite knowing the essentiality of maintaining an annual scheme, coaches still lack the requisite knowledge to dissect it further into phases based on well-identified objectives. The need to further this periodization concept could require better trainers' education in detailing training processes and structures. If that were so, there is no doubt it would enhance training efficiency since better periodic phases ensure they achieve high at the proper moment and increase development all along in the season.

This indicates that sports coaches are more exposed to periodizing their athletes' training. Interventions such as attending seminars discussing periodization will be relevant to these coaches' increased knowledge level. In addition, they are moderately knowledgeable that they should customize the periodization plan based on individual athlete responses, adjusting timelines and priorities to suit their specific requirements. According to Stone et al. (2021), periodized training coupled with appropriate programming will produce super athletic enhancement compared to the non-periodized process. Hence, coaches must observe their athletes' responses to their crafted periodized training to make immediate changes if it does not work for the athlete.

Table 5. Level of knowledge of sports' coaches in micro-cycle training as to Periodization

Periodization	Weighted Mean	Verbal Interpretation
Customize the periodization plan based on individual athlete responses, adjusting timelines and priorities to suit their specific requirements.	3.43	Moderately Knowledgeable
Plan regular rest and deload weeks to facilitate recovery, prevent staleness, and promote long- term athlete well-being.	3.39	Moderately Knowledgeable
Allocate focus to different aspects of fitness, such as strength, endurance, and skill, during specific periods to optimize performance.	3.29	Moderately Knowledgeable
Align training cycles with competition schedules, ensuring peak performance during important events.	3.28	Moderately Knowledgeable
Clearly define the athlete's long-term objectives to guide the periodization process effectively.	3.27	Moderately Knowledgeable
Organize the training plan into larger macrocycles, mid-sized mesocycles, and smaller microcycles for a comprehensive and structured approach.	3.27	Moderately Knowledgeable
Integrate transition phases to provide athletes with mental and physical recovery, reducing the risk of burnout.	3.26	Moderately Knowledgeable
Periodically evaluate the athlete's progress through assessments to inform adjustments and modifications in the training plan.	3.25	Moderately Knowledgeable
Periodize both intensity and volume, ensuring a systematic progression to prevent overtraining and promote peak performance.	3.24	Moderately Knowledgeable
Break down the annual plan into distinct phases, each serving a specific purpose in skill development and conditioning.	3.22	Moderately Knowledgeable
Composite Mean	**3.29**	**Moderately Knowledgeable**

Note: MK – Moderately Knowledgeable (2.50-3.49)

Individualization

Table 6 presents the level of knowledge of sports' coaches in micro-cycling training in terms of individualization. Furthermore, the table indicates that the respondents are Moderately Knowledgeable Individualization based on the composite mean of 3.92. As shown in the table, sports coaches in Batangas City agreed that they are moderately knowledgeable about individualization in micro-cycle training. The highest mean score of 3.45 with the statement "Act on athlete feedback, adjusting training programs based on their experiences and preferences for improved engagement and performance outcomes" reflects the coaches' acknowledgment that action on athlete feedback should be taken in training programs. This would mean the coaches realize that tailoring the training to suit athletes' experiences and preferences can promote better engagement and performance. By taking the feedback, the coaches will develop a more responsive and personalized training environment, ultimately leading to improved outcomes for the athletes.

Conversely, the lowest mean score of 3.32 with the statement "Take into account an athlete's injury history and design personalized plans that address specific vulnerabilities and promote rehabilitation" shows that coaches may not consider an athlete's injury history as much as they should when designing a training plan for the athlete. Considering an athlete's injury history is crucial for preventing re-injury and promoting rehabilitation. To further tailor the training plan, coaches would benefit more if they obtained more education regarding injury prevention and other rehabilitative and how to manipulate training to circumvent an athlete's weaknesses. This, in turn, would further contribute to preparing safer and highly effective training sessions to support successful athlete development through long-term wellness.

Similar to periodization, sports coaches must improve their knowledge in individualization by attending symposia, seminars, or workshops that would help them enhance their familiarity with the subject. They emphasized that they should act on athlete feedback, adjusting training programs based on their experiences and preferences for improved engagement and performance outcomes. Based on the study of Connor et al. (2022), planning and control of team sports training activities is an important aspect of athletic development. This principle believes in an athlete-centered type of training where individual needs are catered to adequately to optimize their skills and talents. Thus, individualization is an important component in effective micro-cycle training.

