



स्वाध्यायान्मा प्रमदः

PROFESSIONAL DEVELOPMENT MODULE

2026-27

PHYSICAL EDUCATION TEACHERS

SENIOR SECONDARY LEVEL

STATE COUNCIL OF EDUCATIONAL RESEARCH AND TRAINING, DELHI

📍 Varun Marg, Defence Colony, New Delhi - 110024

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FOREWORD

Dear Participants,

It gives me great pleasure to present this Training Module for the 5-Day In-service Course for PGT Physical Education (2026-27), designed in line with the vision of NEP 2020 and the competency-based approach to teacher professional development. The role of a Physical Education teacher at the senior secondary level is to deliver the prescribed syllabus in theory and practice for classes XI and XII. This training has been conceptualised to equip PGTs with updated knowledge, practical strategies, and reflective practices to meet the changing needs of learners in the 21st century. This training module is structured around the 5-day course design and serves as a ready reference for both facilitators and participants. Each day focuses on key thrust areas:

Day 1: Building scientific foundations through Biomechanics and ensuring safe school environments through Injury Management, Child Protection and POCSO

Day 2: Promoting holistic wellness via Yoga for Lifestyle Diseases, Mental Health & Well-being, and strengthening pedagogy with Digital Tools and Technology-Enabled Teaching

Day 3: Developing Psychological Attributes through Team Activities and strengthening Assessment and Evaluation practices in Physical Education

Day 4: Fostering Inclusive Education using the STEP Model, enabling Talent Identification, and understanding NEP 2020-aligned Pedagogies with cross-cutting perspectives

Day 5: Deepening expertise in Scientific Principles of Sports Training, Planning & Periodisation, and Physical Fitness Assessment, along with essential life skills such as Financial Literacy.

The sessions have been planned with a balance of theory, demonstration, group discussion, hands-on activities, and reflective practice so that learning translates directly into classroom and field application.

I express my sincere gratitude to all the esteemed resource persons for their expertise and commitment in shaping this module. I am confident that this module will serve as a valuable resource for PGTs, helping them enhance their professional competencies and contribute meaningfully to students' holistic learning, critical thinking, and the application of knowledge in daily life. This module also supports teachers with classroom engagement strategies when teaching difficult concepts. Let us work together to make Physical Education a joyful, inclusive, and scientifically sound experience for every learner.

With best wishes for a productive and enriching training.

Dr Deepika Malhotra
Nodal Coordinator

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1

FUNDAMENTALS OF BIOMECHANICS IN PHYSICAL EDUCATION: PROJECTILE MOTION, LEVERS, BODY MOVEMENTS, NEWTON'S LAWS AND FRICTION

Introduction

Biomechanics serves as the foundational scientific bridge between physics and human movement, applying mechanical principles to analyze physical performance, enhance athletic efficiency, and prevent musculoskeletal injuries in physical education. At its core, the study of biomechanics relies on key mechanical concepts to explain how force and motion interact with the human body. Newton's Laws of Motion govern the fundamental relationships between force, mass, acceleration, and action-reaction forces that drive all athletic actions. Internal movement is facilitated by the anatomical lever systems formed by muscles and bones, which dictate mechanical advantage, speed, and force production during fundamental body movements such as flexion, extension, abduction, and rotation. Externally, forces like friction determine the necessary traction between an athlete's footwear and the playing surface to enable efficient propulsion, stopping, and directional changes, while the principles of projectile motion dictate the flight paths, speed, release angles, and distance of objects or bodies airborne in sports like javelin, basketball, and jumping events. Mastery of these fundamental biomechanical concepts allows educators and athletes to optimize human performance and movement safety systematically.

1. Learning Outcomes

By the end of this section, teachers will be able to:

- ▲ explain the basic meaning, scope and importance of biomechanics in Physical Education;
- ▲ relate force, motion, stability and movement to sports performance;
- ▲ explain Newton's Laws and friction through sporting examples;
- ▲ identify the role of levers, torque, planes and axes in human movement;
- ▲ explain centre of gravity, base of support and balance;
- ▲ distinguish between linear and angular movements;
- ▲ explain the basic principles of projectile motion;
- ▲ use biomechanical principles to observe and analyse sports skills;
- ▲ identify common technical errors and suggest appropriate corrections;
- ▲ apply biomechanics to improve performance, efficiency and safety.

2. Biomechanics

Biomechanics is the study of human movement using the principles of mechanics.

In Physical Education, biomechanics helps us understand:

How the body moves, what forces move, and how the movement can be performed more effectively and safely?

It combines knowledge of anatomy, physics and human movement.

For example, when a student performs a long jump, biomechanics helps the teacher examine: Instead of teaching these points like a standard lecture, approach them using the formula: "One Action → One Question → One Biomechanics Concept." This helps teachers understand how to observe and analyse sports movements.

Let's take the Long Jump as an example. You can proceed in the classroom as follows:

1. Start with a question

Say:

"When an athlete performs a long jump after running, do they jump far simply because they run fast, or are there scientific principles at play in their body movements?"

Then ask the students/teachers:

- ▲ How fast do they run?
- ▲ How do they push against the ground?
- ▲ What is their body position during the jump?

After this, go through these 6 points one by one.

2. How is force generated during the run-up?

Ask:

"How does the athlete's speed increase when they start running?"

Explain:

During the run-up, the athlete repeatedly applies force to the ground. The ground exerts a reaction force on the athlete in the opposite direction, propelling them forward and allowing them to gain speed.

- ▲ how force is produced during the run-up;
- ▲ how the athlete pushes against the ground;
- ▲ the position of the body during take-off;
- ▲ the angle and speed of take-off;
- ▲ movement of the body during flight; and
- ▲ the technique used during landing.

Why is biomechanics important for a PE teacher?

A teacher can use biomechanics to:

Observe → Analyse → Identify the problem → Correct the technique → Practise → Reassess
Biomechanics is therefore not merely theoretical knowledge. It is a tool for teaching movement.

3. Basic Concepts of Biomechanics

3.1 Force

A force is a push or pull that can change the motion or shape of an object.

In sports, force may be produced by:

- ▲ muscles;
- ▲ gravity;
- ▲ friction;
- ▲ the ground;
- ▲ sports equipment; or
- ▲ another person or object.

Example

When a sprinter pushes against the track, the interaction between the athlete and the ground produces forces that contribute to forward movement.

Teacher question:

What force helps a runner accelerate at the start of a race?

3.2 Motion

Motion refers to a change in the position of an object or body segment with time.

Sports movements may involve:

- ▲ running;
- ▲ jumping;
- ▲ throwing;
- ▲ rotating;
- ▲ swinging;
- ▲ bending; and
- ▲ changing direction.

Movement may be linear, angular or a combination of both.

3.3 Inertia

Inertia is the tendency of an object to resist a change in its state of motion.

A stationary football does not move until a player applies force. Similarly, a moving athlete tends to continue moving unless an external force changes the motion.

Inertia is related to mass: an object with greater mass generally requires greater force to change its motion.

4. Newton's Laws and Physical Education

Newton's Laws provide a foundation for understanding how forces move.

Newton's First Law — Law of Inertia

An object remains at rest or continues in uniform motion unless acted on by an unbalanced external force.

Sports examples

- ▲ A football remains stationary until kicked.
- ▲ A runner remains at the starting position until force is applied.
- ▲ A moving cyclist continues forward until braking or another force changes the motion.

Teaching point

Ask learners:

"What changes the state of motion?"

This helps them identify the external force rather than simply saying that an object "moves by itself."

Newton's Second Law — Law of Acceleration

The acceleration of an object depends on the net force acting on it and its mass.

Sports examples

- ▲ A sprinter applies force against the ground to accelerate.
- ▲ A player can increase the speed of a ball by applying greater force.
- ▲ The same force produces different acceleration in objects of different mass.

Teacher application

When teaching throwing, do not tell students simply to "throw harder." Help them understand that effective performance depends on:

force + direction/Angle + timing + coordination.

Newton's Third Law — Action and Reaction

For every action force, there is an equal and opposite reaction force. The two forces act on different objects.

Running example

A runner pushes the ground backwards.

The ground exerts a reaction force on the runner forward.

This forward ground reaction force contributes to acceleration.

Important misconception

Incorrect: "The action and reaction forces cancel each other."

Correct: They are equal and opposite, but they act on different objects, so they do not cancel each other out on the same object.

5. Friction

Friction is a force that opposes relative motion, or the tendency towards motion, between surfaces in contact.

Friction is not always harmful. In Physical Education, it can be both useful and undesirable.

Useful friction

- ▲ Shoes grip the ground during running.
- ▲ A goalkeeper needs friction to maintain grip on the ground.
- ▲ Gymnasts use appropriate grip to control movement.
- ▲ Friction helps athletes stop and change direction.

Excessive friction

- ▲ may slow movement;
- ▲ may increase energy expenditure;
- ▲ may cause skin injuries during falls or sliding.

Practical Activity: Friction Investigation

Ask teachers to compare movement on:

1. a dry surface;
2. a wet/slippery surface; and
3. a surface with better grip.

Discuss:

- ▲ Which surface provides better traction?
- ▲ How does friction affect acceleration?
- ▲ How does it affect stopping and changing direction?

6. Centre of Gravity, Base of Support and Stability

These concepts are essential for understanding balance and stability.

Centre of Gravity

The centre of gravity is the point at which the body's weight may be considered to act. Its position changes when body segments change position.

Sports examples

- ▲ A wrestler lowers the body to improve stability.
- ▲ A gymnast changes body position during balance.

- ▲ A basketball player bends the knees while defending.
- ▲ A sprinter adopts a forward body position during acceleration.

Base of Support

The base of support is the area beneath and between the parts of the body in contact with the supporting surface.

A wider base generally provides greater stability.

Stability can be improved by:

- ▲ widening the base of support;
- ▲ lowering the centre of gravity;
- ▲ keeping the centre of gravity within the base of support; and
- ▲ increasing appropriate contact with the supporting surface.

Practical Teacher Activity

Ask teachers to stand:

1. on two feet;
2. on one foot;
3. with feet together;
4. with feet apart.

Discuss which position provides greater stability and why.

7. Planes and Axes of Movement

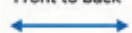
Human movement can be described in terms of three anatomical planes and their associated axes.

Plane	Main movements	Sports example
Sagittal plane	Flexion and extension	Running, squatting
Frontal plane	Abduction and adduction	Side jumping
Transverse plane	Rotation	Throwing, striking

PLANES AND AXES OF MOVEMENT

Human movement can be described using three anatomical planes and their associated axes.

PLANE		MAIN MOVEMENTS	SPORTS EXAMPLE	ILLUSTRATION
SAGITTAL PLANE		Flexion and extension	Running, squatting	
FRONTAL PLANE		Abduction and adduction	Side jumping	
TRANSVERSE PLANE		Rotation	Throwing, striking	

AXIS	DIRECTION	EXAMPLES	FRONTAL/ TRANSVERSE AXIS	SAGITTAL AXIS	VERTICAL/ LONGITUDINAL AXIS
Frontal/Transverse axis	Side to side 	Flexion and extension 			
Sagittal axis	Front to back 	Abduction and adduction 			
Vertical/Longitudinal axis	Top to bottom 	Rotation 			



TEACHER TIP

Do not teach planes and axes as terms to memorise only. Ask teachers to identify the plane and axis while watching an actual movement.

Axes

Axis	Direction	Examples
Frontal/transverse axis	Side to side	Flexion and extension
Sagittal axis	Front to back	Abduction and adduction
Vertical/longitudinal axis	Top to bottom	Rotation

Teacher Tip

Do not teach planes and axes as terms to memorise only. Ask teachers to identify the plane and axis while observing an actual movement.

8. Levers in the Human Body

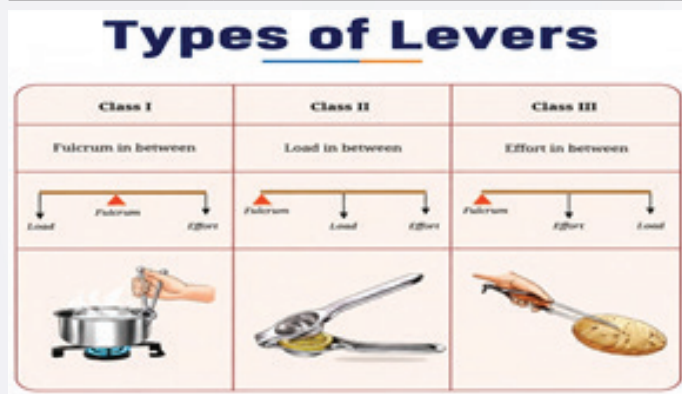
A lever is a rigid structure that rotates around a fixed point called the fulcrum.

In the human body:

- ▲ Bones act as levers.
- ▲ Joints act as fulcrums.
- ▲ Muscles provide effort.
- ▲ The body part or external object being moved provides resistance.

Types of Levers

Lever	Arrangement	Human-body example	Sports relevance
First class	Fulcrum between effort and resistance	Head and neck movement	Heading
Second class	Resistance between fulcrum and effort	Standing on toes	Take-off/push-off
Third class	Effort between fulcrum and resistance	Biceps at elbow	Throwing, striking



The third-class lever is particularly common in human movement. It may not provide force advantage, but it allows greater speed and range of movement.

Teacher Application

While teaching a throwing skill, ask:

"Which joint acts as the fulcrum, which body segment acts as the lever, and where is the muscle force applied?"

9. Torque

Torque is the turning effect of a force around an axis or joint.

It depends on:

- ▲ the amount of force;
- ▲ the distance from the axis; and
- ▲ the direction in which the force acts.

Sports examples

Torque is involved in:

- ▲ kicking a football;
- ▲ swinging a racket;
- ▲ throwing a javelin;
- ▲ rotating the trunk;

- ▲ turning the body during gymnastics.

Teacher Application

A small change in the position of a limb can change the mechanical demands placed on a joint. Therefore, body position and technique matter, not just muscular strength.

10. Body Movements

Major movements of the body include:

- ▲ Flexion: Decreasing the angle at a joint. Example: bending the elbow or knee.
- ▲ Extension: Increasing the angle at a joint. Example: straightening the knee during take-off.
- ▲ Abduction: Movement away from the body's midline.
- ▲ Adduction: Movement towards the body's midline.
- ▲ Rotation: Movement around a longitudinal axis.
- ▲ Circumduction: A circular movement combining flexion, extension, abduction and adduction.

Practical Application

A sports skill rarely uses only one movement. For example, a tennis serve involves coordinated movement of the:

legs → trunk → shoulder → elbow → wrist.

This is called sequential or coordinated movement, where different body segments contribute at appropriate times.

11. Linear and Angular Motion

Linear Motion; Movement in which the body or object moves from one location to another.

Examples:

- ▲ sprinting;
- ▲ straight-line running;
- ▲ movement of a ball after a pass.

Angular Motion

Movement around an axis.

Examples:

- ▲ rotation of the arm during throwing;
- ▲ rotation of the body in gymnastics;
- ▲ swinging a bat or racket.

Important Point

Most human sports movements involve a combination of linear and angular motion. For example, a javelin throw combines:

- ▲ linear movement of the athlete; and
- ▲ angular movement of the shoulder, elbow and wrist.

12. Projectile Motion

Projectile motion occurs when an object is projected into the air and subsequently moves mainly under the influence of gravity, assuming air resistance is negligible.

Projectile motion is relevant to:

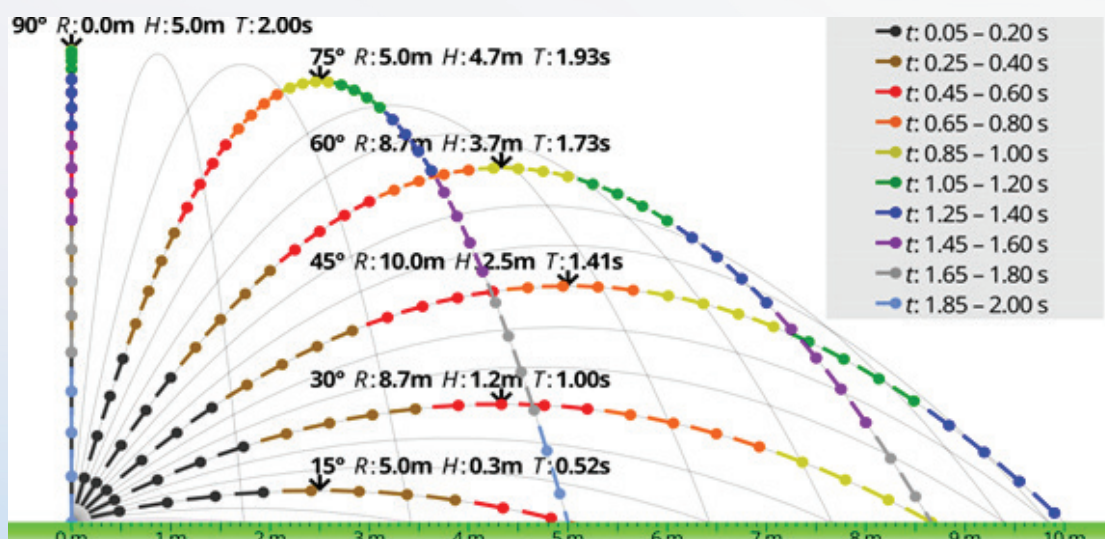
- ▲ shot put;
- ▲ javelin;
- ▲ basketball;
- ▲ football;
- ▲ volleyball;
- ▲ long jump; and
- ▲ other throwing and jumping activities.

