Date: 13th December-2025

ENHANCING STUDENTS' PHYSICAL ABILITIES THROUGH GYMNASTICS DISCIPLINES: AN EVIDENCE-INFORMED SCHOOL-BASED FRAMEWORK

Shaydullayeva Guliruxsor Jumanazarovna
Master's student, Graduate (Master's) Department, National University of Uzbekistan named after Nizami

Abstract: Schools are a key setting for developing students' physical abilities (strength, flexibility, balance, coordination, speed, and endurance). Gymnastics—across multiple disciplines—offers structured, scalable movement experiences that can strengthen health-related fitness and movement competence. World Gymnastics recognizes eight disciplines (e.g., artistic, rhythmic, trampoline & tumbling, acrobatics, aerobics, parkour), many of which can be adapted for physical education (PE).

Keywords: gymnastics disciplines; physical abilities; physical fitness; movement competence; school physical education; motor skills

Introduction. Developing students' physical abilities is a core goal of school physical education because physical fitness and movement competence support lifelong participation in physical activity and broader health outcomes. Global guidance recommends that children and adolescents accumulate an average of 60 minutes/day of moderate-to-vigorous physical activity and include muscle- and bone-strengthening activity at least 3 days/week**.**

Gymnastics provides a unique pedagogical "toolbox" for building these capacities because it emphasizes whole-body control**,** balance**,** postural strength**,** mobility**,** and coordination through progressive tasks (e.g., shapes, supports, locomotion patterns, rolls, landings, rhythmic sequences). Importantly, gymnastics is not limited to competitive artistic forms; World Gymnastics governs eight disciplines—Gymnastics for All, Men's/Women's Artistic, Rhythmic, Trampoline & Tumbling, Acrobatics, Aerobics, and Parkour—which signals a broad spectrum of movement content adaptable to school settings.

This article addresses the question: How can gymnastics disciplines be used to improve students' physical abilities in schools? It offers (1) an evidence-informed synthesis of outcomes and (2) a practical framework for PE lesson planning and progression.

Methods. Targeted evidence synthesis (evidence-informed narrative review) combined with a practice framework for school PE implementation.

Evidence identification and selection

Key sources were identified from:

- peer-reviewed trials/interventions on gymnastics-based curricula in school-aged children and adolescents (e.g., controlled trials, school PE interventions),
- foundational studies on gymnastics training and physical function (e.g., balance/postural control),

- public-health physical activity guidance, and
- meta-analytic evidence on school-based movement-skill interventions to inform dosage and program structure.

Priority was given to accessible peer-reviewed sources and authoritative guidance (WHO; discipline definitions via World Gymnastics).

Outcomes of interest. Physical abilities were grouped into:	
Health-related fitness:	muscular strength/endurance, flexibility, cardiorespiratory fitness, body composition.
Skill-related capacities:	balance/stability, coordination, speed/agility, object control, landing mechanics.

Results. Across school-based and child-focused studies, gymnastics content shows consistent benefits for movement competence and several components of physical fitness when delivered progressively and with sufficient practice time.

A controlled school curriculum study reported that a gymnastics curriculum improved stability skills and object control skills**,** with no negative effect on locomotor skills or general coordination—supporting gymnastics as a targeted way to raise core movement competence in children. In addition, evidence from postural control research indicates that younger children may show particularly meaningful gains in balance control associated with gymnastics training exposure, suggesting age-sensitive responsiveness for stability development.

For adolescents, a school gymnastics program implemented over 12 weeks and evaluated via Eurofit measures showed significant pre- to post-test improvements in health-related fitness variables (with one agility measure reported as an exception), indicating that gymnastics-based PE can also improve fitness profiles beyond early childhood. Complementary school PE interventions using “gymnastic-style” formats (e.g., jump gymnastics delivered three times per week) reported gains in flexibility and abdominal strength (with some outcomes differing by gender and measure), reinforcing the potential of rhythmic, repeated, and structured gymnastic activity to raise fitness indicators in school contexts.

More broadly, a randomized controlled school-based intervention (including gymnastics/games elements) found that two additional weekly sessions can produce measurable improvements in flexibility, sprint speed, and hand-eye coordination in 8–9-year-olds, demonstrating that meaningful gains can occur within relatively short school-based programs when exposure is adequate. Finally, meta-analytic evidence on school-based fundamental movement skill interventions suggests that programs tend to be more effective when sessions are long enough (≥60 minutes), frequent (≥3 times/week), and sustained (≈10–20 weeks), offering useful parameters for planning gymnastics-informed PE units.