Table 6. Level of knowledge of sports' coaches in micro-cycle training as to Individualization

Individualization	Weighted Mean	Verbal Interpretation
Act on athlete feedback, adjusting training programs based on their experiences and preferences for improved engagement and performance outcomes.	3.45	Moderately Knowledgeable
Foster an environment of open communication, encouraging athletes to express concerns, goals, and preferences to better inform the individualized coaching approach.	3.43	Moderately Knowledgeable
Evaluate each athlete's unique strengths, weaknesses, and baseline fitness to tailor training programs accordingly.	3.42	Moderately Knowledgeable
Customize coaching approaches based on individual learning styles, ensuring effective communication and skill acquisition.	3.42	Moderately Knowledgeable
Recognize the impact of age and experience on training adaptability, adjusting programs to meet the specific needs of each athlete.	3.40	Moderately Knowledgeable
Consider individual psychological factors such as motivation, confidence, and mental resilience in training plans to enhance overall well-being.	3.38	Moderately Knowledgeable
Take into consideration an athlete's lifestyle, including work commitments and family responsibilities, when designing training schedules for realistic adherence.	3.37	Moderately Knowledgeable
Regularly assess and adjust training intensity and frequency based on individual recovery rates to prevent overtraining and optimize performance.	3.34	Moderately Knowledgeable
Tailor training volume to an athlete's capacity, considering factors such as workload tolerance, fitness levels, and fatigue resistance.	3.33	Moderately Knowledgeable
Take into account an athlete's injury history and design personalized plans that address specific vulnerabilities and promote rehabilitation.	3.32	Moderately Knowledgeable
Composite Mean	**3.39**	**Moderately Knowledgeable**

Note: MK – Moderately Knowledgeable (2.50-3.49)

Readiness of sports' coaches in implementing micro-cycle training

Skill development and strength and conditioning are the two factors in evaluating the readiness of sports coaches to implement micro-cycle training in their programs. The assessment of the readiness of sports coaches in micro-cycle training is tabulated in Tables 7-8.

Skill development

Skill development is the productive capabilities acquired through all levels of learning and training, occurring in formal, non-formal, informal, and on-the-job settings (Sida, 2018). Table 7 presents the readiness of sports coaches to implement micro-cycle training in terms of skill development. Furthermore, the table indicates that the respondents are very much ready in skill development. This is shown in the composite mean of 3.50. The data shown in the table revealed that sports coaches in Batangas City are very much ready to implement micro-cycle training in their programs for skill development. Skill development is one of the fundamental aspects of micro-cycle training. The highest mean score (3.57) with the statements "Offer timely and constructive feedback on skill execution, emphasizing both strengths and areas for improvement to guide focused practice" and "Encourage mental rehearsal and visualization as part of skill development, helping athletes enhance cognitive aspects and improve performance consistency" reflects that coaches are confident in their ability to provide timely feedback and to incorporate mental rehearsal and visualization techniques.

This suggests that coaches understand the value of addressing both technical and cognitive elements of skill development, ensuring that athletes are not only improving their physical execution but also their mental preparedness, which is crucial for consistent performance in competition

On the other hand, the lowest mean score (3.32) with the statements "Simulate game-like situations in training to enhance skill transferability and prepare athletes for real competition challenges" and "Customize skill development plans based on each athlete's strengths, weaknesses, and playing style to maximize their potential" suggests that coaches may not place as much emphasis on simulating game-like situations in training to enhance skill transferability or on customizing skill development plans based on each athlete's unique strengths, weaknesses, and playing style. To address this gap, coaches could benefit from additional training or resources emphasizing the importance of creating realistic, game-like scenarios during practice. Moreover, by personalizing skill development plans, coaches can better align training with each athlete's specific needs, maximizing their potential and ensuring a more effective development process. These adjustments could further enhance the effectiveness of micro-cycle training, ensuring athletes are optimally prepared for real competition challenges.

It shows a positive outlook since sports coaches have already established skill development in their training, ensuring that athletes will be expected to be more competent after their training. They are very much ready to offer timely and constructive feedback on skill execution, emphasizing both strengths and areas for improvement to guide focused practice. Moreover, it encourages mental rehearsal and visualization as part of skill development, helping athletes enhance cognitive aspects and improve performance consistency. Developing athletes' skills through core training could improve skill performance, as per Luo et al. (2022). In this manner, coaches will be effective in imposing micro-cycle training with a comprehensive focus on the skill development of student-athletes.