Factors Affecting Projectile Motion

1. Initial velocity: Greater release speed generally increases the distance travelled.
2. Angle of projection: The angle influences the height, flight time and horizontal distance.

Important: There is no single “best angle” for every sports skill. The optimum angle depends on factors such as release height, release speed and the objective of the skill.

3. Height of release: A higher release point can provide more time before the projectile reaches the ground.
4. Gravity: Gravity continuously acts downward and contributes to the curved trajectory.



Sports Application

In a basketball shot, the player controls:

release speed + release angle + release height
to produce an appropriate trajectory.

PROJECTILE ANGLE BASED ON MOMENTUM & IMPULSE

The angle of projection affects the path, range and impact of a projectile.
Momentum determines its motion, while impulse changes it.



IMPULSE

Impulse refers to the effect of a force acting over a period of time and is important in changing momentum.

$$J = F \Delta t = \Delta p$$

Impulse (J) = Change in momentum (Δp)
F = Force
 Δt = Time

EFFECT OF PROJECTILE ANGLE

Too Low (θ small)	→ Shorter range
Optimal Angle ($\approx 45^\circ$)	→ Maximum range
Too High (θ large)	→ Steep path, shorter range

MOMENTUM

Momentum is the quantity of motion possessed by a moving object. It depends on mass and velocity.

$$p = mv$$

A heavier or faster-moving object generally has greater momentum.

Sports examples

- A fast-moving cricket ball has considerable momentum.
- A running athlete has greater momentum when moving faster.
- A heavier moving object can be more difficult to stop.

FOLLOW-THROUGH IN STRIKING



A longer follow-through increases the time of force application, creating greater impulse and more change in momentum of the ball.

CATCHING A BALL SAFELY



By increasing the time over which the ball is stopped (moving hands back), the impulse reduces the force on the hands and prevents injury.

LANDING



Bending knees and hips increases the time of impact, reducing the force through greater impulse and preventing injury.

THROWING



A longer acceleration phase (time) with forceful action increases impulse, resulting in greater change in momentum of the object.

COLLISION MANAGEMENT



Using impulse principles (e.g., rolling with a fall, relaxing the body, protective gear) increases the time of impact and reduces force.

KEY TAKEAWAY: Momentum depends on mass and velocity. | Impulse changes momentum by applying force over time. | Projectile angle + Momentum + Impulse = Better Performance & Safety in Sports

13. Momentum and Impulse

Momentum

Momentum is the quantity of motion of a moving object. It depends on mass and velocity.
A heavier or faster-moving object generally has greater momentum.

Sports examples

- ▲ A fast-moving cricket ball has considerable momentum.
- ▲ A running athlete has greater momentum when moving faster.
- ▲ A heavier moving object can be more difficult to stop.

Impulse

Impulse is the effect of a force acting over a period of time and is important in changing momentum.

Sports applications

Impulse helps explain:

- ▲ follow-through in striking;

- ▲ catching a ball safely;
- ▲ landing;
- ▲ throwing;
- ▲ collision management.

Teaching Example

When catching a fast-moving ball, moving the hands slightly backwards while catching increases the time over which the ball is brought to rest, helping to reduce the peak force on the hands.

14. Work, Power and Energy

Work

In biomechanics, work is associated with a force producing movement over a distance.

Sports examples: lifting a weight, pushing against the ground, or raising the body during a jump.

Power

Power is the rate at which work is performed.

In sport, athletes often need to produce large amounts of force quickly.

Examples:

- ▲ sprint start;
- ▲ vertical jump;
- ▲ explosive throw;
- ▲ Olympic weightlifting.

Energy

Human movement requires energy. Muscles convert chemical energy into mechanical work and heat.

Teacher Application

Biomechanics helps teachers connect strength, speed and power to sports performance rather than treating these qualities as isolated concepts.

15. Biomechanical Analysis of a Sports Skill

A PE teacher can use a simple four-stage framework:

Stage 1 — Preparation

Observe:

- ▲ body position;
- ▲ balance;
- ▲ stance;

- ▲ grip;
- ▲ readiness.

Stage 2 — Force Production

Observe:

- ▲ use of legs;
- ▲ trunk movement;
- ▲ muscle action;
- ▲ direction of force.

Stage 3 — Main Movement

Observe:

- ▲ sequence of body segments;
- ▲ speed;
- ▲ coordination;
- ▲ range of movement;
- ▲ body alignment.

Stage 4 — Follow-through/Recovery

Observe:

- ▲ completion of movement;
- ▲ balance;
- ▲ safe landing or stopping;
- ▲ recovery position.

Example: Standing Long Jump

Preparation: knees and hips flexed, arms positioned appropriately.

Force production: legs extend forcefully while arms contribute to the movement.

Flight: body remains controlled while travelling forward.

Landing: knees flex to absorb impact and maintain balance.

16. Practical Activities

Activity 1: “Find the Force”

Task: Watch a short sports movement such as sprinting, jumping or throwing.

Teachers identify:

1. the major force involved;
2. where the force is produced;
3. the direction of the force;

4. the resulting movement.

Discussion:

How would changing the direction or timing of force affect performance?

Activity 2: “Biomechanics Detective”

In pairs, teachers observe a learner performing a simple skill such as:

- ▲ squat;
- ▲ standing long jump;
- ▲ overhead throw; or
- ▲ vertical jump.

They identify:

- ▲ one effective movement;
- ▲ one technical error;
- ▲ the biomechanical principle involved; and
- ▲ one corrective teaching cue.

Activity 3: “Stable or Unstable?”

Teachers demonstrate different body positions and predict which position will provide greater stability.

They then test their predictions and explain them using:

centre of gravity + base of support + balance.

Activity 4: “Freeze the Skill”

Take a sports movement and divide it into three frozen positions:

Preparation → Action → Recovery

Teachers identify:

- ▲ joint positions;
- ▲ body movements;
- ▲ centre of gravity;
- ▲ base of support; and
- ▲ direction of force.

17. Common Misconceptions

Misconception 1

“Action and reaction forces cancel each other.”

Correction: They act on different objects.

Misconception 2

"More force always results in better performance."

Correction: Effective performance depends on the appropriate combination of force, direction, timing, speed and coordination.

Misconception 3

"Friction is always bad."

Correction: Appropriate friction is essential for grip, acceleration and changing direction.

Misconception 4

"All projectiles should be released at 45°."

Correction: The optimum angle depends on the specific task and conditions, including release height and velocity.

Misconception 5

"Biomechanics is only about physics."

Correction: Biomechanics applies mechanical principles to human movement and performance.

Misconception 6

"A strong athlete automatically has good technique."

Correction: Strength is only one factor. Efficient movement also requires coordination, timing, balance and appropriate technique.

18. Applying Biomechanics for Injury Prevention

Biomechanical knowledge can help teachers identify movement patterns that may increase injury risk.

Teachers should pay attention to:

- ▲ poor body alignment;
- ▲ uncontrolled landing;
- ▲ excessive joint loading;
- ▲ inappropriate technique;
- ▲ inadequate warm-up;
- ▲ sudden increases in training load; and
- ▲ unsuitable surfaces or equipment.

Example

During jumping and landing, teaching learners to maintain appropriate alignment of the lower limbs and bend the hips and knees to absorb impact can support safer landing mechanics.

Important: Biomechanical observation should complement, not replace, professional medical or physiotherapy assessment when an injury or clinical problem is suspected.

19. Teacher Reflection

After teaching a sports skill, reflect on:

1. What biomechanical principle was involved?
2. What did learners do correctly?
3. What movement error was most common?
4. What may have caused the error?
5. What teaching cue helped improve the movement?
6. Did the learner's performance become more efficient or controlled?
7. How could the activity be modified for learners with different abilities?

20. Competency-Based Assessment

A. Conceptual Understanding

Question:

A sprinter pushes the track backwards at the start of a race. Explain how Newton's Third Law accounts for the resulting forward movement.

B. Application

Task:

Observe a standing long jump and identify:

- ▲ one force involved;
- ▲ one body movement;
- ▲ the role of the centre of gravity;
- ▲ the role of the base of support; and
- ▲ one factor affecting the landing.

C. Analysis

Case:

A student can generate sufficient strength when throwing a ball but achieves poor distance.

Task: Identify two biomechanical factors that could be examined and suggest appropriate teaching cues.

D. Performance-Based Assessment

Teachers observe a learner performing a selected skill and assess:

Criterion	Beginning	Developing	Proficient
Body alignment	Frequently incorrect	Sometimes correct	Consistently appropriate
Force application	Poorly directed	Partly effective	Appropriate and well directed
Coordination	Uncoordinated	Developing	Smooth and coordinated
Balance/stability	Frequently lost	Maintained with difficulty	Well controlled
Technique	Requires substantial correction	Minor corrections needed	Efficient and controlled

21. Quick Reference: Biomechanics in Sport

Biomechanical concept	What the teacher observes	Example
Force	Direction and magnitude of push/pull	Sprint start
Inertia	Resistance to change in motion	Starting a sprint
Newton's 2nd Law	Force and acceleration	Throwing
Newton's 3rd Law	Interaction with another object	Running
Friction	Grip and resistance	Changing direction
Centre of gravity	Body's balance point	Gymnastics
Base of support	Area supporting the body	Wrestling stance
Lever	Bone-joint-muscle arrangement	Biceps curl
Torque	Turning effect of force	Racket swing
Planes and axes	Direction of movement	Rotation
Projectile motion	Flight path	Basketball shot
Momentum	Mass and velocity	Running/collision
Impulse	Force applied over time	Catching
Power	Force produced quickly	Jumping
Stability	Control of body position	Landing

22. Key Takeaways

- ▲ Biomechanics applies mechanical principles to human movement.
- ▲ Efficient sports performance depends on the appropriate application of force, movement, balance, timing and coordination.
- ▲ Newton's Laws explain many everyday sporting movements.
- ▲ Friction can be both helpful and harmful.
- ▲ Centre of gravity and base of support are fundamental to balance and stability.
- ▲ Levers and torque explain how muscles and joints produce and control movement.
- ▲ Planes and axes help describe the direction of body movement.
- ▲ Projectile motion is important in throwing, jumping and ball sports.
- ▲ Momentum, impulse, work, power and energy help explain sports performance.
- ▲ A PE teacher should use biomechanics not simply to explain what happens, but to understand why it happens and how technique can be improved safely.

Core Teacher Message:

Observe the movement → understand the forces → identify the biomechanical principle → give a precise teaching cue → practise → reassess.

2

DEVELOPING PSYCHOLOGICAL ATTRIBUTES THROUGH TEAM BUILDING AND COLLABORATIVE ACTIVITIES

1. Introduction

Effective sports performance is influenced not only by fitness, skills and tactics but also by psychological factors such as confidence, motivation, concentration, emotional regulation and resilience. These attributes shape how learners respond to pressure, make decisions, handle mistakes, work with others and sustain participation.

For a teacher, the focus should not be limited to explaining these attributes. The teacher should be able to observe them in practice, create situations that develop them, provide appropriate feedback, and assess their application in authentic sporting contexts.

Physical Education lessons offer natural opportunities to develop these competencies through practice, competition, tactical situations, peer interaction, reflection, and performance analysis.

2. Learning Outcomes

After the session, teachers will be able to:

- ▲ identify major psychological attributes that influence sports performance;
- ▲ relate psychological skills to actual PE and sports situations;
- ▲ use simple strategies to develop confidence, motivation, concentration, emotional regulation and resilience;
- ▲ integrate psychological skill development into regular lessons; and
- ▲ assess learners through observation, peer feedback, performance tasks and reflection.

3. Experiential Opening: Performance Under Pressure

Activity: Perform–Pressure–Reflect

Organise a simple skill task relevant to the group, such as:

- ▲ basketball free throws;
- ▲ football penalty kicks;
- ▲ badminton target shots; or
- ▲ a short sprint/reaction task.

Learners perform the task twice:

Round 1: under normal conditions.

Round 2: with a controlled pressure condition, such as a time limit, a score target, an audience, or a competition situation.

Before the second attempt, ask participants to use one mental strategy—for example, deep breathing, positive self-talk or a pre-performance routine.

Discuss

Ask:

- ▲ What changed between the two attempts?
- ▲ Did pressure affect concentration or decision-making?
- ▲ Which strategy helped you perform better?
- ▲ How could this situation be used with senior-secondary learners?

Training message: Psychological skills become meaningful when teachers connect them with actual performance rather than teaching them only as definitions.

4. Key Psychological Skills for Sports Performance

Psychological skill	What the teacher should look for	Possible teaching strategy
Confidence	Willingness to attempt, decision-making, response to mistakes	Progressive challenges, specific feedback, successful practice experiences
Motivation	Effort, persistence and commitment to goals	Personal goals, choice, progress tracking and meaningful feedback
Concentration	Ability to maintain attention and respond appropriately to relevant cues	Reaction tasks, selective-attention activities and pre-performance routines
Emotional regulation	Ability to remain composed and make appropriate decisions under pressure	Breathing, self-talk, routines and controlled pressure situations
Resilience	Response to failure, mistakes and setbacks	Re-attempts, problem-solving, reflection and process-focused feedback

Teacher focus: These skills should be observed as part of performance and learning—not treated as isolated psychological topics.

5. Activity: Goal Setting for Performance Improvement

Task: My Performance Goal

Ask each participant to select one realistic performance area—for example, accuracy, reaction time, endurance, skill execution or tactical decision-making.

Frame the goal as:

Current performance → Target → Strategy → Evidence of progress

For example:

"I will improve my basketball free-throw accuracy from my current level by practising a consistent pre-shot routine and recording my performance across four sessions."

Discuss

- ▲ Are the goals specific and measurable?
- ▲ Does it focus on improvement rather than comparison?
- ▲ What evidence will show progress?
- ▲ How can students monitor their own improvement?

Teacher application: Encourage learners to set individual performance goals rather than making achievement depend solely on comparison with classmates.

6. Activity: Concentration and Tactical Decision-Making

Task: Read the Game

Present a short game situation, video clip or live tactical scenario—for example:

- ▲ a basketball fast-break situation;
- ▲ a football attacking/defensive situation; or
- ▲ a badminton rally requiring a tactical response.

Ask participants to identify:

1. the relevant visual or positional cues;
2. the possible options;
3. the most appropriate decision; and
4. the reason for choosing it.

Introduce a controlled distraction or time constraint and repeat the task.

Discuss

- ▲ What information did you attend to?
- ▲ Which distractions affected decision-making?
- ▲ Did pressure change the quality of the decision?
- ▲ How can a teacher train concentration during normal sports practice?

Teacher application: Concentration should be developed through sport-specific decision-making, not only through generic attention games.

7. Activity: Emotional Regulation Under Pressure

Use a familiar performance task such as a penalty kick, free throw, target throw or timed skill.

Before performing, participants practise:

Pause → Breathe → Focus → Perform → Reflect

After the task, discuss:

- ▲ What emotions were experienced?
- ▲ How did emotions influence performance?
- ▲ Which strategy helped maintain control?
- ▲ How can teachers create pressure situations without creating unhealthy stress?

Teacher takeaway

The objective is not to eliminate emotions. It is to help learners recognise emotions, regulate their responses, and continue to make appropriate decisions.

8. Activity: Resilience Through Performance Analysis

Give learners a performance situation in which an error or unsuccessful attempt has occurred.

Ask them to complete:

What happened? → Why might it have happened? → What can I change? → What will I try next?

This can be applied after:

- ▲ a failed skill attempt;
- ▲ loss of a match;
- ▲ poor fitness-test performance;
- ▲ tactical error; or
- ▲ unsuccessful team performance.

Peer Reflection

A peer may provide feedback using two prompts:

One strength I observed: _____

One improvement I suggest: _____

Teacher application: This approach builds resilience while promoting peer assessment, reflective learning and a growth-oriented response to mistakes.

9. Integrating Psychological Skills into Regular PE Lessons

Psychological skill development need not require a separate lesson.

PE situation	Psychological skill	Teacher intervention
Learning a difficult skill	Confidence	Break the skill into achievable stages
Fitness training	Motivation	Set individual improvement targets
Competitive game	Emotional regulation	Use pre-performance routines and breathing
Tactical play	Concentration	Ask learners to identify relevant cues
Post-match review	Resilience	Use structured reflection and peer feedback
Performance assessment	Self-awareness	Record, analyse and review progress

10. Technology and Performance Analysis

Technology should be used where it adds value to learning.

Teachers may use video recording, fitness trackers, timing devices or digital performance logs to support learners:

- ▲ review technique and decision-making;
- ▲ monitor performance trends;
- ▲ set and review goals;
- ▲ identify strengths and areas for improvement; and
- ▲ reflect on their responses under pressure.

The emphasis should be on self-monitoring and improvement, not on excessive comparison or competition.

11. Competency-Based Assessment

Assessment should determine whether the teacher can apply psychological concepts in an authentic PE context, rather than merely recall definitions.

Suggested assessment task

Give each participant one senior-secondary PE situation and ask them to:

1. identify the psychological challenge;
2. suggest an appropriate intervention;
3. conduct or demonstrate the activity;
4. explain how learner progress could be observed or assessed; and
5. reflect on how the strategy could be improved.