Discussion. Gymnastics is unusually efficient because it trains multiple systems at once:

- *Strength & muscular endurance:* supports, hangs, climbs, body-weight holds, and repeated floor patterns develop trunk and upper-body endurance relevant for posture and injury resilience.
- *Flexibility & mobility:* structured ranges (hips/shoulders/spine) are repeatedly practiced through safe progressions, supporting functional movement.
- *Balance & coordination:* stability tasks (one-leg balance, landings, turns) and multi-segment control challenge proprioception and neuromuscular timing—key for movement competence.
- *Speed, agility, power:* tumbling basics, parkour-style locomotion, and trampoline/jump patterns (adapted safely) can enhance elastic strength and quickness in school-appropriate forms.
- *Endurance:* aerobics-style gymnastics and circuit formats raise heart rate while keeping the session enjoyable and varied.

Example 8–10 week unit structure (can be expanded):

- ✓ Weeks 1–2: body shapes, core bracing, safe landings, locomotion patterns
- ✓ Weeks 3–4: balance/stability + basic rolls (teacher-spotted; mats)
- ✓ Weeks 5–6: low-risk tumbling chains + simple rhythmic sequences
- ✓ Weeks 7–8: circuits (strength-mobility-coordination) + mini-routines
- ✓ Weeks 9–10 (optional): parkour-style obstacle lines + assessment + performance day

Conclusion. Gymnastics disciplines—adapted to educational settings—provide a structured, motivating pathway to improve students' physical abilities. Evidence supports benefits for movement competence (especially stability and object control), flexibility, speed/coordination, and multiple health-related fitness indicators when programs are progressive and sufficiently dosed. Aligning gymnastics-informed PE with global activity recommendations can help schools strengthen students' physical development and support healthier, more active lifestyles.

REFERENCES:

1. Morgunova Ilmira Igorevna, Karimov M. K.,Malinina N. N. Gimnastika va uni o`qitish metodikasi Toshkent; Ilm Ziyo; 2011.
2. Usmanov B. H., Xonkeldiyev Sh. X.,Ismailov T. U. Gimnastika darslarida innovatsion texnologiyalar Toshkent; Tafakkur bo`stoni; 2013
3. World Health Organization. (n.d.). *Physical activity (Children and adolescents 5–17 years).*
4. World Gymnastics (FIG). (n.d.). *About / Disciplines (eight disciplines of gymnastics).*
5. Rudd, J. R., et al. (2017). *Effectiveness of a 16-week gymnastics curriculum at developing movement competence in children.*
6. Raximovich, R. U., & Farxodjon o'g'li, A. Y. (2024). YENGIL ATLETIKA SPORT TURIDA OZIQ-OVQAT REJIMI VA UNING ILMIY TAHLILI. *MODELS AND METHODS FOR INCREASING THE EFFICIENCY OF INNOVATIVE RESEARCH*, *4*(40), 22-25.

7. Йигиталиев, А. (2024). ФИЗИЧЕСКАЯ ПОДГОТОВКА В СПОРТИВНОЙ ШКОЛЕ ПО ЛЁГКОЙ АТЛЕТИКЕ. *Академические исследования в современной науке*, *3*(23), 193-196.

8. Ugli, Y. A. F. (2022). CONDITIONS OF USE OF INNOVATIVE EDUCATIONAL TECHNOLOGIES IN PROFESSIONAL TRAINING OF FUTURE SPECIALISTS IN THE FIELD OF PHYSICAL EDUCATION. In *ONLINE-CONFERENCES" PLATFORM* (pp. 89-91).

9. Yigitaliyev, A. F., & Rasulova, R. A. (2024). YOSHLARNI SOG'LOM VOYAGA YETISHLARINI TA'MINLASH MASALASI XALQ OG'ZAKI IJODIDA. *SO 'NGI ILMIY TADQIQOTLAR NAZARIYASI*, *7*(6), 49-51.

10. Yigitaliyev, A. F. O. G. L. (2023). QISQA MASOFAGA YUGURUVCHI SPORTCHILARNI MASHG'ULOTLARINI TASHKIL QILISH USULLARI. *Oriental renaissance: Innovative, educational, natural and social sciences*, *3*(12), 277-280.

11. Radjapov, U., & Abubakir, Y. (2024). O 'QUVCHILARDA SOGLOM TURMUSH TARZINI SHAKLLANTIRISHDA UMUMRIVOJLANTIRUVCHI MASHQLAR VA ULARNI O'TKAZISH. *Международный журнал теории новейших научных исследований*, *2*(9), 131-135.

12. Radjapov, U., & Yigitaliyev, A. (2025). FOOD PRACTICES IN ATHLETICS: A SCIENTIFIC ANALYSIS. *ВЕСТНИК МАГИСТРАТУРЫ*, 28.

13. Farxodjon o'g'li, Y. A. QISQA MASOFAGA YUGURUVCHI SPORTCHILARNI MASHG'ULOTLARINI TASHKIL QILISH USULLARI.