Table 7. Readiness of Sports Coaches in Implementing Micro-Cycle Training as to Skill Development

Skill Development	Weighted Mean	Verbal Interpretation
Offer timely and constructive feedback on skill execution, emphasizing both strengths and areas for improvement to guide focused practice.	3.57	Very Much Ready
Encourage mental rehearsal and visualization as part of skill development, helping athletes enhance cognitive aspects and improve performance consistency.	3.57	Very Much Ready
Utilize a variety of drills and exercises targeting different aspects of the skill, promoting adaptability and a well-rounded skill set.	3.52	Very Much Ready
Emphasize deliberate practice, involving purposeful and focused repetition of specific skills with the intention of improvement.	3.52	Very Much Ready
Identify and prioritize the specific skills essential to the athlete's sport or discipline for focused development.	3.51	Very Much Ready
Deconstruct complex skills into manageable components, allowing athletes to master individual elements before integrating them into the whole.	3.51	Very Much Ready
Create structured progressions that gradually increase the complexity and challenge of skills to facilitate steady improvement.	3.49	Moderately Ready
Incorporate technology and video analysis to provide in-depth insights into skill execution, aiding athletes in refining their techniques.	3.49	Moderately Ready
Simulate game-like situations in training to enhance skill transferability and prepare athletes for real competition challenges.	3.43	Moderately Ready
Customize skill development plans based on each athlete's strengths, weaknesses, and playing style to maximize their potential.	3.43	Moderately Ready
Composite Mean	**3.50**	**Very Much Ready**

Note: VMR – Very Much Ready (3.50-4.00)

Strength and conditioning

Table 8 presents sports coaches' readiness to implement micro-cycle training in terms of strength and conditioning. The table indicates that the respondents are moderately ready in strength and conditioning based on the composite mean of 3.48. Furthermore, the table shows that sports coaches in Batangas City are moderately ready to implement micro-cycle training in their strength and conditioning programs. Strength and conditioning are intertwined components of an athlete's improvement, as they entail the before-and-after results. The highest mean score is 3.61 with the statement, "Regularly assess athletes' progress, adjusting strength and conditioning programs as needed to address weaknesses and capitalize on strengths," which suggests that coaches know that regular assessments and program adjustments will ensure the athletes continue to grow and progress. This can be achieved by addressing weaknesses and capitalizing on strengths, which may lead athletes to reach their full potential and gain optimal results.

The lowest mean score is 3.37 with the statement, "Emphasize core strength exercises to enhance stability, balance, and transfer of power between the upper and lower body," which might indicate that coaches are not giving core strength exercises enough importance. Core strength enhances stability, balance, and power transfer between the upper and lower body. This is a necessary input for athletic performance. The coaches should be giving more priority to core strength exercises within their strength and conditioning programs. This will improve athletes' general physical base and performance in any sports discipline by ensuring greater stability, avoiding injury, and creating more power.

Since they are only moderately ready, it is implied that coaches must be proficient in this area to hone their athletes holistically. Strength and conditioning must also be prioritized, not only skill development. However, they are ready to regularly assess athletes' progress, adjusting strength and conditioning programs to address weaknesses and capitalize on strengths. According to Ribeiro (2021), the weaknesses of the athletes must be the central point of strength and conditioning, as strengths are already optimized. Conditioning the weaknesses of the athletes will enable them to use those as their strengths in their performance.

Table 8. Readiness of Sports Coaches in Implementing Micro-Cycle Training as to Strength and Conditioning

Strength and Conditioning	Weighted Mean	Verbal Interpretation
Regularly assess athletes' progress, adjusting strength and conditioning programs as needed to address weaknesses and capitalize on strengths.	3.61	Very Much Ready
Include recovery strategies such as active rest, stretching, and foam rolling to enhance recovery between strength and conditioning sessions.	3.57	Very Much Ready
Prioritize functional movements that mimic sport- specific actions to improve overall athleticism and reduce the risk of injuries.	3.54	Very Much Ready
Emphasize a well-rounded approach by combining strength training with flexibility exercises to enhance overall athletic performance.	3.51	Very Much Ready
Gradually increase resistance levels in strength training to provide a progressive overload, promoting muscle adaptation and growth.	3.49	Moderately Ready
Define specific, measurable, and attainable strength goals for each athlete to guide the conditioning program.	3.44	Moderately Ready
Customize the resistance load and training volume based on each athlete's fitness level, ensuring a tailored approach to strength and conditioning.	3.44	Moderately Ready
Organize conditioning programs into distinct phases, adjusting intensity and volume to peak at key points in the season.	3.43	Moderately Ready
Integrate plyometric exercises to enhance power and explosiveness, contributing to improved performance in dynamic sports.	3.38	Moderately Ready
Emphasize core strength exercises to enhance stability, balance, and transfer of power between the upper and lower body.	3.37	Moderately Ready
Composite Mean	**3.48**	**Moderately Ready**

Note: MR – Moderately Ready (2.50-3.49)

Comparison between the respondents' level of knowledge in micro-cycle training and their preparedness

Table 9 and 10 presents the difference in the sports coaches' level of knowledge in micro-cycle training and their preparedness in terms of skill development and strength and conditioning. Specifically, Table 9 shows the data on the difference in the respondents' level of knowledge in micro-cycle training and their preparedness relative to skill development.