Assessment indicators

- ▲ Conceptual understanding
- ▲ Appropriate application
- ▲ Quality of activity design
- ▲ Observation and feedback
- ▲ Reflection and improvement

12. Teacher Reflection

Complete the following:

- ▲ One psychological skill I need to develop further in my learners is _____.
- ▲ One strategy I will integrate into my PE lessons is _____.
- ▲ One way I can use peer assessment or performance analysis is _____.
- ▲ I will assess psychological skill development through _____.

13. Key Takeaways

- ▲ Sports performance involves physical, technical, tactical and psychological dimensions.
- ▲ Confidence, motivation, concentration, emotional regulation and resilience can be developed through planned PE experiences.
- ▲ Psychological skills should be taught through authentic sporting situations, not only through definitions.
- ▲ PGT teachers should observe, provide feedback and assess how learners apply psychological skills during performance.
- ▲ Reflection, peer assessment, goal setting and performance analysis can make psychological learning more meaningful.
- ▲ The ultimate aim is to help learners become self-aware, resilient, motivated and responsible participants in physical activity and sport.

The teacher can ask to -

Experience → Analyse → Understand → Apply → Assess → Reflect

For each activity

1. Experiential Opening: Performance Under Pressure

Facilitator activity-

Time: 12–15 minutes

Grouping: Pairs or small groups

Materials: Ball or equipment appropriate to the selected skill; cones; score sheet

Process: Conduct two rounds—normal performance, followed by a controlled-pressure condition. Introduce a simple mental strategy before the second round.

Facilitator focus: Observe changes in concentration, confidence, emotional control and decision-making.

Debrief: Avoid judging performance as "good" or "poor". Focus on how pressure and psychological strategies influenced performance.

This directly supports the original activity's purpose of showing that performance depends on more than physical ability.

2. **Activity: Goal Setting for Performance Improvement**

Facilitator Notes

Time: 10 minutes

Grouping: Individual → Pair discussion

Materials: Goal-setting sheet/notebook

Process: Ask participants to select one authentic performance area and formulate a measurable improvement goal. Pair participants to review each other's goals.

Facilitator focus: Encourage personal improvement rather than comparison. Check that goals are realistic, measurable and linked to an identifiable strategy.

Teacher connection: Ask participants how the same process could be used for a Class XI–XII practical or sports-performance task.

This preserves the original emphasis on intrinsic motivation and personal improvement.

3. **Activity: Concentration and Tactical Decision-Making**

Facilitator Notes

Time: 12–15 minutes

Grouping: Small groups

Materials: Short sports video clip or prepared game situation; board/projector

Process: Present a tactical situation and ask participants to identify relevant cues, possible options and the best decision. Repeat with a time constraint or controlled distraction.

Facilitator focus: Ask participants to explain why they selected a particular option, not merely whether the answer was correct.

Teacher connection: Emphasise that concentration in senior-secondary PE should be developed through sport-specific decision-making and performance analysis.

4. **Activity: Emotional Regulation Under Pressure**

Facilitator Activity–

Time: 10–12 minutes

Grouping: Individual performance + group observation

Materials: Sport-specific equipment; cones; score sheet

Process: Conduct a familiar skill under controlled pressure. Before the attempt, practise Pause → Breathe → Focus → Perform.

Facilitator focus: Observe how participants respond to mistakes, distractions and pressure.

Safety note: Keep pressure controlled and supportive; the purpose is psychological skill development, not humiliation or excessive competitive stress.

Debrief: Ask what changed when participants consciously regulated their emotional response. The original material appropriately connects pressure performance with breathing and emotional control.

5. Activity: Resilience Through Performance Analysis

Facilitator Notes

Time: 12–15 minutes

Grouping: Individual reflection → Peer assessment

Materials: Performance observation sheet/video clip, if available

Process: Present an unsuccessful performance or ask participants to analyse a recent performance error. Use the sequence: What happened? → Why? → What can I change? → What will I try next?

Facilitator focus: Shift attention from failure to learning and improvement.

Peer assessment: Each partner identifies one strength and one specific area for improvement.

PGT connection: Demonstrate how this approach can be incorporated into post-match analysis, practical assessment and student portfolios.

This develops the resilience element already present in the original activity while making it considerably more relevant to senior-secondary PE.

6. Technology and Performance Analysis

Facilitator Notes

Time: 8–10 minutes

Grouping: Pairs / Small groups

Materials: Smartphone/tablet/projector; short sports-performance clip

Process: Show a short performance clip. Ask teachers to identify one psychological factor affecting performance and suggest one intervention.

Facilitator focus: Technology should support observation, feedback, self-monitoring and reflection, rather than simply recording performance.

Discussion: Ask: "What can video show us that ordinary observation may miss?"

3

PREVENTION AND MANAGEMENT OF SPORTS INJURIES IN SCHOOL SETTINGS

1. Introduction

Sports and physical activity are essential components of school education. They promote fitness, teamwork, confidence, emotional well-being and healthy lifestyle habits. However, participation in sports also carries a risk of injury.

For a Physical Education teacher, injury prevention is not limited to first aid. It involves identifying hazards, planning safe activities, teaching correct techniques, ensuring appropriate equipment, supervising students and responding appropriately when an injury occurs.

Common risk factors include inadequate warm-up, improper technique, unsuitable equipment, unsafe playing surfaces, dehydration, fatigue and inadequate supervision.

PE Focus: The teacher should move from a "treat the injury" approach to a risk-management approach—anticipate potential risks, reduce them and establish appropriate safety procedures.

2. Learning Outcomes

By the end of the session, participants will be able to:

- ▲ identify common sports injuries and their possible causes;
- ▲ analyse injury risks in different sports and school environments;
- ▲ plan appropriate injury-prevention strategies;
- ▲ explain the role of warm-up, equipment, hydration and safe technique;
- ▲ identify unsafe practices and environmental hazards;
- ▲ apply basic principles of supervision and first response;
- ▲ develop practical strategies for improving safety in their school sports programme.

3. Transactional Strategies

1. Ice-Breaker: Identify the Injury Risk

Time: 5–7 minutes

Display 3–4 pictures showing common sports situations—for example:

- ▲ a student playing without a warm-up;

- ▲ an uneven playing surface;
- ▲ incorrect use of sports equipment;
- ▲ students participating when visibly fatigued.

Ask participants:

1. What is the potential risk?
2. What injury could occur?
3. What could the teacher do to prevent it?

Facilitator Notes

Do not begin with definitions. Encourage participants to observe, identify and justify the risk. Link their responses to situations they encounter in school sports programmes.

2. Activity: Spot the Safety Hazards

Time: 8–10 minutes

Give groups a short list of statements describing sports and school situations. Some should represent safe practices and others unsafe practices.

Participants:

1. identify the unsafe practices;
2. explain why they are unsafe;
3. suggest a preventive measure.

Examples:

Situation	Possible Risk	Preventive Action
Wet playing surface	Slip/fall	Stop activity and make the surface safe
No warm-up before sprinting	Muscle strain	Conduct appropriate warm-up
Damaged equipment	Injury from equipment failure	Remove and report equipment
Student shows excessive fatigue	Reduced performance/injury risk	Modify or stop participation
Poor supervision	Unsafe behaviour may go unnoticed	Maintain active supervision

Facilitator Notes

Emphasise that risk assessment should be part of lesson planning, not an activity undertaken only after an accident.

3. Think–Share: Learning from School Experience

Time: 8 minutes

Ask participants:

- ▲ Which injuries are commonly seen in your school?
- ▲ When and where do they usually occur?
- ▲ What factors contribute to them?
- ▲ Could any of these injuries have been prevented?

Participants share one example from their school experience.

Facilitator Notes

Move the discussion from "What injury happened?" to "Why did it happen and what could the teacher have done differently?"

Understanding Sports Injuries

The teacher introduces common categories of sports injuries through images and school-sport examples, rather than lengthy definitions.

Soft-Tissue Injuries

Injury	Simple Explanation	Typical School-Sport Example
Abrasion	Superficial skin injury caused by friction	Falling on a rough surface
Contusion	Bruising caused by a direct blow	Collision during a game
Laceration	Tear in the skin or soft tissue	Contact with a sharp object
Incision	Clean cut caused by a sharp object	Contact with a sharp edge
Sprain	Injury to a ligament	Twisting an ankle
Strain	Injury to a muscle or tendon	Sudden sprint or overstretching

The distinction between a sprain (ligament) and a strain (muscle/tendon) should be reinforced because it is commonly confused.

Facilitator Notes

Avoid asking participants to memorise definitions. Use "What happened? What tissue may be involved?" as the guiding question.

Bone and Joint Injuries

Briefly introduce:

- ▲ Fracture – a break or crack in a bone.
- ▲ Dislocation – displacement of the bones forming a joint from their normal position.

Examples of fracture types may be introduced visually:

- ▲ Greenstick
- ▲ Commuted
- ▲ Transverse

- ▲ Oblique
- ▲ Impacted

The emphasis should be on recognising the seriousness of the injury and ensuring appropriate medical referral, rather than expecting teachers to diagnose the exact fracture type.

Teacher-Level Application

Ask:

A student falls during a basketball match and reports severe pain and inability to use the limb. What should the teacher do—and what should the teacher avoid doing?

This allows discussion of safe response, immobilisation where appropriate, supervision of other students and referral, rather than attempting to diagnose the injury.

4. Warm-Up as an Injury-Prevention Strategy

Discuss how an appropriate warm-up prepares students for physical activity.

Key benefits include:

- ▲ increased blood circulation;
- ▲ improved movement readiness;
- ▲ improved flexibility and mobility;
- ▲ better coordination and balance;
- ▲ preparation for the demands of the activity.

Activity: Match the Warm-Up to the Activity

Ask groups to design a short warm-up for:

1. sprinting;
2. basketball;
3. football;
4. yoga/gymnastics.

Participants should explain why each component is appropriate for the activity.

Facilitator Notes

Emphasise that warm-up should be activity-specific, progressive and appropriate to the age, fitness and readiness of students—not simply a fixed list of exercises.

5. Protective Equipment and Safe Participation

Introduce commonly used protective equipment:

- ▲ helmet;
- ▲ mouthguard;

- ▲ shin guard;
- ▲ knee pad;
- ▲ elbow guard;
- ▲ appropriate sports footwear.

The focus should be on:

Selection → Correct Fit → Correct Use → Maintenance → Replacement

Facilitator Notes

Ask:

Is protective equipment alone sufficient to prevent injury?

Lead participants towards the understanding that equipment is only one component of a broader safety system that also includes technique, rules, facilities and supervision.

6. Nutrition and Hydration

Discuss the contribution of appropriate nutrition and hydration to safe participation.

Key points:

- ▲ balanced diet;
- ▲ adequate protein for tissue repair;
- ▲ calcium and Vitamin D for bone health;
- ▲ hydration before, during and after activity;
- ▲ electrolytes during prolonged activity when appropriate.

Teacher-Level Application

Present a case:

A student participates in a long-duration sports practice on a hot day, has had little water and reports dizziness and unusual fatigue.

Ask:

- ▲ What warning signs should the teacher notice?
- ▲ What immediate action is appropriate?
- ▲ How could the situation have been prevented?

Facilitator Notes

Keep the discussion within the teacher's role. The emphasis is on recognising risk, modifying participation and following school safety/medical procedures, not diagnosing medical conditions.

7. Creating a Safe School Sports Environment

Ask participants to examine safety across different school settings.

Area	Key Safety Considerations
Classroom	Clear movement areas; safe use of furniture
Corridors	No pushing/running; safe movement on stairs
Playground	Regular inspection; removal/reporting of hazards
Sports field	Safe surface, appropriate equipment and warm-up
First Aid	Accessible kit and established response procedure
Supervision	Continuous observation and timely intervention

These areas reflect the safety measures identified in the source material.

Activity: School Safety Audit

In groups, participants select one school sports facility and identify:

Hazard → Possible Consequence → Preventive Action → Person Responsible

Each group presents one priority action.

Facilitator Notes

Encourage teachers to think beyond the individual student. Facility management, equipment inspection, supervision and school procedures are also integral to injury prevention.

8. Case-Based Activity: What Would You Do?

Present short situations such as:

Case 1: Unsafe Playing Surface

A football practice is scheduled, but the teacher notices an uneven section of the field.

Question: Should the activity continue? What alternatives are available?

Case 2: Fatigued Student

During repeated sprint practice, a student shows marked fatigue and reduced movement control.

Question: What should the teacher observe, and how should participation be modified?

Case 3: Incorrect Technique

A student repeatedly lands with poor body control during a jumping activity.

Question: How can the teacher modify instruction to reduce injury risk?

Case 4: Equipment Risk

A student arrives for a sports activity with damaged protective equipment.

Question: What should the teacher do before allowing participation?

Facilitator Notes

The objective is professional judgement, not recall of injury definitions. Ask participants to justify their decisions.

9. Responsibilities of the Physical Education Teacher

The teacher has a proactive role in creating a safe sporting environment.

Key responsibilities include:

- ▲ planning appropriate warm-up and cool-down;
- ▲ inspecting facilities and equipment;
- ▲ teaching correct skills and techniques;
- ▲ communicating and enforcing safety rules;
- ▲ monitoring fatigue and participation;
- ▲ maintaining appropriate supervision;
- ▲ providing or arranging appropriate first response;
- ▲ maintaining injury records;
- ▲ communicating significant safety concerns to parents and school authorities.

Key Message: Effective injury prevention begins before the activity starts.

Facilitator Notes: Key Takeaways

At the end of the session, reinforce five principles:

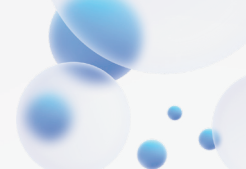
Anticipate → Assess → Prevent → Supervise → Respond

A good Physical Education teacher should be able to identify foreseeable risks, modify activities when necessary and create conditions in which students can participate safely.

Reflection

Ask participants:

1. Which injury risk is most common in your school?
2. What is its likely cause?
3. What preventive action can you implement immediately?
4. What aspect of your sports programme requires a safety review?
5. How can student participation in maintaining a safe sports environment be encouraged?



Exit Ticket

Write one specific action you will implement in your school this month to reduce the risk of sports injuries.

Participants may share their responses with the group.

Suggested Facilitator Message

"Injury prevention is not an additional responsibility after teaching sports. It is part of effective Physical Education teaching."

4

ASSESSMENT AND EVALUATION IN PHYSICAL EDUCATION: DESIGNING ASSESSMENT STRATEGIES FOR LEARNING IN PHYSICAL EDUCATION

1. Introduction

Assessment and evaluation in physical education have evolved far beyond basic fitness testing and attendance tracking, becoming essential instruments for driving meaningful student learning and holistic physical literacy. Designing effective assessment strategies requires a deliberate alignment of learning objectives with constructive feedback across the psychomotor (physical skills), cognitive (movement knowledge and strategy), and affective (social-emotional and teamwork) domains. Rather than evaluating performance purely on innate athletic talent or standardized physical metrics, modern PE assessments emphasize formative strategies—such as self-evaluations, peer observations, rubric-based skill checks, and digital portfolio tracking—that measure individual growth, motor mastery, and personal progress over time. When thoughtfully constructed, these assessment frameworks make learning visible, empower students to take ownership of their physical development, and provide educators with actionable data to refine instructional strategies for every learner. Assessment in Physical Education is not limited to recording fitness scores or judging sports performance. It helps the teacher understand what students know, what they can do, how they participate, and how they apply learning in real situations.

A Competency-Based Approach for Teachers

For a teacher, assessment should capture:

- ▲ Knowledge and understanding – concepts, rules, principles and terminology;
- ▲ Movement and performance skills – technique, coordination and application;
- ▲ Thinking and decision-making – analysis, problem-solving and tactical choices;
- ▲ Values and attitudes – teamwork, fair play, responsibility and respect;
- ▲ Reflection and self-management – ability to identify strengths, challenges and areas for improvement.

Teacher Focus: Assessment should answer three questions:

Where is the learner now? → What needs to improve? → What should the learner do next?

Assessment should be integrated with teaching and learning rather than treated as an activity conducted only at the end of a unit.

2. Learning Outcomes for the Training Session-

By the end of the session, participants will be able to:

- ▲ distinguish between assessment and evaluation
- ▲ identify appropriate assessment approaches for different learning purposes
- ▲ design competency-based assessment tasks in Physical Education
- ▲ use observation schedules, checklists and rubrics effectively
- ▲ frame questions using different levels of Bloom's Taxonomy
- ▲ use self, peer and teacher assessment appropriately
- ▲ provide specific and actionable feedback
- ▲ use assessment evidence to modify teaching and support learner progress
- ▲ design inclusive assessment opportunities for diverse learners

4. Assessment and Evaluation: Know the Difference

Assessment	Evaluation
Continuous process	Usually conducted at defined points
Focuses on learning and improvement	Focuses on judgement and decision-making
Provides evidence of student learning	Uses evidence to make a judgement
Helps the teacher modify instruction	Helps determine achievement or effectiveness
Example: observation during skill practice	Example: end-of-unit performance judgement

Facilitator Note

The distinction should not become a memorisation exercise. Ask participants:

"If a student performs poorly in a skill assessment, what should the teacher do with that information?"

The discussion should lead to the idea that assessment evidence must inform the next teaching step.

4. What Should Be Assessed in PE?

A balanced PE assessment should not depend on a single score.

