Fundamental motor skills	Stage 1	Stage 2	Stage 3	Stage 4
	Initial Stage	Emergent Stages	Emergent Stages	Proficient stage
Run	Run in high guard; Arms in high guard; Contact of feet planted on the ground; Short step; Wide step shoulder- width apart.	Run in middle guard; Arms in half guard; Vertical component still large; Legs almost to full extension.	Heel-toes, arms outstretched; Arms off guard; Arms opposed, elbows almost extended; Heel-toe contact.	High arms; Heel-toe contact (toe- heel in sprinting); Arm-leg opposition; High heel recovery; Elbow flexion.
Gallop	Run cut; It resembles a rhythmically irregular race; The trailing leg (the one in the back) crosses in front of the guide leg during the aerial phase, stays ahead in contact.	Rigid back leg; Slow-moderate pace, clipped pace; Drag leg (back) rigid; Hips often oriented to the side; Exaggerated vertical component.	Smooth rhythmic; Rhythmic pattern, smooth, moderate pace; Feet remain close to the ground; Hips oriented forward.	
Leap	Broken Skip; Broken skip pattern or regular rhythm; Slow, deliberate movement; Inefficient action of the arms.	High arms and legs; Rhythmic skip pattern; Arms help lift the body; Excessive vertical component.	Rhythmic Skip; Reduced arm/hand action below shoulders; Easy, rhythmic movement; Support foot close to the surface on the heel.	
Нор	Foot forward; Foot that is not supported in front, with the thigh parallel to the ground; Upright body; Hands at shoulder height.	Foot beside the support leg; Non-supporting knee flexed forward, foot behind supporting leg; Slight forward leaning of the body; Bilateral action of the arms.	Foot behind support leg; Thigh that is not supportive vertically with the foot behind the supporting leg, knee bent; Greater forward leaning of the body; Bilateral action of the arms.	Free leg pendular; Leg that is not bent support, knee projected forward and backward, in a pendulum action; Body lean forward; Opposition of arms with balancing legs.
Jump	Brake arms; Arms act as "brake"; Large vertical component; Legs don't extend.	Arms in wing; The arms act like "wings"; Vertical component is still big; Legs almost in full extension.	Swinging the arms towards the head; Arms move forward, elbows in front of torso on takeoff; Hands at head height; Takeoff angle still above 45°; Legs often fully extended.	Full body extension; Full extension of arms and legs on takeoff; Takeoff near a 450 angle; Thighs parallel to the surface on foot contact, on landing.

Supplementary Material 1. Model proposed by: Gallahue et al. (2013).

Fundamental	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5
motor skills	Initial Stage	Emergent Stages	Emergent Stages	Emergent Stages	Proficient stage
Throw	Cut off; Vertical elevation; Release type "cut"; Stationary feet; No trunk rotation.	Hook-type throw; Horizontal elevation; "Hook" type release; Block rotation; *Follow-through of the body.	lpsilateral step; Very high elevation; Ipsilateral step; Slight rotation of the trunk; *Follow-through of the body.	Contralateral step; Very high elevation; Contralateral step; Slight rotation of the trunk; *Follow-through of the body.	Elevation; Elevation with low arch; contralateral step; Segmented body rotation; *Follow-through of the body.
Catch	Delayed reaction; Delayed arm action; Arms straight forward until ball contact, then cup back to chest; Stationary feet.	Hug; The arms wrap around the ball as it approaches; The ball is hugged to the chest; Feet stationary or step forward.	Shell-shaped indentation; Footprint "close to the chest"; The arms "cup" under the ball to keep it close to the chest; A single step can be taken to approach the ball.	Footprint by hand; Footprint only with hands; Feet stationary or limited to one step.	Movement towards the ball; Footprint only with hands; The entire body moves in space.
	Initial Stage	Emergent Stages	Emergent Stages	Proficient stage	
Kick	Stationary push; Little or no leg lift; Stationary position; The Foot pushes the ball; One step back after kicking (common).	Balance of the stationary leg; Leg lift to the back; Stationary position; Opposition of arms and legs.	Approach in motion; The foot runs along a low arch; Arm/leg opposition; Step forward or sideways in *follow- through.	Throwing, kicking, hopping; Quick approach; Backward leaning of the trunk during lifting; Release before the kick; I bounce after the kick.	
Volley	Volleying, push; No leg lift; Erratic ball tossing; Stationary body; Push the ball/step back.	Balance of the stationary leg; Rear/back leg lift; Erratic ball tossing; Stationary body; Powerful attempt to kick.	Approach in motion; Preparatory step(s); Some domain of the arm/leg; Launch the ball or drop it.	Throwing, volleying, hopping; Quick approach; Controlled fall; Launching yourself before contact with the ball; Bounce after contact with the ball.	
Strike	Bounce with cut; Hitting with a "cut" type bat; Stationary feet.	To push; Horizontal swing/ push; Block rotation; Stationary feet/step.	lpsilateral step; lpsilateral step (crosses the back foot); Diagonal balance downwards.	Contralateral step; Contralateral step; Segmented body rotation; Wrist flexion during follow-through*.	

Supplementary Material 2. A_{EMC} test: developmental sequences of manipulative skills. Model proposed by: Gallahue et al. (2013).

*Follow-through of the body is the gradual deceleration of movement. To signifies follow the movement of body even after the ball get out of the hand