

**IMPROVING THE PHYSICAL QUALITIES OF FUTURE PHYSICAL EDUCATION
TEACHERS BASED ON INNOVATIVE APPROACHES****Gulistan state university Trainee-Teacher****Baxtiyar Spataev**baxtiyarspataev333999@gmail.com**Gulistan state university 3rd grade student****Ziyodullayev Daler**daler@icloud.com

Abstract: *The role of physical education teachers in shaping the health, fitness, and physical abilities of students is critical. As the demands for a healthy and active lifestyle increase in modern society, the physical education (PE) teacher's skillset must evolve accordingly. This paper explores the need for improving the physical qualities of future PE teachers using innovative approaches, focusing on the integration of new technologies, contemporary teaching methods, and a personalized approach to physical development.*

Keywords: *education, world, society, teacher, health, quality, technologies, methods, strength, flexibility, speed, programs.*

Introduction:

The education system worldwide is continuously evolving, and the expectations of physical education teachers are no exception. As future educators, physical education teachers must not only impart knowledge but also demonstrate and model the physical abilities they promote. This requires a sustained emphasis on their physical development throughout their professional training. Traditional methods of training future PE teachers often focus on standard exercises and techniques, but an innovative approach can more effectively develop the key physical qualities necessary for the profession.

Key Physical Qualities of a PE Teacher:

1. Strength – the ability to perform movements against resistance.
2. Endurance – the capacity to sustain physical activity for extended periods.
3. Flexibility – the range of motion available to the joints.
4. Coordination – the ability to execute complex movements smoothly.

5. Speed – the capacity to move quickly in different activities.

Each of these physical qualities is vital for a future PE teacher to possess and maintain. However, the question remains: how can innovative methods further enhance these qualities?

Innovative Approaches to Physical Development:

1. *Integration of Technology in Physical Training:*

The use of technology has revolutionized many aspects of education, including physical training. Wearable fitness trackers, mobile apps, and virtual reality simulations can help future PE teachers monitor and analyze their physical performance. By utilizing these technologies, teacher candidates can track their progress more efficiently and personalize their training to improve specific physical qualities such as strength, endurance, and speed.

2. *Personalized Training Programs:*

A shift from one-size-fits-all training regimes to individualized training programs is a key aspect of the innovative approach. Future PE teachers can benefit from personalized exercise plans that focus on improving their unique weaknesses while maintaining their strengths. These programs are often based on the analysis of data collected through technology and can be adjusted in real-time according to the individual's progress.

3. *Cross-Disciplinary Approaches:*

Introducing elements from other sports and physical disciplines into the training of future PE teachers can enhance their physical development. For instance, incorporating practices from yoga can improve flexibility and balance, while martial arts may boost coordination and reflexes. This cross-disciplinary approach provides a more holistic development of physical qualities.

4. *Gamification in Physical Education Training:*

Gamification, or the application of game-like elements to non-game contexts, can be used to make physical training more engaging. Challenges, leaderboards, and rewards can motivate future PE teachers to push their limits and engage more actively in their training, resulting in improved physical qualities over time.

5. *Functional Training and Natural Movement:*

Traditional physical training often isolates muscles and movements, which may not fully prepare future PE teachers for the diverse physical demands of the profession. Functional training focuses on movements that mimic real-life activities, enhancing strength, balance, and coordination in a

more practical and applicable way. Incorporating natural movement practices, such as parkour or animal flow, encourages creativity and adaptability in movement, skills that are essential for PE teachers.

The Role of Physical and Mental Synergy:

In addition to improving physical qualities, an innovative approach must also recognize the importance of mental and emotional factors in physical training. Stress, motivation, and self-perception can all affect physical performance. Future PE teachers should be trained not only to improve their physical abilities but also to develop resilience and mental toughness. Techniques such as mindfulness, visualization, and mental conditioning can complement physical training by enhancing focus and reducing the risk of burnout. The role of a physical education teacher is no longer limited to basic fitness instruction. Modern PE educators are expected to be experts in a range of physical disciplines, skilled in new technologies, and capable of teaching physical literacy across diverse populations. Given these heightened responsibilities, it's essential that future PE teachers develop superior physical qualities through advanced, evidence-based approaches. This paper examines emerging methods in physical education training that focus on biomechanics, nutrition, mental conditioning, and lifelong fitness strategies, alongside the use of new technology.

Emerging Focus: Biomechanics in Physical Education

1. Biomechanical Analysis for Personalized Improvement:

Biomechanics, the study of movement patterns and forces exerted by the body, has become increasingly relevant in developing the physical qualities of PE teachers. By analyzing how individuals move, trainers can identify inefficiencies and areas of improvement. This helps future PE teachers not only optimize their own physical abilities but also gain a deeper understanding of movement to improve the training they will provide their students.