Area	What can be assessed?	Possible Evidence
Knowledge	Concepts, rules, principles	Quiz, oral questions, written response
Skill	Technique and execution	Demonstration, performance
Application	Use of learning in real situations	Game situation, case study

Area	What can be assessed?	Possible Evidence
Decision-making	Tactical choices and problem-solving	Match/game analysis
Fitness	Relevant fitness components	Fitness tests, progress records
Values	Fair play, cooperation, responsibility	Observation
Reflection	Understanding of own learning	Learning log, reflection
Collaboration	Communication and teamwork	Peer assessment

Important: Assessment should measure the learning outcome, not merely the activity.

For example, if the learning outcome is "analyses tactical decisions in a game", simply counting successful passes may not provide sufficient evidence.

5. NEP 2020: Implications for PE Assessment

NEP 2020 promotes a shift towards assessment that is more:

- ▲ competency-based
- ▲ formative and developmental
- ▲ focused on understanding and application
- ▲ supportive of holistic development
- ▲ based on multiple sources of evidence
- ▲ useful for providing feedback and improving learning

The broader direction is therefore a shift:

From: Marks → One-time testing → Recall → Ranking

Towards: Competencies → Continuous evidence → Application → Improvement

Facilitator Note

Ask teachers to identify one assessment practice in their school that is primarily mark-oriented and discuss how it could be made more learning-oriented.

6. Assessment as, for and of Learning

Three complementary approaches are useful in PE:

Assessment for Learning

Assessment used during teaching to identify learning needs and modify instruction.

Example: The teacher observes students performing a volleyball serve and provides immediate corrective feedback.

Assessment as Learning

Students actively monitor and reflect on their own learning.

Example: A student uses a checklist to identify whether the correct phases of a skill were performed.

Assessment of Learning

Assessment used to determine what has been achieved after learning.

Example: A final practical demonstration using an agreed rubric.

Facilitator Activity

Give participants three assessment situations and ask them to classify each as assessment for, as or of learning and justify their response.

7. When Should Assessment Be Conducted?

Assessment can be planned at three important stages:

Before Learning – Diagnostic

Identifies prior knowledge, fitness, skill level or learning needs.

Example: A baseline fitness or skill assessment before beginning a training unit.

During Learning – Formative

Provides evidence that helps the teacher and learner improve.

Example: Observation during practice followed by targeted feedback.

After Learning – Summative

Determines the level of achievement at the end of a unit or course.

Example: Final performance, project, practical demonstration or written assessment.

Teacher Tip: Do not wait until the final assessment to discover that a student has misunderstood a concept or developed an incorrect technique.

8. Methods and Tools of Assessment in PE

Use multiple methods so that different dimensions of learning can be assessed.

Useful methods

- ▲ observation;
- ▲ questioning;
- ▲ written tests;
- ▲ practical demonstrations;
- ▲ performance tasks;
- ▲ case/scenario-based questions;
- ▲ projects;
- ▲ presentations;
- ▲ viva voce;

- ▲ peer assessment;
- ▲ self-assessment;
- ▲ fitness records;
- ▲ learning/reflection journals.

Useful tools

- ▲ observation checklist;
- ▲ rating scale;
- ▲ rubric;
- ▲ progress record;
- ▲ peer-assessment sheet;
- ▲ self-assessment checklist;
- ▲ portfolio.

Facilitator Note

Ask teachers to select one learning outcome and identify at least two different tools that could provide evidence of that outcome.

9. Rubrics: Making Performance Expectations Clear

A rubric is a structured scoring guide that describes what is expected and how performance will be judged.

A useful PE rubric should contain:

1. Criteria – what is being assessed;
2. Performance indicators – what the learner demonstrates;
3. Levels of performance – different degrees of achievement;
4. Feedback – what the learner should improve.

Example: Tactical Decision-Making

Criterion	Emerging	Developing	Proficient	Advanced
Decision-making	Often makes inappropriate choices	Makes appropriate choices with support	Usually selects effective options	Consistently selects and adapts effective options
Application	Limited application	Applies strategies in familiar situations	Applies strategies effectively	Adapts strategies to changing game situations
Reflection	Describes what happened	Identifies some strengths/weaknesses	Explains strengths and areas for improvement	Analyses performance and proposes specific improvements

Teacher Focus: Rubrics should assess observable evidence, not vague qualities such as "good", "very good" or "excellent".

10. Competency-Based Assessment

Competency-based assessment focuses on what students can understand, apply, analyse and demonstrate, rather than simply what they can recall.

Example

Instead of asking:

What is Newton's Third Law?

A competency-based question could ask:

A sprinter pushes forcefully against the starting blocks. Explain how the action–reaction principle contributes to forward movement.

Similarly, instead of asking students to define a tactical principle, present a game situation and ask them to identify and justify the most appropriate tactical decision.

Teacher-Level Competencies

Assessment tasks may involve:

- ▲ tactical decision-making;
- ▲ performance analysis;
- ▲ application of biomechanics;
- ▲ fitness interpretation;
- ▲ peer assessment;
- ▲ problem-solving;
- ▲ designing training strategies;
- ▲ reflection on performance.

11. Bloom's Taxonomy in PE

Bloom's Taxonomy can help teachers develop questions and tasks of increasing cognitive complexity.

Level	PE Example
Remember	State the principles of training.
Understand	Explain the importance of warm-up.
Apply	Apply a training principle to a given programme.
Analyse	Analyse why an athlete's performance has declined.
Evaluate	Judge which training method is most appropriate and justify the choice.
Create	Design a short training programme for a specific performance goal.

Facilitator Activity: Upgrade the Question

Give teachers a simple recall question and ask them to convert it into:

Understand → Apply → Analyse → Evaluate → Create

This activity helps teachers move from knowledge-based questions to competency-based assessment.

12. Assessment Through Performance and Game Situations

PE provides opportunities to assess learning in authentic situations.

Example: Basketball

Instead of assessing only dribbling technique, the teacher can assess:

- ▲ control of the ball;
- ▲ spatial awareness;
- ▲ decision-making;
- ▲ passing choices;
- ▲ movement without the ball;
- ▲ communication;
- ▲ application of tactics.

Example: Athletics

Students may be assessed on:

- ▲ technique;
- ▲ application of biomechanical principles;
- ▲ pacing;
- ▲ performance analysis;
- ▲ interpretation of performance data;
- ▲ ability to suggest improvements.

Key Principle: Assess performance in context, not only isolated skills.

13. Self and Peer Assessment

Self and peer assessment can make students active participants in the assessment process.

Self-Assessment

Students reflect on:

- ▲ What can I do well?
- ▲ What is difficult for me?
- ▲ What evidence shows my progress?
- ▲ What will I practise next?

Peer Assessment

Students use agreed criteria to provide constructive feedback to a partner or group.

Facilitator Note

Peer assessment should not become peer grading. Teach students to give feedback based on observable criteria, not personal opinion.

14. Feedback: Turning Assessment into Improvement

Assessment becomes meaningful only when the evidence is used to improve learning.

Effective feedback should be:

Timely + Specific + Constructive + Action-oriented

Instead of:

"Your technique is poor."

Use:

"Your landing is stable, but your knees are moving inward. Practise landing with your knees aligned with your toes."

Feedback Cycle

Observe → Interpret → Feedback → Practise → Reassess

This cycle should become part of routine PE teaching.

15. Reflection as Part of Assessment

Reflection helps learners understand their own performance and take responsibility for improvement.

Student Reflection

What did I do well?

What was difficult?

What did I learn?

What will I change next time?

Teacher Reflection

Did the assessment measure the intended learning outcome?

Which students need additional support?

Was the assessment fair and inclusive?

What should I change in my teaching?

Facilitator Activity

Ask participants to examine one assessment they currently use and identify:

What evidence does it generate? → What does the evidence tell us? → What teaching decision can follow?

16. Inclusive Assessment in PE

Assessment should provide appropriate opportunities for students with different abilities, needs and starting points.

Teachers should consider:

- ▲ appropriate task modification;
- ▲ accessible equipment;
- ▲ alternative ways of demonstrating learning;
- ▲ individual progress;
- ▲ reasonable adaptations;
- ▲ multiple forms of evidence.

Example

A student with a mobility limitation may demonstrate understanding of tactical principles through game analysis, adapted participation, verbal explanation or video-based analysis, depending on the learning outcome.

Important: Inclusion does not mean lowering the learning expectation. It means providing an appropriate pathway for the learner to demonstrate the intended competency.

17. Case Study

Case: Performance Analysis

A student has good fitness but shows inconsistent performance during competitive situations. The student performs individual skills correctly during practice but makes poor tactical decisions during games.

Discuss:

1. What evidence should the teacher collect?
2. Which assessment method would be most appropriate?
3. How could peer assessment be used?
4. What feedback should be provided?
5. How could the teacher reassess the student after intervention?

Facilitator Note

The purpose is to shift teachers from "give another test" to "collect appropriate evidence, analyse it and plan the next learning step."

18. Designing an Assessment Task: A Simple Framework

Before preparing an assessment, the teacher should ask:

Step 1 – What should students learn?

State the learning outcome.

Step 2 – What evidence will show learning?

Identify observable performance or response.

Step 3 – Which method is appropriate?

Select observation, performance, written response, project, case study, etc.

Step 4 – What criteria will be used?

Develop clear assessment criteria.

Step 5 – How will feedback be provided?

Plan when and how students will receive feedback.

Step 6 – What happens next?

Use the evidence to reteach, practise, extend or support learning.

Assessment Design Formula:

Learning Outcome → Evidence → Tool → Feedback → Improvement

19. Teacher Training Activity: Build an Assessment

Group Task

Each group selects one PE learning outcome and prepares a short assessment task.

The task should include:

- ▲ learning outcome;
- ▲ assessment activity;
- ▲ evidence to be collected;
- ▲ assessment tool;
- ▲ criteria;
- ▲ feedback method;
- ▲ opportunity for reassessment.

Groups present their assessment to the participants.

Facilitator Notes

Ask groups to check:

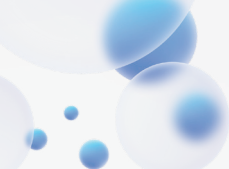
Is the task assessing the intended competency—or simply measuring participation?

20. Reflection and Exit Ticket

Individual Reflection

Participants complete:

- ▲ One assessment practice I will continue: _____
- ▲ One practice I will modify: _____

- 
- ▲ One new assessment strategy I will try: _____

Exit Ticket

Design one competency-based assessment task that you can implement in your PE class next week.

Key Takeaways for PGTs

Effective PE assessment should:

- ▲ assess learning, not merely participation;
- ▲ include knowledge, skills, application, values and reflection;
- ▲ use multiple sources of evidence;
- ▲ include formative assessment throughout learning;
- ▲ make expectations clear through appropriate criteria and rubrics;
- ▲ assess higher-order thinking as well as physical performance;
- ▲ provide timely and actionable feedback;
- ▲ involve students through self and peer assessment;
- ▲ be inclusive and adaptable;
- ▲ use assessment evidence to improve teaching and learning.

Remember

Assessment is not the end of teaching. It is evidence that tells the teacher what to do next.



UNDERSTANDING NEP 2020–ALIGNED PEDAGOGIES IN PHYSICAL EDUCATION: CROSS-CUTTING PERSPECTIVES

Physical Education (PE) has evolved far beyond its traditional image of fitness drills, sprints, and competitive sports. Under the vision laid out by NEP 2020 and NCF 2023, PE is now recognised as a powerful medium for a child's holistic development—one that weaves together movement, sports, and overall well-being with academic learning in a seamless, integrated manner.

This module is designed to equip teachers with practical strategies, real classroom examples, and structured pedagogical approaches to bring this vision to life in PE classrooms. It places strong emphasis on child-centred, inclusive, and multidisciplinary learning, using sport and physical activity as a vehicle for deeper educational outcomes—not just physical ones.

The purpose of this manual is simple: to help teachers move away from rigid, one-size-fits-all drills and instead foster dynamic learning environments where students engage, question, collaborate, and grow—physically, mentally, and socially.

1. Vision for Physical Education in NEP 2020

NEP 2020 envisages PE as a tool that serves multiple developmental purposes simultaneously. It is not just about building strong bodies but about shaping well-rounded individuals equipped with lifelong habits, skills, and values. The policy highlights PE as central to:

- ▲ **Fitness** – Instilling lifelong health habits that extend well beyond the classroom and into adulthood.
- ▲ **Motor Skills** – Building coordination, agility, and balance that support both athletic and everyday movement.
- ▲ **Leadership** – Cultivating decision-making ability and a sense of responsibility through structured roles and challenges.
- ▲ **Ethics & Teamwork** – Embedding values such as fairness, cooperation, and empathy through the shared experience of play.

Vision Components of PE in NEP 2020

Component	Description	Example Activity
Fitness	Physical well-being	Yoga, jogging
Motor Skills	Skill development	Obstacle race
Leadership	Responsibility roles	Team captain duties
Ethics & Teamwork	Values through play	Fair play in football

Each of these components reinforces the others. A student who leads a team drill isn't just practising leadership—they're also engaging their motor skills, building fitness, and learning the ethics of guiding peers fairly. This interconnectedness lies at the heart of NEP 2020's vision for PE.

2. What is Pedagogy?

Pedagogy is the art, science, and practice of teaching and learning. In simple terms, it is the "how" of education—the methods, strategies, and approaches teachers use to facilitate learning and help students achieve desired outcomes.

In Physical Education, pedagogy isn't limited to demonstrating a skill and having students repeat it. It includes how a teacher structures a session, how they respond to individual differences among learners, how they encourage inquiry, and how they assess growth—not just in physical skills, but also in confidence, teamwork, and understanding.

3. NEP 2020 on Pedagogy

NEP 2020 (Para 4.6) states:

"Pedagogy must evolve to make education more experiential, holistic, integrated, inquiry-driven, discovery-oriented, learner-centred, discussion-based, flexible, and enjoyable."

This single statement reshapes expectations of a PE teacher. It signals a clear departure from repetitive, instruction-heavy drills towards classrooms where students actively discover movement concepts, ask questions, and engage in dialogue about their own learning. PE teachers are called upon to design experiences—not just deliver instruction.

4. Key Principles of Pedagogy in NEP 2020

Four core principles anchor this pedagogical shift:

- ▲ **Child-centred** – Instruction focuses on the needs, interests, and pace of the learner rather than a rigid curriculum.
- ▲ **Continuous assessment** – Progress is evaluated consistently throughout the learning journey, not judged solely by final outcomes or performance.
- ▲ **Multidisciplinary** – PE is connected meaningfully with other subjects, reinforcing learning across domains.
- ▲ **Inclusive** – Activities are thoughtfully adapted so that every learner, regardless of ability, can participate fully and meaningfully.

Principles and Classroom Applications

Principle	Classroom Application
Child-centered	Choice of games based on student interest
Continuous assessment	Skill checklists, peer feedback
Multidisciplinary	Linking math with measuring running speed
Inclusive	Modified rules for differently abled students

When these principles are applied together, PE stops being a "break" from academic learning and becomes an extension of it—one where physical activity reinforces cognitive and social growth.

5. Types of Pedagogy in NEP 2020

Pedagogical approaches relevant to NEP 2020 and NCF 2023 include..."

NEP 2020 and NCF 2023 identify several pedagogical approaches that can be woven into PE instruction:

- ▲ Experiential Learning
- ▲ Competency-Based Learning
- ▲ Activity-Based Learning
- ▲ Inquiry-Based Learning
- ▲ Sports-Integrated Learning
- ▲ Collaborative & Cooperative Learning
- ▲ Play-Based Learning
- ▲ Inclusive Pedagogy
- ▲ Technology-Integrated Learning
- ▲ Multidisciplinary Approach

Each of these approaches offers a distinct lens for designing PE sessions. Rather than choosing just one, effective teachers often blend several approaches within a single class to create rich, layered learning experiences.

6. Pedagogical Approaches Relevant to Physical Education

NEP 2020 and NCF 2023 emphasise experiential, holistic, competency-based, inquiry-driven, learner-centred, inclusive and activity-oriented learning. In Physical Education, teachers can combine approaches according to the learning outcome, age group, sport, available resources and learners' needs.

Pedagogical Approaches and Their Application in PE

Approach	What it means in PE	Illustrative application/activity
Experiential Learning	Learning through direct experience, movement, observation and reflection.	Students perform a stretching activity, identify the muscles involved and discuss what they experienced.
Competency-Based Learning	Focus on developing knowledge, skills, decision-making, values and application rather than only performing a skill.	Students take rotating leadership roles during a game and are assessed on communication, decision-making and responsibility.
Activity-Based Learning	Learning concepts and skills through purposeful physical activities, drills, games and movement tasks.	Lead-up games and relay variations are used to develop speed, agility and coordination before formal athletics practice.
Inquiry-Based Learning	Students explore questions, test ideas and discover solutions through movement and observation.	Students explore different body positions and arm placements to find effective ways of maintaining balance.
Collaborative & Cooperative Learning	Students learn with and from one another through teamwork, communication and shared responsibility.	Groups develop and demonstrate a strategy for maintaining possession in a modified team game.
Play-Based Learning	Games and playful challenges are used to develop movement skills, fitness, decision-making and values.	Tag games are modified to develop agility, reaction time, spatial awareness and fair play.
Inclusive Pedagogy	Activities, equipment, rules and space are adapted so that every learner can participate meaningfully.	Modify equipment, playing area or rules to enable participation of learners with different abilities.
Technology-Integrated Learning	Digital tools are used to demonstrate, practise, analyse or assess learning.	Students use a short video or QR-linked demonstration to observe technique and identify areas for improvement.
Sports-Integrated Learning	Sports and physical activities are used to connect learning with concepts from other subjects.	Students use an athletics activity to explore distance, time, speed and basic mathematical calculations.
Multidisciplinary Approach	Concepts from different subjects are brought together around a common PE-related theme or task.	An athletics project combines science (force and motion), mathematics (speed and distance) and PE (performance and technique).