It is shown in Table 9 that there is a significant difference in the sports coaches' level of knowledge in micro-cycle training in terms of training load (p = .014) and periodization (p <.001) when grouped according to their preparedness relative to skill development at .05 level of significance. This implies that a coach's knowledge of training load and periodization directly correlates to their preparation in implementing micro-cycle training programs toward skill development. The low p-values also signify that any difference observed cannot be attributed to random chance; instead, the two areas are significantly important to preparing coaches for designing and implementing skill development within a micro-cycle framework. Such knowledge of the training load means coaches can correctly control the intensity and volume and the amount of recovery athletes need to skill them without putting them at risk of overtraining or potential injuries.

Table 9. Comparison between the respondents' Level of Knowledge in Micro-Cycle training

Variables	*r*	*p*-values	Decision on Ho	Verbal Interpretation
Training Load	0.245	.014	Reject	Significant
Periodization	0.420	<.001	Reject	Significant
Individualization	0.157	.118	Failed to Reject	Not Significant

Table 10 presents the data on the difference in the respondents' level of knowledge in micro-cycle training and their preparedness relative to strength and conditioning. It is shown in Table 10 that there is a significant difference in the sports coaches' level of knowledge in micro-cycle training relative to training load (p <.001) and periodization (p <.001) when grouped according to their preparedness relative to strength and conditioning at .05 level of significance. This outcome establishes that the perceived knowledge of a training load by sports coaches is critical to making them ready for micro-cycle-specific strength and conditioning training. A very low value of p indicates differences that are less likely to happen by chance. Therefore, attention to these types of knowledge and understanding is important in preparing sports coaches to present effective strength and conditioning programs set within a framework of a micro-cycle. Training load is an important concept, allowing coaches to adjust the volume and intensity of strength and conditioning exercises to maximize gains without overloading the athlete. Proper management of the training load is vital for maximizing performance with minimal injury risk. Similarly, periodization, whereby training is structured in cycles peaking at specific times, allows coaches to systematically integrate strength and conditioning workloads with the schedules of their athletes so that they are at their peak when it matters most.

Table 10. Comparison between the respondents' Readiness of Sports Coaches in Implementing Micro-Cycle Training

Variables	*r*	*p*-values	Decision on Ho	Verbal Interpretation
Training Load	0.407	<.001	Reject	Significant
Periodization	0.373	<.001	Reject	Significant
Individualization	0.142	.157	Failed to Reject	Not Significant

Misconceptions or knowledge gaps of sports' coaches in micro-cycle training

It is important to rectify and correct misconceptions or knowledge gaps that could hamper sports coaches' effective implementation of micro-cycle training. Hence, Table 11 shows the misconceptions or knowledge gaps of sports coaches in micro-cycle training. Table 11 data indicates that the respondents are agree in misconceptions or knowledge gaps of sports' coaches in micro-cycle training based on the composite mean of 3.48. The table shows that sports coaches in Batangas City agreed that the presented statements are misconceptions or knowledge gaps about micro-cycle training. The highest mean value of 3.56 reflects the sports coaches' general agreement that skill development cannot be secondary to conditioning. This reinforces the idea that though conditioning is significant, micro-cycle training must focus on the technical and tactical aspects of the athlete's sport to help improve their on-field performance.

On the contrary, the lowest mean of 3.37 corresponds to two other misconceptions: failure to provide rest and recovery for improved performance and "one-size-fits-all" micro-cycle training. Coaches agree with these as being misconceptions since they understand the importance of proper rest and recovery periods. They are supposed to prevent overtraining and revitalize the physical and mental self. It also discredits the myth of the "one-size-fits-all" concept, where micro-cycle training should be specific to each athlete based on their respective requirements, considering his skills, condition, and competition schedule.

The implication that could be made is that sports coaches are very much aware of the facts of micro-cycle training, which provides additional assurance that they are ready to implement such training. They emphasize that they strongly agree that "skill development is secondary to physical conditioning in micro-cycle training" is a misconception. Varghese et al. (2022) reiterated that skill development is the top priority of the micro-cycle as its goal is to optimize athletes' performance in competitions. However, physical condition is equally important. Other statements in the table are deemed a misconception that needs further clarification and correction.