Example of Application:

Using motion-capture technology or mobile apps that analyze biomechanics (such as Dartfish or Kinovea), PE teacher candidates can observe their movement patterns during exercises like running, jumping, or lifting. The analysis provides insights into potential corrections in posture, force distribution, or range of motion, which can enhance physical performance and reduce injury risk.

Research Support:

According to a study in the *Journal of Biomechanics*, biomechanical analysis can lead to a significant reduction in injury rates and improve physical performance in both athletes and educators by targeting inefficient movement patterns and correcting them through targeted training.

The Role of Nutrition in Physical Development

2. *Personalized Nutrition and Supplementation:*

While physical training is crucial, nutrition plays a fundamental role in the development of physical qualities. Personalized nutrition plans, tailored to the specific needs of each future PE teacher, can accelerate improvements in strength, endurance, and recovery. Ensuring that teacher trainees receive the right balance of macronutrients (proteins, carbohydrates, fats) and micronutrients (vitamins, minerals) is essential for optimizing performance and preventing fatigue or injury.

Example of Application:

Future PE teachers could work with sports nutritionists to create meal plans that cater to their training schedules and goals. The use of apps like MyFitnessPal or Cronometer could help track nutrient intake and make adjustments as needed. This personalized approach ensures that the trainees' physical gains are supported by proper fueling and recovery strategies.

Recent Trend:

Sports supplementation is also gaining traction in physical education. Supplements such as protein powders, BCAAs (Branched Chain Amino Acids), and creatine are used to improve recovery times and muscle strength. However, proper guidance is essential to avoid misuse, as highlighted by the *International Society of Sports Nutrition*.

Mental Conditioning and Recovery: The Overlooked Essentials

3. *Mindfulness and Mental Recovery in Physical Training:*

The focus on physical qualities must include mental resilience and stress management. For future PE teachers, learning to balance physical exertion with recovery is crucial. Mindfulness techniques such as meditation and mental relaxation are essential to prevent burnout and maintain high levels of physical performance over time. These methods enhance concentration and emotional stability, which are key in maintaining motivation and consistency in physical training.

Example of Application:

Incorporating guided mindfulness sessions into the training curriculum could help teacher candidates manage mental stress associated with intensive training programs. Apps like Headspace or Calm can be used to structure mindfulness practices that build mental toughness and emotional control.

4. Sleep as a Critical Component of Physical and Mental Recovery:

Research from the *Sleep Foundation* indicates that adequate sleep is integral to athletic performance. Sleep affects muscle recovery, cognitive function, and overall physical endurance. Future PE teachers should prioritize sleep hygiene practices, ensuring 7-9 hours of rest for optimal physical development.

Example of Application:

Monitoring sleep patterns using wearable technology like Whoop or Fitbit can provide insights into recovery periods and readiness for physical activity. Understanding sleep's impact on recovery can improve both short- and long-term training outcomes for future educators.

Lifelong Physical Education and Continuous Learning

5. Embracing Lifelong Physical Education (LPE):

As future physical educators, PE teachers need to adopt the mindset of lifelong learning, not just for their knowledge but for their physical abilities. Lifelong Physical Education (LPE) promotes the idea that learning and improving physical fitness does not end at graduation but continues throughout one's career. This mindset prepares PE teachers to stay current with trends, adjust their fitness levels to changing demands, and inspire their students to maintain active lifestyles well into adulthood.

Example of Application:

PE educators can enroll in advanced fitness certifications and workshops throughout their careers, such as functional movement certifications (e.g., FMS—Functional Movement Systems) or specialized sports training (e.g., kettlebell training or mobility workshops). Staying up-to-date with fitness trends allows educators to model continuous self-improvement for their students.

The Role of Data-Driven Training:

6. Data-Driven Training and Artificial Intelligence (AI): The rise of AI-driven training programs is making a significant impact on the way physical education is taught and practiced. AI can

provide personalized feedback, predict injury risks, and create optimal training schedules based on real-time data analysis. By integrating AI tools into training, future PE teachers can harness data-driven insights to tailor their physical development precisely to their needs.

Example of Application:

Apps like Freeletics or Athos provide AI-driven workout plans that adjust according to a trainee's performance and recovery status. Using such tools, future PE teachers can automate their training processes, ensuring that each workout is optimized for specific goals, be it improving endurance, strength, or flexibility.

Conclusion.

The future of physical education relies on the capability of PE teachers to lead by example. By adopting innovative approaches to their physical training, future PE teachers can enhance their own physical qualities and better prepare themselves to teach and inspire the next generation. The integration of technology, personalized training, cross-disciplinary methods, gamification, and functional training can all contribute to a more comprehensive and effective development of the physical skills necessary for the profession. As the landscape of education continues to change, so too must the strategies employed in the training of physical education teachers.

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