Selected Practical Activities for Teacher Training

Rather than treating each approach as a separate teaching method, teachers should practise integrating approaches within a single PE lesson.

Activity 1 – Discover Balance

Approaches: Experiential + Inquiry-Based + Collaborative

- ▲ Ask students: “How many different ways can you maintain balance on one leg?”
- ▲ Allow students to experiment with arm position, gaze and foot placement.
- ▲ In pairs, students observe and discuss which strategies appear more stable.
- ▲ Conclude with a short discussion on the factors affecting balance.

Activity 2 – Game Strategy Challenge

Approaches: Competency-Based + Collaborative + Play-Based

- ▲ Divide students into small teams and conduct a modified invasion game.
- ▲ Give teams a simple challenge, such as maintaining possession for a specified number of passes.
- ▲ Allow students to develop their own strategy.
- ▲ Rotate leadership and decision-making roles.
- ▲ Assess communication, decision-making, cooperation and application of skills.

Activity 3 – Video and Self-Analysis

Approaches: Technology-Integrated + Experiential + Competency-Based

- ▲ Record or provide a short video of a movement skill.
- ▲ Students observe the movement and identify one strength and one area for improvement.
- ▲ Students practise the skill and repeat the observation.
- ▲ Use a simple peer/self-assessment checklist to record progress.

Activity 4 – Mathematics through Athletics

Approaches: Sports-Integrated + Multidisciplinary + Activity-Based

- ▲ Students record the distance covered and time taken during a short run.
- ▲ They calculate or compare speed using the available data.
- ▲ Discuss how changes in technique or effort may influence performance.
- ▲ Connect the activity with mathematical concepts of distance, time and speed.

Key Message for Teachers

An effective PE lesson does not need to follow one pedagogical approach. A teacher may combine experiential, inquiry-based, collaborative, competency-based and inclusive approaches within the same lesson. The choice should be guided by what students are expected to learn, how they will learn it, and how learning will be assessed.

6

MENTAL HEALTH AND WELL-BEING OF STUDENTS AND TEACHERS

Introduction

The educational process relies on a delicate balance of cognitive capacity, emotional stability, and interpersonal connection—all of which are driven by the mental health and well-being of teachers and students. In modern academic environments, unmanaged psychological stress compromises prefrontal cortex function, impairing memory, executive functioning, and decision-making for both educators and learners. For students, positive mental well-being is essential for navigating academic pressure, developing self-regulation, and preventing chronic stress-induced health disruptions. For teachers, psychological balance serves as a vital buffer against occupational burnout, emotional exhaustion, and high turnover rates. Crucially, the emotional states of teachers and students are deeply interdependent: a stressed, overworked educator inadvertently propagates anxiety in the classroom, whereas an emotionally regulated teacher establishes a psychologically safe environment where learning can thrive. Prioritizing mental health shifts education from a high-pressure, reactive paradigm into a sustainable ecosystem where academic achievement and human well-being reinforce one another.

Learning Outcomes

After the session, participants will be able to:

- ▲ explain mental health and well-being in the context of school life;
- ▲ distinguish between positive mental health, distress and mental illness;
- ▲ identify common stressors and observable signs that may affect learners and teachers;
- ▲ use simple strategies to promote emotional well-being and resilience; and
- ▲ identify when a learner may need additional support or referral.

3. Quick Starter: Emotional Weather Check

Ask participants to describe their present emotional state as sunny, cloudy, windy, rainy or stormy.

They may share their response voluntarily.

Facilitator Notes

Time: 5 minutes

Grouping: Individual → pairs

Purpose: Build emotional awareness and introduce the idea that mental health can change over time.

Important: Sharing should be voluntary; do not ask participants to disclose personal problems.

Debrief

Ask:

- ▲ Can our emotional state change during the day?
- ▲ What factors can influence it?
- ▲ How might a learner's emotional state affect participation in PE?

4. Understanding Mental Health and Well-Being

Mental health refers to emotional, psychological and social well-being. It influences how people think, feel, behave, cope with challenges and relate to others.

Well-being is broader and includes physical, emotional, mental, social and professional dimensions.

For schools, the important message is:

Mental health is not simply the absence of mental illness. Everyone has mental health, and it can change with circumstances, support and coping resources.

In Physical Education

PE can contribute to well-being by providing opportunities for:

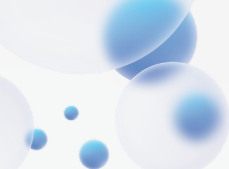
- ▲ physical activity and healthy routines;
- ▲ enjoyment and achievement;
- ▲ social connection and teamwork;
- ▲ stress management;
- ▲ confidence and resilience; and
- ▲ positive self-expression.

5. Mental Health Continuum

Use a simple continuum:

Positive Mental Health → Distress → Mental Illness

Positive Mental Health	Distress	Mental Illness
Generally able to cope	Temporary difficulty coping	Persistent/significant difficulties
Maintains daily functioning	May experience worry, sadness or irritability	Symptoms interfere with daily life



Positive Mental Health	Distress	Mental Illness
Maintains relationships and participation	May need support from others	May require professional assessment and treatment

Key Message

A person can move in either direction on the continuum depending on life circumstances, stress, coping skills, relationships and support. Distress does not automatically mean mental illness.

6. Activity: Where Does It Fit?

Give groups short situations and ask them to place each on the continuum.

Examples:

- ▲ "I feel nervous before an examination but continue with my usual activities."
- ▲ "I have been worried for several days and am finding it difficult to concentrate."
- ▲ "I have stopped participating in activities and my difficulties are significantly affecting daily life."

Facilitator Notes

Time: 8–10 minutes

Grouping: Small groups

Purpose: Develop understanding of the continuum without encouraging participants to diagnose others.

Debrief: Emphasise that teachers observe, support and refer; they do not diagnose mental illness.

7. Recognising Stress and Distress in PE

A PE teacher may notice changes such as:

- ▲ withdrawal from activities or peers;
- ▲ sudden loss of interest or motivation;
- ▲ unusual irritability or emotional reactions;
- ▲ difficulty concentrating;
- ▲ repeated complaints of fatigue or inability to participate;
- ▲ significant changes in participation or behaviour.

One sign alone does not establish a mental health condition. The teacher should consider the pattern, duration, context and impact on functioning.

Teacher Response

Notice → Listen → Support → Refer when necessary

- ▲ **Notice:** Observe changes without labelling the learner.

- ▲ **Listen:** Provide a safe and respectful opportunity to talk.
- ▲ **Support:** Offer appropriate classroom/PE support.
- ▲ **Refer:** Involve the designated school support system or qualified professional when concerns are significant or persistent.

8. Activity: Case Discussion

Case

A normally active Class XI student has gradually stopped participating in games, avoids teammates, appears tired and has difficulty concentrating during PE lessons.

Ask groups:

1. What changes do you notice?
2. What should the teacher avoid assuming?
3. What could the teacher do initially?
4. When might additional support be required?

Facilitator Notes

Time: 10 minutes

Grouping: Small groups

Focus: Observation, empathy, appropriate response and referral—not diagnosis.

PGT Connection: Discuss how the PE teacher can work with the class teacher, counsellor, parents/guardians and school support system while respecting confidentiality and school procedures.

9. Promoting Well-Being Through PE

Psychological well-being can be integrated into everyday PE rather than taught as a separate topic.

PE Practice	Possible Well-being Benefit
Individual improvement goals	Motivation and confidence
Cooperative games	Belonging and social connection
Relaxation/breathing before performance	Emotional regulation
Reflection after performance	Self-awareness
Peer feedback	Communication and supportive relationships
Inclusive participation	Safety, belonging and confidence

Facilitator Notes

Ask participants to select one existing PE activity and modify it to promote a specific well-being outcome.

10. My Well-Being Action Plan

Ask participants to complete:

START: One healthy practice I will begin.

STOP: One unhelpful habit I will reduce.

KEEP: One practice that already supports my well-being.

CONNECT: One person or support system I can check in with.

Facilitator Notes

Time: 5–7 minutes

Purpose: Convert learning into one practical commitment.

Approach: Reflective and action-oriented learning.

Important: Personal disclosure is not required.

11. Teacher Well-Being

Teacher well-being supports effective teaching and positive relationships with learners. Teachers can strengthen well-being through:

- ▲ realistic workload management;
- ▲ regular physical activity and adequate rest;
- ▲ healthy professional boundaries;
- ▲ supportive relationships with colleagues;
- ▲ reflection and help-seeking; and
- ▲ maintaining a balance between professional and personal responsibilities.

The aim is not to expect teachers to remain stress-free, but to develop healthy coping, support systems and timely help-seeking.

12. Competency-Based Assessment

Assess participants through application rather than recall.

Task

Give each participant a school-based case and ask them to:

1. identify the concern;
2. suggest an appropriate first response;
3. identify one PE-based well-being strategy; and
4. state when and how additional support may be sought.

Assessment Focus

- ▲ Understanding of the mental health continuum
- ▲ Appropriate observation and response

- ▲ Empathy and non-stigmatising language
- ▲ Practical application in PE
- ▲ Awareness of referral/support mechanisms

13. Reflection / Exit Ticket

Ask participants to complete:

- ▲ One idea I will apply in my PE class: _____
- ▲ One sign I will be more attentive to: _____
- ▲ One way I can make PE more emotionally safe and inclusive: _____
- ▲ One support/referral pathway I need to know better: _____

14. Key Takeaways

- ▲ Mental health is an essential part of overall well-being.
- ▲ Mental health exists on a continuum and can change over time.
- ▲ Distress does not necessarily mean mental illness.
- ▲ Teachers should observe, listen, support and refer, rather than diagnose.
- ▲ PE can actively promote confidence, belonging, resilience, emotional regulation and healthy lifestyles.
- ▲ A supportive, inclusive and emotionally safe PE environment benefits both learners and teachers.

SPORTS TALENT IDENTIFICATION AND DEVELOPMENT PATHWAYS

1. Introduction

Physical Education offers an important opportunity to observe students' movement abilities, physical capacities, motivation, teamwork and learning potential. Within the broader vision of NEP 2020 and NCF-SE 2023, PE teachers can contribute not only to participation and fitness but also to identifying and developing sporting potential.

Talent Identification (TID) refers to a systematic process of recognising students who demonstrate promising characteristics for further development in a particular sport. These may include movement skills, physical qualities, learning ability, decision-making, motivation and sport-specific performance.

Talent Development (TD) is the longer-term process of nurturing this potential through appropriate practice, coaching, competition, recovery, nutrition, psychological support and regular monitoring.

Focus: Talent identification should not mean predicting who will become an elite athlete. The teacher's role is to identify promising potential, provide opportunities to develop it, monitor progress and connect students with appropriate sporting pathways.

A student's present performance may be influenced by age, previous coaching, access to facilities, confidence and biological maturation. Therefore, one test, one competition or one physical characteristic should never be the sole basis for selection.

2. Learning Outcomes

By the end of the session, participants will be able to:

- ▲ explain the purpose of school-level talent identification and development;
- ▲ distinguish current performance from future potential;
- ▲ identify physical, motor, technical, cognitive and psychological indicators relevant to sporting potential;
- ▲ use simple and appropriate field-based assessments;
- ▲ combine test results with observation and performance evidence;
- ▲ recognise the limitations and possible biases of talent identification;

- ▲ provide constructive feedback to students;
- ▲ guide promising students towards appropriate coaching and sports opportunities;
- ▲ develop an inclusive and ethical approach to talent identification.

3. Why Talent Identification Matters in Schools

School-level talent identification can help to:

Identify Potential

Recognise students whose abilities may not yet be visible through competition results alone.

Expand Opportunities

Give students from different social, geographical and economic backgrounds opportunities to participate and develop.

Improve Sport-Specific Development

Help students access appropriate coaching and sporting opportunities.

Support Continued Participation

A suitable sport and appropriate level of challenge can increase motivation and engagement.

Build a Development Pathway

Connect school-based participation with higher-level coaching, competitions and recognised sports programmes.

Important: The purpose is not to label children as "talented" or "non-talented". The purpose is to open pathways for development.

4. What Should a Teacher Look For?

Talent identification should be multidimensional.

Area	Indicators to Observe
Physical	Speed, strength, endurance, agility, flexibility, power
Motor	Coordination, balance, rhythm, reaction and movement control
Technical	Ability to learn and perform sport-specific skills
Cognitive/Tactical	Decision-making, anticipation, spatial awareness and problem-solving
Psychological	Motivation, resilience, concentration and willingness to learn
Social	Communication, cooperation, leadership and respect
Learning Potential	Response to instruction and ability to improve with practice

Facilitator Note

Ask:

"Who is more promising—a student who is currently the best performer, or a student who improves rapidly after feedback?"

Use the discussion to introduce the difference between current performance and development potential.

5. Talent Identification: Potential vs Current Performance

Current Performance	Potential for Development
What the student can do now	What the student may develop with appropriate training
Influenced by previous coaching and experience	Influenced by learning capacity and development
Can favour early-maturing students	Requires consideration of growth and maturation
Often visible in competition	May emerge through repeated observation
Provides useful evidence	Should not be predicted from one test alone

Key Principle: Performance is evidence—not proof of future potential.

6. Approaches to Talent Identification

Two complementary approaches are particularly useful.

A. Multidimensional Approach

Assessment considers several areas rather than a single physical test:

Physical + Motor + Technical + Cognitive + Psychological + Developmental Context

B. Longitudinal Approach

Teachers observe and assess students over time.

This helps teachers recognise:

- ▲ improvement;
- ▲ learning rate;
- ▲ response to coaching;
- ▲ changes associated with growth and maturation;
- ▲ consistency of performance;
- ▲ continued motivation.

Facilitator Message

A one-time test can identify a performance level. Repeated observation provides better evidence of development.

7. Challenges and Sources of Bias

Talent identification is not free from error. Teachers should be aware of:

- ▲ overemphasis on early competition success;
- ▲ favouring physically mature students;
- ▲ gender stereotypes;
- ▲ socioeconomic differences in access to coaching;
- ▲ selection based on body size alone;
- ▲ coach or teacher bias;
- ▲ cultural and social expectations;
- ▲ inadequate testing conditions;
- ▲ one-time selection decisions.

Activity: "Would You Select?"

Present two student profiles:

Student A: Currently performs very well but has several years of private coaching.

Student B: Has limited coaching experience but demonstrates excellent coordination, speed of learning and rapid improvement.

Ask:

Who requires further observation?

The aim is to show why access, experience, maturation and learning rate must be considered.

8. The Talent Development Continuum

Talent development should be viewed as a pathway rather than a single selection event.

Stage	Purpose	Possible School-Level Action
Exposure	Provide opportunities for all students	PE lessons, clubs, intramural activities
Detection	Identify promising characteristics	Observation and basic screening
Identification	Collect broader evidence	Fitness, motor and sport-related assessment
Development	Provide appropriate opportunities	Coaching, practice and competition
Progress Monitoring	Review development	Periodic reassessment and feedback
Referral	Connect students with higher-level opportunities	Sports clubs, academies, district/state programmes

Teacher Focus: The school teacher is usually the first link in the pathway, not the final selector of elite athletes.

9. Practical School-Based Assessment

Simple field-based assessments can provide useful baseline information, provided they are conducted safely and interpreted appropriately.

Possible assessments include:

Assessment	Broad Area
30 m / 50 m sprint	Speed and acceleration
Shuttle run	Agility and change of direction
Standing broad jump	Explosive leg power
Sit-and-reach	Flexibility
6-minute run/walk	Aerobic endurance

Important Considerations

Before conducting testing, teachers should ensure:

- ▲ appropriate warm-up;
- ▲ safe and suitable surface;
- ▲ standardised instructions;
- ▲ adequate recovery between tests;
- ▲ appropriate equipment;
- ▲ accurate recording;
- ▲ student readiness;
- ▲ consideration of individual needs.

Facilitator Note

The objective is not to identify "the champion" from the test scores. Test results should be used as one source of evidence alongside observation, skill learning and performance.

10. From Test Scores to Talent Profile

Instead of ranking students only by total scores, teachers can develop a simple talent profile.

Example

A student may demonstrate:

- ▲ very good acceleration;
- ▲ above-average coordination;
- ▲ good reaction time;

- ▲ moderate endurance;
- ▲ rapid learning of new movement skills;
- ▲ strong motivation.

The teacher can then consider sports or activities where these characteristics may be relevant and provide opportunities for further exploration.

Do not conclude: "This child is definitely suited to Sport X."

Prefer: "This student demonstrates characteristics worth further exploration in Sport X and related activities."

11. Talent Matching: A Cautious Approach

Students may show characteristics that are relevant to particular sports. For example:

Observed Strength	Sports/Activities to Explore
Speed and acceleration	Sprinting, football, hockey, athletics
Agility and reaction	Badminton, table tennis, basketball, kabaddi
Explosive power	Jumping and throwing events
Endurance	Distance running, swimming, cycling
Height/reach with coordination	Volleyball, basketball and selected events
Balance and body control	Gymnastics, diving, martial arts

Facilitator Note

Avoid rigid statements such as "this body type belongs to this sport." Anthropometric characteristics can provide clues, but they do not determine sporting success.