Table 11. Misconceptions or Knowledge Gaps of Sports' Coaches in Micro-Cycle Training

Misconceptions or Knowledge Gaps of Sports' Coaches in Micro-Cycle Training	Weighted Mean	Verbal Interpretation
Skill development is secondary to physical conditioning in micro-cycle training.	3.56	Strongly Agree
Focusing solely on intensity is more important than a balanced approach in micro-cycle training.	3.53	Strongly Agree
Increasing training frequency always leads to better athlete readiness.	3.51	Strongly Agree
More training volume in a micro-cycle training always leads to better outcomes.	3.48	Agree
All athletes respond to similarly to standardized micro-cycle training programs.	3.48	Agree
Micro-cycle training is primarily about pushing athletes to their limits rather than a strategic and adaptable approach.	3.48	Agree
Pushing athletes to their limits in every micro- cycle session is optimal for performance.	3.46	Agree
Micro-cycle training plans can remain static without the need for regular adjustments.	3.43	Agree
Neglecting rest and recovery can lead to improved performance in micro-cycle training.	3.41	Agree
"One-size-fit-all" approach is suitable for micro- cycle training.	3.41	Agree
Composite Mean	**3.48**	**Agree**

Note: A – Agree (2.50-3.49)

Teaching Guide

Rationale

Sports periodization plays a crucial role in optimizing athletic performance, yet many coaches in the Philippines, particularly in Batangas City, still rely on outdated training methods. While traditional approaches have been used for years, they often lead to overtraining, increased injury risks, and suboptimal performance. Among the different phases of periodization, micro-cycle training remains overlooked despite its ability to enhance performance, promote recovery, and prevent burnout. This calls for a shift towards more evidence-based, structured training programs that maximize an athlete's potential while ensuring long-term physical well-being.

Micro-cycle training is a vital yet underutilized component of an athlete's development. By carefully structuring daily and weekly training routines, athletes can effectively manage workload, build endurance, and improve skill execution. Studies have shown that consistent micro-cycle application enhances strength, speed, and recovery while minimizing injury risks. Unfortunately, many local coaches either lack awareness or proper guidance in implementing this training model. As a result, athletes in Batangas City struggle to compete at higher levels due to ineffective training programs that fail to meet their individual needs.

To bridge this gap, it is essential to educate and equip sports coaches with modern training methodologies, particularly micro-cycle training. This research aims to highlight the importance of this approach and advocate for its proper implementation through seminars, workshops, and hands-on training sessions. By doing so, we can enhance the quality of

coaching, improve athlete performance, and elevate the competitive standards of sports in Batangas City. Investing in education and innovative training strategies will not only benefit individual athletes but also contribute to the overall growth

Conclusion

Based on the gathered and analyzed data from the respondents, the following conclusions have been made: (1) *Knowledge of Micro-Cycle Training*. Coaches demonstrated a high level of knowledge in micro-cycle training, particularly in the area of training load. However, their understanding of periodization and individualization was found to be moderate, suggesting the need for further development in these areas; (2) *Readiness to Implement Training*. Coaches showed that they are very ready to integrate micro-cycle training into their programs, especially in terms of skill development. However, their readiness for strength and conditioning practices was only moderate, indicating an area that may benefit from targeted support; (3) *Link Between Knowledge and Readiness*. A significant relationship was found between the coaches' knowledge of training load and periodization and their readiness to implement micro-cycle training in both skill development and strength and conditioning. This highlights the importance of strengthening foundational knowledge to improve practical application; (4) *Common Misconceptions*. The study revealed that many coaches strongly agreed with the misconception that skill development is secondary to physical conditioning in micro-cycle training. Fewer coaches identified issues such as neglecting rest and recovery and using a "one-size-fits-all" approach as misconceptions, showing a need for more awareness around these critical aspects. (5) *Proposed Extension Activities*. To address the identified gaps, the study recommends several extension activities, including: (a) seminars focused on periodization and individualization (b) collaborative learning and knowledge sharing among coaches and (c) monthly progress monitoring to support continuous professional development.

Recommendation

The following recommendations, suggested by the researchers, are based on the result of the gathered data and the substantial observations during the conduct of the study. First, sports coaches must be exposed to workshops, seminars, or symposia to enhance their coaching and other relevant skills in micro-cycle training. Second, the Batangas City Division Office must conduct comprehensive research on sports coaches' lapses in implementing micro-cycle training. This will ensure that interventions are conducted appropriately. Third, the local government of Batangas City must launch interactive programs for sports coaches and student-athletes so that they can bring pride to the city through sports competitions. Fourth, if this study goes further, future researchers should cater to more respondents and add relevant variables to build the study's credibility.

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