Students should be given opportunities to explore, learn and choose.

12. Talent Transfer and Re-Direction

Talent transfer refers to exploring another sport when a student's abilities may be better suited to a different sporting context.

For example:

- ▲ a student with excellent sprint speed may explore jumping or other speed-power events;
- ▲ a student demonstrating strong endurance may explore distance running or cycling;
- ▲ a student with excellent coordination and reaction ability may explore racquet or invasion sports.

A Teacher's Role

The teacher should:

1. observe the student's strengths;
2. discuss possible opportunities with the student;

3. provide opportunities to try related activities;
4. monitor response and interest;
5. involve parents/guardians where appropriate;
6. refer the student to qualified coaches when further development is indicated.

Talent transfer is an opportunity for exploration—not a forced change of sport.

13. Where Can Talent Be Observed?

Talent should not be judged only during formal testing.

Teachers can observe students during:

PE Lessons

Look for movement quality, learning rate, coordination and response to instruction.

Intramural and Inter-House Competitions

Observe decision-making, teamwork and performance under pressure.

Sports Clubs

Observe commitment, skill development and consistency.

Free Play

Where appropriate, observe spontaneous movement, creativity and interaction.

Repeated Practice

Notice who learns, adapts and improves after feedback.

Teacher Tip: Sometimes the most useful evidence comes from observing how a student learns, not simply how well the student performs initially.

14. Feedback and Student Guidance

Feedback should be:

Specific → Constructive → Encouraging → Action-oriented

Instead of:

"You are not good at athletics."

Say:

"You have good acceleration. Let us work on your start technique and see how your performance develops."

Teachers should avoid publicly labelling students as "talented" or "not talented".

Why?

Early labels can:

- ▲ create unnecessary pressure;
- ▲ reduce motivation;

- ▲ influence peer perceptions;
- ▲ discourage late developers;
- ▲ create a fixed mindset.

15. Ethical and Inclusive Talent Identification

A school talent programme should provide fair opportunities for participation and development. Teachers should:

- ▲ use transparent criteria;
- ▲ avoid gender-based assumptions;
- ▲ consider different starting points;
- ▲ account for maturation and previous training;
- ▲ avoid selection based solely on body size;
- ▲ provide opportunities for students with disabilities;
- ▲ protect student dignity and privacy;
- ▲ communicate appropriately with parents/guardians;
- ▲ review selections periodically.

Core Principle: Identify opportunity, not labels.

16. School-Level Talent Development Plan

A PE department can maintain a simple development cycle:

Observe → Screen → Analyse → Provide Opportunity → Develop → Monitor → Refer

Example

Observe: Student demonstrates exceptional coordination.

↓

Screen: Basic motor and fitness assessment.

↓

Analyse: Review physical, motor, learning and motivational indicators.

↓

Opportunity: Introduce the student to relevant sports.

↓

Develop: Provide structured practice and coaching.

↓

Monitor: Review progress periodically.

↓

Refer: Connect the student with an appropriate sports programme if warranted.

17. Recording and Reporting

Teachers may maintain a simple Talent Development Profile containing:

- ▲ basic student information;
- ▲ assessment date;
- ▲ relevant fitness/motor results;
- ▲ skill observations;
- ▲ learning and improvement indicators;
- ▲ student's sporting interests;
- ▲ opportunities provided;
- ▲ feedback given;
- ▲ progress over time;
- ▲ referral, where appropriate.

The purpose of recording is to support development, not to create permanent labels or rankings.

18. Teacher Training Activity: Develop a Talent Profile

Group Task

Each group receives a hypothetical student profile.

Participants identify:

1. strengths;
2. areas requiring development;
3. additional evidence needed;
4. sports/activities that could be explored;
5. appropriate assessment methods;
6. possible development opportunities;
7. feedback that could be given to the student.

Facilitator Notes

Ask participants:

"What additional information would you need before recommending this student for a particular sport?"

This prevents teachers from making premature selection decisions.

19. Reflection

Ask participants:

1. How is talent identification different from simply selecting the best performer?
2. Why should talent identification be multidimensional?
3. How can biological maturation influence performance?
4. What biases might influence selection in your school?
5. How can you ensure that students with limited access to coaching are not overlooked?
6. How can you use repeated observation to identify improvement and learning potential?
7. Which sports opportunities or local pathways are available to your students?

20. Exit Ticket

Identify one student-development practice you will introduce in your school to make talent identification more systematic, inclusive and evidence-based.

Key Takeaways for Teachers

Remember:

- ▲ Talent is potential, not a fixed label.
- ▲ Current performance is not the same as future potential.
- ▲ Use multiple indicators, not a single test.
- ▲ Prefer repeated observation over one-time selection.
- ▲ Consider growth, maturation, experience and access to coaching.
- ▲ Give every student opportunity to participate and develop.
- ▲ Use assessment to open pathways, not prematurely close them.
- ▲ Provide constructive feedback and monitor progress.
- ▲ Refer promising students to qualified coaches and appropriate sporting programmes.
- ▲ Talent development is a long-term process, not a one-day selection event.

Teachers may -

Observe widely → Assess fairly → Develop patiently → Monitor continuously → Refer appropriately

INCLUSIVE PHYSICAL EDUCATION: APPLYING THE STEP MODEL AND RESOURCE-EFFICIENT ACTIVITIES

Introduction

In an increasingly diverse world, Inclusive Physical Education (IPE) has shifted from a progressive educational ideal to a fundamental pillar of modern schooling. Traditional physical education models have often prioritized athletic performance, inadvertently marginalising students with physical disabilities, neurodivergent conditions, or varying fitness levels. In today's context, IPE reframes movement by modifying environments, equipment, and rules to ensure every learner participates meaningfully alongside their peers. This inclusive approach directly counters the modern epidemics of youth physical inactivity and social isolation while promoting health equity, motor skill development, and self-confidence across all ability spectrums. Beyond physical health, IPE serves as a powerful crucible for character education; by learning to collaborate, adapt, and appreciate diverse physical capabilities in the gymnasium, non-disabled students cultivate empathy and break down socio-cultural stigmas. Ultimately, inclusive physical education upholds the human right to play, transforming movement spaces into environments where social belonging, physical literacy, and mutual respect thrive together.

Learning Outcomes

By the end of this module, teachers will be able to:

- ▲ understand the meaning and purpose of Inclusive Physical Education (IPE);
- ▲ identify barriers to participation and learning;
- ▲ adapt activities using the STEP Model;
- ▲ use low-cost and locally available resources for inclusive activities; and
- ▲ plan, teach and assess activities so that every learner participates meaningfully.

1. Understanding Inclusive Physical Education

Physical Education is an educational process through which learners develop physical fitness, motor skills, knowledge, attitudes and social skills through movement, games, sports, exercise and recreation.

Inclusive Physical Education (IPE) extends this approach by ensuring that all learners—including learners with disabilities and diverse physical, sensory, intellectual, emotional or

learning needs—participate meaningfully in the same learning environment, with appropriate adaptations and support.

The emphasis is not on making every learner perform in exactly the same way. It is on providing equitable opportunities to achieve meaningful learning outcomes.

From Equality to Equity

Equality: Everyone gets the same activity and the same conditions.

Equity: Each learner receives the support or adaptation needed to participate and learn.

For example, during a running activity, one learner may complete 100 m, another 50 m, while another may use a walk-run option. The learning objective—participating in and improving movement—remains common.

What changes in an inclusive PE lesson?

Area	Traditional approach	Inclusive approach
Participation	Same task for most learners	Multiple ways to participate
Teaching	Mainly whole-class instruction	Demonstration, peer support and differentiated instruction
Equipment	Standard equipment	Equipment adapted when required
Rules/Task	Fixed	Modified to remove barriers
Assessment	Performance-focused	Participation, effort, improvement and achievement
Teacher's role	Instructor	Facilitator, planner and problem-solver

2. Why Inclusive Physical Education?

Inclusive PE reflects the principle that every learner has the right to participate, learn and experience success. It is consistent with the broader emphasis on inclusive and equitable education in the Rights of Persons with Disabilities Act, 2016 and NEP 2020.

For the teacher, inclusion means asking:

“What can I change in the activity so that this learner can participate?”

rather than:

“Why can't this learner do the activity?”

Key principles

1. Participation for all – no learner is unnecessarily excluded.
2. Strength-based approach – focus on what the learner can do.
3. Adaptation, not exclusion – modify the activity before removing the learner.
4. Common learning goals – the intended outcome remains meaningful, although the pathway may differ.
5. Participation and progress matter – success is not defined only by competition or performance.

6. Safety and dignity – adaptations must maintain safety, respect and independence.

3. A Practical Process for the PE Teacher

Inclusive teaching does not require a completely separate programme. It requires thoughtful planning.

Step 1: Know the Learners

Identify relevant strengths, needs and barriers—for example:

- ▲ movement and physical abilities;
- ▲ communication needs;
- ▲ sensory needs;
- ▲ learning needs;
- ▲ confidence and social participation; and
- ▲ any relevant health or safety considerations.

Focus on what support is needed, rather than labelling the learner by a disability.

Step 2: Identify the Barrier

Before modifying an activity, ask:

- ▲ Is the space creating a barrier?
- ▲ Is the task too complex or demanding?
- ▲ Is the equipment unsuitable?
- ▲ Is the grouping or peer interaction limiting participation?

Step 3: Adapt the Activity

Modify one or more elements without unnecessarily lowering the learning expectation.

Step 4: Observe and Adjust

Observe participation, safety, effort and learning. Make further modifications based on evidence and learner feedback.

Step 5: Assess Progress

Use flexible assessment criteria such as:

- ▲ participation;
- ▲ effort;
- ▲ skill development;
- ▲ individual improvement;
- ▲ achievement of the learning goal;
- ▲ cooperation; and
- ▲ application of appropriate strategies.

Avoid judging learners only by comparison with their peers.

4. The STEP Model

The STEP Model provides a simple framework for adapting physical activities. STEP stands for:

S – Space

T – Task

E – Equipment

P – People

The teacher can modify one or several of these elements to remove barriers while retaining the core learning objective.

S – Space

Modify the area in which the activity takes place.

Possible adaptations:

- ▲ reduce or increase the playing area;
- ▲ shorten distances;
- ▲ create clear movement pathways;
- ▲ remove unnecessary obstacles;
- ▲ mark boundaries clearly; and
- ▲ provide accessible routes.

Example: In football, use a smaller playing area for learners who need reduced movement demands.

T – Task

Modify what the learner is expected to do.

Possible adaptations:

- ▲ simplify instructions;
- ▲ break a skill into smaller steps;
- ▲ reduce speed or distance;
- ▲ provide additional practice attempts;
- ▲ allow more time; and
- ▲ offer alternative ways of performing the skill.

Example: Instead of completing one full running lap, a learner may alternate walking and jogging while working on the same endurance-related objective.

E – Equipment

Modify the equipment according to the learner and task.

Consider:

- ▲ size;
- ▲ weight;
- ▲ texture;
- ▲ colour;
- ▲ sound; and
- ▲ shape.

Examples:

- ▲ lighter or foam balls;
- ▲ larger striking surfaces;
- ▲ slower shuttles;
- ▲ audible balls;
- ▲ lower basketball hoops; and
- ▲ brightly coloured markers.

P – People

Modify how learners are grouped and supported.

Possible adaptations:

- ▲ mixed-ability groups;
- ▲ peer buddies;
- ▲ strategic pairing;
- ▲ smaller groups;
- ▲ rotating roles; and
- ▲ additional teacher support.

Example: In a relay, create mixed-ability teams in which each learner contributes through an appropriate role.

5. STEP in Practice: Basketball Passing

Learning objective: Develop basic passing and receiving skills.

STEP element	Possible adaptation
Space	Reduce court size or passing distance
Task	Allow bounce passes or additional practice time
Equipment	Use a lighter ball
People	Pair learners strategically or provide peer support

Teacher reflection:

Did the adaptation increase meaningful participation without removing the skill-learning objective?

7. STEP Across Different Sports

Activity	Space	Task	Equipment	People
Basketball	Smaller court	Shorter shooting distance	Lighter ball/lower hoop	Mixed-ability teams
Football	Smaller field	Walking football	Softer/lighter ball	Peer buddy
Volleyball	Reduced court	Additional touches	Lighter ball	Smaller teams
Athletics	Shorter distance	Walk-run option	Visual/auditory markers	Partner support
Badminton	Smaller court	Longer rally time	Larger racket/slower shuttle	Doubles with peer

7. Resource-Efficient Inclusive Physical Education

Inclusive PE does not depend on expensive equipment. Resource-efficient activities use available, low-cost, recycled or improvised materials while maintaining safety, learning and participation.

This approach is particularly useful when schools have:

- ▲ limited budgets;
- ▲ large classes;
- ▲ inadequate sports equipment;
- ▲ limited infrastructure; or
- ▲ varied learner needs.

Principles

Accessible: Can be used by learners with diverse abilities.

Adaptable: Can be modified easily.

Affordable: Uses locally available materials.

Participatory: Keeps every learner meaningfully involved.

Sustainable: Encourages reuse and responsible use of resources.

8. Turning Everyday Materials into PE Resources

Standard resource	Low-cost alternative
Cones	Plastic bottles filled safely with sand
Bean bags	Cloth bags filled with rice/beans
Agility ladder	Chalk markings or rope
Hurdles	Suitable PVC pipes/bamboo sticks

Standard resource	Low-cost alternative
Balance beam	Rope or chalk line on the ground
Targets	Buckets or cardboard boxes
Foam blocks	Old cushions/pillows

Safety reminder: Improvised equipment should be stable, clean, appropriate for the activity and checked before use.

9. Sample Resource-Efficient Inclusive Activities

Activity 1: Bottle Bowling

Resources: Plastic bottles and a soft ball

Focus: Coordination and accuracy

Adaptations:

- ▲ reduce throwing distance;
- ▲ use larger targets;
- ▲ allow rolling instead of throwing; and
- ▲ provide peer support where appropriate.

Activity 2: Rope Balance Walk

Resources: Rope placed securely on the ground

Focus: Balance and body control

Adaptations:

- ▲ shorten the distance;
- ▲ use a wider visual pathway;
- ▲ allow hand support where appropriate.

Activity 3: Bucket Toss

Resources: Buckets and cloth/soft balls

Focus: Throwing accuracy

Adaptations:

- ▲ move the bucket closer;
- ▲ use a larger target;
- ▲ permit underarm throwing.

Activity 4: Newspaper Relay

Resources: Newspaper sheets

Focus: Locomotor skills and coordination

Adaptations:

- ▲ walking instead of running;
- ▲ larger or folded newspaper for easier handling;
- ▲ partner support.

10. Adapting Activities for Diverse Learners

Adaptation should be individualised and based on the actual barrier, not assumptions about a disability.

Examples include:

- ▲ Physical/mobility needs: reduce distance, provide accessible pathways, consider seated alternatives and use lighter equipment.
- ▲ Visual needs: use verbal cues, tactile/clear markings, high-contrast equipment and audible balls where appropriate.
- ▲ Hearing needs: use demonstrations, visual signals, written instructions and eye contact.
- ▲ Intellectual/learning needs: simplify instructions, break tasks into steps, repeat demonstrations and use peer support.

11. Teacher as an Inclusive Facilitator

The teacher should:

- ▲ create a welcoming and respectful learning environment;
- ▲ identify barriers to participation;
- ▲ plan adaptations in advance;
- ▲ use the STEP framework when appropriate;
- ▲ promote peer cooperation without creating dependency;
- ▲ maintain safety and dignity;
- ▲ use flexible assessment;
- ▲ collaborate with parents and relevant specialists when required; and
- ▲ reflect on and improve teaching practices.

The key professional skill is not simply knowing many adapted activities. It is being able to analyse a movement task, identify the barrier and make an appropriate modification.

12. Activity: “Adapt the Game”

Task

In small groups, select one familiar activity—for example, basketball, football, volleyball, badminton or a fitness drill.

1. Identify one learner who may face a participation barrier.
2. Identify the barrier.

3. Use the STEP framework to propose at least two adaptations.
4. Conduct the modified activity.
5. Observe whether participation and learning improve.
6. Discuss whether the adaptation can be made without expensive resources.

Reflection

- ▲ What was the original barrier?
- ▲ Which STEP element did you modify?
- ▲ Did the learning objective remain intact?
- ▲ Did the adaptation improve participation?
- ▲ What further modification would you make?

13. Facilitator Notes

Emphasise: Inclusion is not about giving every learner an easier task. It is about removing unnecessary barriers while preserving meaningful learning.

Demonstrate: Take one familiar PE activity and modify it live using Space, Task, Equipment and People.

Avoid: Presenting disability-specific adaptations as fixed rules. The same learner may need different adaptations in different activities.

Key message:

Same learning goal, different pathways to participation and success.

Quick Reference: STEP

S – SPACE → Where does the activity happen?

T – TASK → What does the learner have to do?

E – EQUIPMENT → What can be changed or substituted?

P – PEOPLE → How can grouping and support be organised?

Teacher may-

Observe → Identify the barrier → Adapt → Engage → Assess → Reflect

This cycle helps the PE teacher move from a “one activity for all” approach towards genuinely inclusive, learner-centred Physical Education.

YOGA FOR PREVENTION AND MANAGEMENT OF LIFESTYLE-RELATED HEALTH CONDITIONS

The modern global health landscape is increasingly dominated by non-communicable, lifestyle-related disorders—such as hypertension, Type 2 diabetes, obesity, cardiovascular diseases, and chronic mental stress—driven primarily by physical inactivity, poor nutrition, irregular sleep patterns, and sustained psychological pressure. Traditional healthcare models often focus on managing these conditions reactively through pharmaceutical interventions that treat symptoms rather than the underlying behavioural and physiological imbalances. In this context, yoga has emerged as a scientifically validated, cost-effective, and non-invasive mind-body discipline that addresses both the prevention and management of lifestyle disorders at their root. By integrating physical postures (asanas), regulated breathing (pranayama), and mindful meditation (dhyana), yoga serves as a holistic health intervention. It downregulates the sympathetic "fight-or-flight" nervous system, reduces systemic low-grade inflammation, restores neuroendocrine balance, and enhances metabolic function. Ultimately, yoga transforms healthcare from a model of passive disease management into an active, empowering framework for lifelong wellness, equipping individuals with the self-regulatory tools needed to prevent metabolic dysfunction and maintain multi-system health.

Learning Outcomes

This session enables Physical Education teachers to:

- ▲ understand lifestyle-related health conditions and their major risk factors;
- ▲ explain the role of yoga in promoting physical and mental well-being;
- ▲ understand the Pancha kosha framework from the yogic tradition;
- ▲ identify appropriate yoga practices that may support a healthy lifestyle; and
- ▲ integrate yoga, breathing, relaxation and reflection into school-based Physical Education.

1. Why Yoga?

Increasing screen time, physical inactivity, stress, irregular sleep and unhealthy lifestyle habits can adversely affect health and well-being. Yoga provides a holistic approach by combining physical postures (asanas), breathing practices, relaxation, concentration and mindful awareness. For a Physical Education teacher, yoga is not simply a set of postures. It can be used to help learners:

- ▲ develop flexibility, balance and body awareness;
- ▲ regulate breathing and relaxation;
- ▲ manage everyday stress;
- ▲ develop concentration and self-awareness; and
- ▲ build healthy and sustainable lifestyle habits.

The teacher's role is therefore to create opportunities for safe, age-appropriate and regular practice, rather than presenting yoga as a substitute for medical treatment.

Key message: Yoga can support health promotion and well-being, but medical conditions require appropriate professional assessment and treatment.

2. Lifestyle-Related Health Conditions

Lifestyle-related health conditions are associated with factors such as:

- ▲ physical inactivity;
- ▲ unhealthy dietary patterns;
- ▲ prolonged sedentary behaviour;
- ▲ inadequate sleep;
- ▲ chronic stress; and
- ▲ other unhealthy habits.

Examples relevant to school and community health include obesity, type 2 diabetes, hypertension and some stress-related conditions.

Teacher's Perspective

Instead of asking students to memorise diseases and yoga postures, encourage them to understand the relationship:

Lifestyle habits → health risks → preventive behaviours → appropriate physical activity and yoga practices

3. Pancha kosha: A Yogic Perspective of Holistic Well-being

Pancha kosha is a yogic concept that describes human experience through five interconnected sheaths or layers. It provides a useful framework for discussing health beyond physical fitness.

Kosha	Broad focus	PE/Yoga connection
Annamaya	Physical body	Movement, nutrition, fitness and posture
Pranayama	Vital energy/breath	Breathing awareness and pranayama
Manomaya	Mind and emotions	Stress management and emotional awareness
Vijnanamaya	Intellect and discernment	Awareness, reflection and healthy decision-making
Anandamaya	Inner well-being/bliss	Contentment, relaxation and inner harmony



Important Teaching Point

Pancha kosha should be introduced as a yogic/IKS framework for understanding holistic well-being, not as a diagnostic or medical model.

The five dimensions can be connected with everyday school life:

Body → Breath → Mind → Awareness/Decision-making → Inner well-being

4. Yoga and Lifestyle Health: Making the Connection

Yoga may contribute to healthy living when combined with regular physical activity, balanced nutrition, adequate sleep and appropriate healthcare.

For example:

Obesity and Healthy Weight Management

Practices such as Trikonasana, along with regular physical activity and healthy eating, can be included in a broader lifestyle programme.

Teacher emphasis:

Do not present one asana as a treatment for obesity. Help learners understand the importance of an overall active lifestyle.

Diabetes

Yoga practices such as Ardha Matsyendrasana, breathing practices and relaxation may be included as complementary practices within an appropriate health and physical-activity programme.

Teacher emphasis:

Yoga does not replace prescribed medical care, medication or dietary advice.

Hypertension and Stress

Shavasana, relaxation and appropriate slow breathing practices can be useful for relaxation and stress management.

Teacher emphasis:

Avoid strenuous or unsuitable practices for learners with known health conditions and follow professional advice where necessary.

Respiratory Health

Gentle practices such as Bhujangasana and appropriate breathing awareness may be used to develop body awareness and relaxation.

Teacher emphasis:

Learners with asthma or other respiratory conditions should practise within their individual tolerance and medical guidance.

Back Health

Appropriate yoga and mindful movement can support posture, flexibility and body awareness. Bhujangasana, when appropriate and performed correctly, may be included as one component of a broader back-care programme.

Teacher emphasis:

Pain, injury or persistent symptoms require appropriate professional assessment.

5. Yoga, Pancha kosha and Lifestyle: A Reflective Connection

Rather than teaching disease-asana relationships as fixed prescriptions, teachers can use Pancha kosha to help learners reflect on their lifestyle.

Example: A sedentary learner

Annamaya: Low physical activity and poor posture

↓

Pranamaya: Limited awareness of breathing and energy levels

↓

Manomaya: Stress or restlessness

↓

Vijnanamaya: Poor lifestyle choices or limited awareness



Anandamaya: Reduced sense of well-being

The teacher can then explore possible healthy responses:

Movement + healthy food + adequate sleep + breathing/relaxation + mindful choices + positive social interaction

This approach makes Pancha kosha experiential and relevant, rather than purely theoretical.

6. Teacher-Training Activity: “Five Layers, One Lifestyle”

Time: 15–20 minutes

Divide participants into five groups and assign one Kosha to each group.

Each group discusses:

1. What does this Kosha represent?
2. How might everyday lifestyle habits influence it?
3. What role can Physical Education or yoga play?
4. What example can be drawn from students' daily lives?

Groups present their ideas and collectively create a Pancha kosha–Healthy Lifestyle Map.

Facilitator Note

Encourage participants to distinguish between:

- ▲ yogic concepts and modern medical explanations;
- ▲ health promotion and disease treatment; and
- ▲ general practices and individualised health advice.

7. Practical Integration in Physical Education

Yoga need not be taught only as a separate period. Appropriate elements can be integrated into PE lessons.

PE context	Possible integration
Warm-up	Gentle mobility and mindful breathing
Fitness session	Postural awareness and controlled movement
Stress management	Shavasana and relaxation
Cool-down	Slow breathing and stretching
Health education	Panchakosha and healthy lifestyle discussion
Reflection	Body, breath, emotions and lifestyle awareness

8. Reflection Activity: “My Well-being Balance”

Ask participants to reflect on five areas:

Body – Breath – Mind – Decision-making – Inner well-being

Each participant identifies:

- ▲ one area that is currently strong;
- ▲ one area requiring greater attention; and
- ▲ one practical change they can make during the coming week.

Pair Share

Discuss:

“What is one change I can make in my own lifestyle that I can also encourage my students to practise?”

9. Assessment During the Training

Assessment should focus on understanding and application, not memorisation.

Suggested evidence

- ▲ participation in group discussion;
- ▲ explanation of Pancha kosha;
- ▲ application of yoga concepts to a lifestyle situation;
- ▲ demonstration of appropriate yoga/relaxation practice;
- ▲ reflective response; and
- ▲ development of a simple classroom integration idea.

Indicators of Achievement

Participants can:

- ▲ explain the concept of lifestyle-related health conditions;
- ▲ describe Panchakosha as a yogic framework;
- ▲ explain how yoga can support health and well-being;
- ▲ select appropriate practices for a given educational context; and
- ▲ plan a simple yoga-based well-being activity for learners.

10. Safety and Professional Responsibility

The following should guide school-based yoga practice:

- ▲ Begin with age-appropriate and progressively structured activities.
- ▲ Demonstrate correct technique and provide adequate space.
- ▲ Avoid forcing students into postures or holding positions beyond comfort.

- ▲ Consider individual abilities, health conditions and contraindications.
- ▲ Stop an activity if a learner experiences pain, dizziness, breathing difficulty or unusual discomfort.
- ▲ Do not present yoga as a cure for a medical condition.
- ▲ Refer students with significant or persistent symptoms to appropriate health professionals.
- ▲ Maintain a safe, non-competitive and respectful environment.

Facilitator Notes

Emphasise: Yoga is a means of promoting health, self-awareness, stress management and healthy lifestyle habits.

Ask:

“How can we move from teaching yoga as a list of postures to using yoga as a tool for holistic well-being?”

Connect with PE: Encourage teachers to integrate short, purposeful practices into warm-up, cool-down, health education and reflection rather than treating yoga as an isolated activity.

Reflection and Exit Ticket

Ask participants to complete:

One concept I understood: _____

One practice I can use with learners: _____

One misconception I need to avoid: _____

One change I will make in my PE teaching: _____

Take-away

A healthy lifestyle is not created by a single exercise or a single yoga posture. It develops through regular physical activity, balanced nutrition, adequate rest, stress management, mindful choices and supportive social environments.



ENHANCING CLASSROOM PRACTICES THROUGH DIGITAL TOOLS AND TECHNOLOGY ENABLED PEDAGOGY

INTRODUCTION

Today's learners belong to a digitally connected generation that is accustomed to accessing information instantly, interacting through multiple digital platforms, and learning through multimedia resources. Consequently, teachers are expected not only to possess sound pedagogical knowledge but also to develop digital competencies that enable them to effectively integrate technology into classroom practices.

Artificial Intelligence, cloud-based applications, collaborative platforms, digital assessment tools, learning management systems, and visual content creation applications are redefining educational practices. These technologies assist teachers in lesson planning, instructional design, assessment, classroom management, resource creation, and professional development while enabling students to learn at their own pace and according to their individual learning needs. The session provides teachers with practical knowledge and hands-on experience in using emerging digital technologies for effective teaching and learning. It introduces participants to AI-powered applications, cloud-based collaboration tools, digital content creation platforms, ICT-enabled assessment strategies, and innovative teaching practices that can be readily integrated into classroom instruction. Through demonstrations, guided activities, collaborative learning, and reflective discussions, participants will develop the confidence and competence required to utilize digital technologies effectively in diverse educational settings.

"Technology will never replace great teachers, but teachers who use technology effectively can transform learning experiences. Let us continue to learn, innovate, and empower our students through meaningful use of digital technologies."

Learning Outcomes

Learners will be able to:

- ▲ Explain the significance of digital technologies and Artificial Intelligence in contemporary education.
- ▲ Demonstrate an understanding of responsible, ethical, and effective use of AI in teaching and learning
- ▲ Develop well-structured prompts to obtain accurate and meaningful responses from AI-powered applications.

- ▲ Utilise AI tools such as ChatGPT, NotebookLM, and Microsoft Copilot for lesson planning, instructional material development, assessment, and professional tasks.
- ▲ Design visually engaging educational resources using digital content creation tools such as Canva, infographics, and mind maps.
- ▲ Apply cloud-based technologies to organize, collaborate, and manage educational resources efficiently.
- ▲ Employ ICT-enabled assessment tools for recording, analysing, and interpreting learner performance.
- ▲ Integrate digital technologies into classroom practices to enhance learner engagement, improve instructional effectiveness, and promote inclusive education.

TRANSACTIONAL STRATEGIES

The module adopts an experiential and participatory approach to professional learning. The transaction process combines interactive discussions, demonstrations, guided practice, collaborative learning, hands-on activities, reflective exercises, and participant presentations to facilitate meaningful learning experiences.

Each digital tool introduced during the programme is accompanied by practical demonstrations and guided activities to ensure that participants develop both conceptual understanding and operational skills. The emphasis is placed on classroom applicability, enabling participants to immediately integrate these technologies into their professional practice.

ICE-BREAKER

Will start our lecture with an icebreaker

1. Unscramble the letters:

- ▲ YBREC → CYBER
- ▲ HRAARDWE → HARDWARE
- ▲ AATD → DATA
- ▲ MOCUTERP → COMPUTER
- ▲ OYKEBDRA → KEYBOARD
- ▲ TNEERNT → INTERNET
- ▲ OTORBM → ROBOT
- ▲ PATGHTC → CHATGPT

The activity encourages participant interaction while establishing the context for the training programme.

How the Advantages of AI Can Outweigh the Disadvantages in Teaching–Learning

- ▲ Use AI as an Assistant, Not a Replacement: Teachers make the final decisions while AI supports



lesson planning, assessment, and content creation.

- ▲ Verify AI-Generated Content: Reviewing AI outputs ensures accuracy and prevents misinformation.
- ▲ Provide Teacher Training: Equipping teachers with AI skills helps them use tools effectively and ethically.
- ▲ Promote Responsible AI Use: Teach students to use AI for learning, research, and creativity rather than copying answers.
- ▲ Protect Student Privacy: Use trusted AI platforms and follow school data protection policies.
- ▲ Balance AI with Human Interaction: Combine AI-supported learning with classroom discussions, collaboration, and teacher guidance.
- ▲ Ensure Equal Access: Provide shared devices, internet access, and offline alternatives wherever possible.

What are Digital Technologies?

- ▲ Tools and platforms that use digital systems to create, store, process, and share information.
- ▲ Transform traditional teaching into interactive and learner-centred experiences.
- ▲ Support personalized, flexible, and accessible education.

Need for Digital Technologies in Education

- ▲ Enhances student engagement and participation.
- ▲ Provides access to vast educational resources.
- ▲ Supports diverse learning styles.
- ▲ Facilitates communication and collaboration.
- ▲ Prepares students for the digital age.

What does “Digitally Empowered” means?

A digitally empowered teacher is someone who:

- ▲ Understands the role of technology in modern education and is willing to adapt their teaching practices for the digital age.
- ▲ Uses digital tools to teach effectively
- ▲ Connects with students through online or blended learning
- ▲ Keeps learning new digital skills to stay updated.

Why Digitally Empowerment is important?

- ▲ Students are digital natives

- ▲ Future skills
- ▲ Changing classrooms
- ▲ Pandemic lessons

Why technology is in demand?

- ▲ Enhances Student Engagement: Interactive tools, videos, animations, and educational games make learning more interesting and enjoyable.
- ▲ Supports Personalized Learning: Technology allows students to learn at their own pace and according to their individual needs.
- ▲ Provides Easy Access to Information: Students and teachers can access a vast amount of knowledge, resources, and digital content anytime, anywhere.
- ▲ Promotes Collaboration and Communication: Tools like Google Classroom, Microsoft Teams, and Zoom facilitate communication and teamwork among students and teachers.
- ▲ Improves Learning Outcomes: Digital resources help explain complex concepts more effectively, leading to better understanding and retention.
- ▲ Develops 21st-Century Skills: Students gain digital literacy, critical thinking, creativity, problem-solving, and communication skills essential for the future.

BEFORE WE BEGIN TODAY'S SESSION, LET US BRIEFLY REVISIT THE KEY DIGITAL TOOLS EXPLORED IN OUR PREVIOUS LECTURE:

- ▲ WhatsApp – Communication and collaborative learning
- ▲ Survey Heart – Creating surveys, quizzes, and feedback forms
- ▲ ChatGPT – AI-powered assistance for teaching and learning
- ▲ YouCut – Video editing for educational content creation
- ▲ Google Meet – Conducting online classes and virtual meetings
- ▲ Google Lens – Visual search and instant information retrieval

Having explored the fundamental digital technologies used in education, we will now move towards more advanced and innovative tools that are transforming teaching and learning practices. In today's session, participants will be introduced to ai-powered applications, digital content creation tools, cloud-based platforms, and ict-enabled assessment strategies. These technologies have the potential to make learning more interactive, personalized, collaborative, and effective, while empowering educators to enhance their teaching practices and improve student learning outcomes.

1. How to give PROMPTS

Effective prompts are clear, specific, and goal-oriented. The better the prompt, the better the AI-generated response.

Your prompt should be:

- ▲ Be clear and specific.
- ▲ Mention the target audience (students, teachers, etc.).
- ▲ Specify the output format (table, quiz, lesson plan, PPT content, summary).
- ▲ Include the class level or age group.
- ▲ State the length you want

2. ChatGPT:

- ▲ Creating lesson plans and teaching materials
- ▲ Generating quizzes, worksheets, and assessments
- ▲ Explaining complex concepts in simple language
- ▲ Supporting personalized learning
- ▲ Assisting with research and project work
- ▲ Improving writing and communication skills

Some examples like:

- ▲ How to fill APAR
- ▲ Teacher's diary
- ▲ Prepare question papers

3. **NotebookLM:** NotebookLM is an AI-powered research and learning assistant developed by Google that helps Physical Education lecturers organize, analyze, and utilize educational resources effectively. By uploading lesson plans, curriculum documents, research articles, assessment records, and training manuals, lecturers can quickly generate summaries, create teaching materials, develop quizzes, and retrieve relevant information. NotebookLM supports evidence-based teaching, lesson planning, student assessment, and professional development, making it a valuable digital tool for enhancing teaching and learning in Physical Education.

4. **Infographics:** In Physical Education, Infographics can be used to explain fitness components, sports rules, nutrition guidelines, exercise techniques, injury prevention, and health awareness topics.

- ▲ Simplify complex information into easy-to-understand visuals.
- ▲ Enhance student engagement through attractive graphics and design.
- ▲ Improve knowledge retention by combining text and visuals.
- ▲ Present statistics and data in a clear and meaningful way.
- ▲ Summarise key concepts for quick revision and review.
- ▲ Support visual learners by illustrating ideas and processes.

5. **Mind maps:** In Physical Education, Mind maps can be used to organize topics such as fitness components, sports skills, training methods, nutrition, anatomy, sports psychology, and health education. They help students connect concepts and gain a deeper understanding of the subject.

- ▲ Organize ideas and concepts in a visual format.
 - ▲ Enhance understanding by showing relationships between topics.
 - ▲ Improve memory and recall through visual learning.
 - ▲ Support brainstorming and creative thinking.
 - ▲ Simplify complex information into manageable sections.
 - ▲ Aid note-taking and revision by highlighting key points.
6. **Co-Pilot:** Microsoft Copilot is an AI-powered assistant that helps lecturers create content, organize information, and improve productivity.
- ▲ Develop lesson plans and training schedules
 - ▲ Create presentations, quizzes, and worksheets
 - ▲ Design assessment rubrics and provide feedback
 - ▲ Analyse fitness and performance data
 - ▲ Summarise research and sports science articles
 - ▲ Draft emails, reports, and event proposals
7. **Google sheets:** (Assessment and Result Analysis): Google Sheets is a digital spreadsheet tool that helps teachers organize, manage, and analyze educational data efficiently.

Uses for Teachers:

- ▲ Maintaining attendance records
- ▲ Recording and calculating student marks
- ▲ Tracking student progress
- ▲ Analyzing assessment results
- ▲ Managing class data and schedules

Benefit: Saves time, enables real-time updates, and simplifies data management and reporting.

8. **Physical Education app:** A Physical Education Mobile Application serves as a comprehensive digital resource that supports teachers, students, coaches, and physical education professionals in planning, delivering, and managing teaching-learning activities. It provides quick access to essential academic and practical resources, thereby enhancing the effectiveness of Physical Education instruction.

Key features:

- ▲ Ground markings including athletics
- ▲ Handbook
- ▲ Latest game rules-PDF BOOKS
- ▲ Scoresheets-32 games
- ▲ Ground marking videos

- ▲ Athletics marking
 - ▲ SET-NET papers-4
 - ▲ Official Rules and regulations -32 games
 - ▲ Fitness suggestions
9. **Google drive:** In Physical Education: Google Drive can be used to share lesson plans, fitness assessment records, training schedules, sports videos, worksheets, and performance reports, making teaching and learning more organized and accessible.
- ▲ Store and organize educational resources securely in the cloud.
 - ▲ Access files anytime, anywhere from any device.
 - ▲ Share documents, presentations, and videos with students and colleagues.
 - ▲ Reduce paper usage and support eco-friendly practices.
10. **Canva:** Canva can be used to create fitness charts, sports rule infographics, training schedules, health awareness posters, assessment rubrics, event banners, and visually engaging lesson presentations.
- ▲ Create engaging presentations with professional templates.
 - ▲ Design infographics, posters, and worksheets for educational purposes.
 - ▲ Develop visually appealing teaching materials quickly and easily.
 - ▲ Design certificates, newsletters, and educational banners.
 - ▲ Improve student engagement with interactive and creative content.

REFLECTIONS/FEEDBACK

Feedback from participants will be collected through a Google Form to evaluate:

- ▲ Relevance and usefulness of the session
- ▲ Effectiveness of the demonstrations and hands-on activities
- ▲ Achievement of learning objectives
- ▲ Suggestions for future training programmes

The feedback received will help in improving future sessions and ensuring continuous professional development.



SCIENTIFIC PRINCIPLES AND METHODS OF SPORTS TRAINING – PLANNING AND PERIODISATION AND DEVELOPMENT PATHWAYS IN SPORTS

Introduction

Sports training is a systematic and planned process of developing physical fitness, motor skills and sports performance. For a PGT Physical Education teacher, knowledge of training principles and methods is essential for designing safe, progressive, sport-specific and learner-centred programmes.

At the senior-secondary level, the teacher is expected not only to demonstrate exercises but also to analyse performance, interpret fitness data, modify training loads and guide students in making informed decisions about their own physical development. The approach should therefore integrate scientific knowledge with practical application, observation, reflection and performance analysis.

Learning Outcomes

By the end of the training, participants will be able to:

- ▲ explain the major principles of sports training and their relevance to school sports;
- ▲ select appropriate training methods for different fitness components;
- ▲ design age- and ability-appropriate training sessions;
- ▲ modify training according to individual differences and performance needs;
- ▲ monitor training load, recovery and progress;
- ▲ analyse basic performance data and provide constructive feedback;
- ▲ apply competency-based and experiential approaches while teaching sports training.

1. Scientific Principles of Sports Training

The following principles provide a framework for planning and modifying training programmes:

Individualization | Specificity | Overload | Progression | Adaptation | Reversibility | Recovery | Variation | Periodization.

Teacher Focus: From Principle to Practice

Principle	What the teacher should understand	PGT-level application
Individualization	Learners respond differently to the same training stimulus.	Modify intensity, volume, complexity and tasks according to ability and readiness.
Specificity	Training adaptations are related to the demands of the activity.	Match training to the sport, fitness component and performance requirement.
Overload	Improvement requires an appropriate increase in training demand.	Gradually increase resistance, repetitions, duration or intensity while monitoring response.
Progression	Training demands should increase systematically.	Develop a week-to-week progression rather than making sudden increases.
Adaptation	The body adjusts to repeated training stimuli.	Observe performance changes and modify the stimulus when adaptation occurs.
Reversibility	Training benefits decline when training is discontinued.	Plan continuity and appropriate activity during breaks or recovery periods.
Recovery	Adaptation requires adequate rest and recovery.	Balance training and recovery and recognise signs of excessive fatigue.
Variation	Planned variation helps maintain motivation and avoid performance plateaus.	Vary drills, intensity, activities and learning situations without losing the training objective.
Periodization	Training can be organised into phases according to goals and competition schedules.	Prepare basic annual/seasonal plans for school-level athletes.

These principles should not be taught as isolated definitions. Teachers should analyse a training situation, identify the relevant principle and decide how the programme needs to be modified. The original material already provides useful examples of differentiated training, progressive loading, recovery and periodized planning; these can be retained as short case-based activities.

Facilitator Activity: “Which Principle Is Missing?”

Present a short training plan to participants, for example:

A school athlete trains intensely every day using the same drills, increases the workload rapidly and has no planned recovery day.

Ask participants:

1. Which training principles are being ignored?
2. What risks may arise?
3. How would you modify the programme?
4. What information would you monitor before increasing the load?

PGT competency: analysing a training programme and making evidence-informed modifications.

2. Methods of Sports Training

Training methods should be selected according to the fitness component, learner's level, training objective and demands of the sport.

Instead of lengthy descriptions, the manual can use the following application-oriented format.

Fitness Component	Suitable Training Focus	Sports Application	Teacher's Role
Strength	Resistance, body-weight and functional exercises	Shot put, wrestling, basketball	Demonstrate technique, regulate load and monitor safety
Endurance	Continuous and interval activities	Distance running, football	Control duration/ intensity and monitor fatigue
Speed	Short maximal efforts with adequate recovery	Sprinting, hockey	Focus on technique, reaction and recovery
Flexibility	Appropriate dynamic/ static stretching	Gymnastics, yoga	Demonstrate safe range of movement
Coordination	Multi-sensory and movement-control activities	Badminton, table tennis	Use progressive skill challenges
Agility/Power	Rapid changes of direction and explosive movements	Basketball, volleyball	Match drills with sport-specific demands

The original material provides appropriate examples and pedagogical approaches for strength, endurance, speed, flexibility and coordination.

3. From Training Method to Training Session

For teachers, the important competency is planning, not merely naming training methods.

Activity: Design a 20-Minute Training Micro-Session

In groups, participants select one sport and prepare a short training session containing:

Objective → Warm-up → Training method → Load → Recovery → Skill application → Cool-down → Assessment

For example:

Sport: Basketball

Objective: Develop repeated-sprint ability

Method: Interval training

Application: Short sprint → recovery → sprint → ball-handling task

Monitoring: Time, repetitions, perceived effort and technique

Participants then explain why the selected method and load are appropriate.

4. Monitoring and Assessment of Training

Assessment should move beyond simply recording performance scores. PGT teachers should use assessment to inform training decisions.

Suggested evidence

- ▲ performance records;
- ▲ fitness-test results;
- ▲ observation checklists;
- ▲ training logs;
- ▲ peer feedback;
- ▲ video/performance analysis;
- ▲ self-reflection;
- ▲ progress charts.

For example, rather than asking only “Did the student’s 50-m time improve?”, ask:

What changed in the student’s performance, what might explain the change, and how should the next training session be modified?

This brings assessment, analysis and decision-making together.

5. Case-Based Professional Learning

Case Study: Individualized Training

Two students participate in athletics. One has good endurance but limited speed; the other is fast but fatigues quickly.

Discuss:

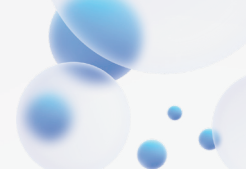
- ▲ Should both students follow the same programme?
- ▲ Which principle of training is most relevant?
- ▲ Which fitness component should receive greater emphasis for each learner?
- ▲ How would you monitor their progress?
- ▲ When would you modify the training load?

Expected competency: Participants justify training decisions using scientific principles rather than prescribing the same programme to all learners.

6. Reflection for the Teacher

At the end of the session, ask:

- ▲ Which training principle do I use most effectively in my teaching?
- ▲ Do I modify training according to individual differences?
- ▲ How do I determine whether training load is appropriate?

- 
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- ▲ What evidence do I use to monitor student progress?
 - ▲ How can I use performance analysis to improve my teaching?

Facilitator Note

Emphasise: Sports training is not simply “more exercise”. Effective training requires the right stimulus, appropriate load, adequate recovery, systematic progression and continuous monitoring.

FACTORS DETERMINING FITNESS AND ITS COMPONENTS

Introduction

Physical fitness is a multidimensional concept that includes strength, muscular endurance, cardiovascular endurance, flexibility, speed, agility, balance, coordination, power and body composition. These components are influenced by the functioning of the muscular, skeletal, cardiovascular, respiratory and nervous systems, along with factors such as nutrition, training, recovery and lifestyle. The teacher should be able to analyse fitness components, select appropriate assessment methods, interpret performance data and use the findings to plan or modify learning and training experiences.

Therefore, the teaching-learning process should connect scientific concepts with demonstration, practical testing, observation, data recording, peer assessment, reflection and feedback.

Learning Outcomes

By the end of the training, participants will be able to:

- ▲ explain the major components of physical fitness and their relevance to health and sports performance;
- ▲ relate physiological factors to the development and performance of different fitness components;
- ▲ record and interpret basic fitness data;
- ▲ use assessment findings to identify strengths, areas for improvement and appropriate training needs;
- ▲ provide meaningful feedback and support learners in setting realistic fitness goals.

1. Physical Fitness: A Working Framework

Physical fitness may be viewed through two broad dimensions:

Health-Related Fitness	Skill-Related Fitness
Muscular strength	Speed
Muscular endurance	Agility
Cardiovascular endurance	Balance
Flexibility	Coordination
Body composition	Power
	Reaction time

Facilitator may ask participants:

- ▲ Can a student be physically fit for health but not necessarily highly skilled in sports?
- ▲ Discuss how fitness and sports performance are related but not identical.

2. Physiological Factors Determining Physical Fitness

Physiological factors are the internal characteristics and processes that influence how effectively the body performs physical activity. They help explain individual differences in strength, endurance, speed, flexibility and other fitness components.

Key factors include:

- ▲ muscular development and muscle fibre characteristics;
- ▲ neuromuscular coordination;
- ▲ cardiovascular and respiratory efficiency;
- ▲ oxygen transport and utilisation;
- ▲ energy availability;
- ▲ joint mobility and tissue elasticity;
- ▲ training adaptation;
- ▲ nutrition, hydration and recovery.

These factors interact rather than working independently. For example:

Muscles → force and power

Heart + lungs + blood → endurance

Joints + muscles → flexibility

Nervous system + muscles → speed, balance and coordination

Nutrition + activity + recovery → overall fitness

Professional Learning Activity: "Why Do Performances Differ?"

Present two hypothetical students:

- ▲ **Student A:** Good endurance but limited explosive power.
- ▲ **Student B:** Excellent sprint performance but poor endurance.

Ask teachers to identify:

1. Which physiological factors may contribute to the difference?
2. Which fitness components should be developed?
3. How would the training programme differ for the two students?

3. Strength

Meaning

Strength is the ability of a muscle or muscle group to exert force against resistance. It is required for activities such as pushing, pulling, lifting, jumping, throwing and maintaining body position.

Types of Strength

Type	Key Idea	Sports Examples
Maximum Strength	Greatest force produced in a single effort	Weightlifting, heavy resistance exercise
Explosive Strength / Power	Ability to produce force rapidly	Jumping, shot put, sprint start
Strength Endurance	Ability to exert force repeatedly or sustain force	Push-ups, repeated squats, rowing

Physiological Factors

Important factors include:

- ▲ muscle size;
- ▲ muscle fibre characteristics;
- ▲ nervous system activation;
- ▲ neuromuscular coordination;
- ▲ bone and joint support;
- ▲ energy availability;
- ▲ training adaptation;
- ▲ nutrition and recovery.

Facilitator Activity: Demonstrate–Observe–Analyse

Demonstrate a push-up, squat, broad jump and plank.

Participants identify:

- ▲ type of strength involved;
- ▲ major physiological factors;
- ▲ common technique errors;

- ▲ safety considerations;
- ▲ possible modifications for different learners.

Extension: Ask participants how the same activity could be modified to develop different aspects of strength.

4. Endurance

Meaning

Endurance is the ability to sustain physical activity for an extended period while resisting fatigue. It depends largely on the efficient functioning of the cardiovascular and respiratory systems, energy production and the ability of muscles to continue working.

Types of Endurance

According to the nature of activity

- ▲ Basic endurance
- ▲ General endurance
- ▲ Specific endurance

According to duration

- ▲ Speed endurance
- ▲ Short-term endurance
- ▲ Medium-term endurance
- ▲ Long-term endurance

The original material provides these classifications with corresponding examples and duration ranges.

Key Physiological Factors

- ▲ cardiovascular efficiency;
- ▲ oxygen uptake and utilisation;
- ▲ haemoglobin and oxygen transport;
- ▲ muscle fibre characteristics;
- ▲ energy production;
- ▲ fatigue resistance;
- ▲ movement economy;
- ▲ training adaptation;
- ▲ nutrition, hydration and recovery.

Teacher Application

Ask teachers to compare:

Marathon runner vs. 400 m runner

Discuss:

- ▲ energy demands;
- ▲ intensity and duration;
- ▲ physiological requirements;
- ▲ appropriate training methods;
- ▲ recovery needs.

This encourages teachers to connect physiology → fitness component → training method → sports performance.

5. Speed

Meaning

Speed is the ability to perform a movement or cover a distance in the shortest possible time.

Types of Speed

Type	Application
Reaction speed	Responding to a whistle, ball or opponent
Acceleration speed	Rapidly increasing speed
Locomotor speed	Moving the body quickly from one place to another
Speed endurance	Maintaining high speed for a longer duration

Physiological Factors

Speed is influenced by:

- ▲ muscle fibre characteristics;
- ▲ nervous system efficiency;
- ▲ reaction ability;
- ▲ muscular strength and power;
- ▲ coordination;
- ▲ flexibility and joint mobility;
- ▲ energy availability;
- ▲ technique and training.

Training Activity

Use:

Sprint starts → acceleration runs → reaction drills → shuttle sprints → relay activities

Teachers work in groups as:

Performer – Observer – Timekeeper – Recorder

They analyse performance and provide feedback.

Teacher Focus: Encourage teachers to distinguish between speed, reaction time, acceleration and speed endurance, rather than treating all fast movements as “speed”.

6. Flexibility

Meaning

Flexibility is the ability of a joint or group of joints to move through an appropriate range of motion.

Types

- ▲ **Passive flexibility:** Range achieved with external assistance.
- ▲ **Active flexibility:** Range achieved through muscular effort.
- ▲ **Static flexibility:** Ability to hold a stretched position.
- ▲ **Dynamic flexibility:** Ability to move through a range of motion during movement.

Factors Affecting Flexibility

- ▲ joint structure;
- ▲ muscle elasticity;
- ▲ ligament and tendon characteristics;
- ▲ body temperature;
- ▲ age;
- ▲ individual differences;
- ▲ regular stretching and training;
- ▲ muscular balance;
- ▲ injury or pain.

Facilitator may have reflections through Guided Practice

The facilitator demonstrates selected dynamic and static stretching activities.

Participants:

1. perform the activity;
2. observe range of motion;
3. identify common errors;
4. discuss the importance of warm-up;
5. suggest appropriate modifications.

Safety Note: Flexibility activities should be performed within a safe and comfortable range and should not be forced.

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