

Fundamental movement skills (FMS) provide the foundation for all athletic maturity and are seen as the building blocks from which sports-specific skills are developed. For any young and talented athlete, the journey towards athletic excellence starts with the establishment of fundamental movement competency.

Essentially, FMS are common motor activities with specific and observable movement patterns. They have been described by some practitioners as the ABCs of Athleticism; agility, balance, coordination and speed. When coupled with basic skill development, they are said to produce a level of physical literacy. A well-rounded movement vocabulary provides the best preparation for the acquisition of more advanced and complex skills.

## The Importance of FMS

*“Children who possess inadequate motor skills are often relegated to a life of exclusion from the organised and free play experiences of their peers, and subsequently, to a lifetime of inactivity because of their frustrations in early movement behaviour”*

(Seefeldt, Haubenstricker & Reuchlien 1979, cited in Graham, Holt, Hale & Parker 2001)

Jess (2004) states that the establishment of a fundamental movement competence cannot be overemphasised as it allows children to pass through a ‘proficiency barrier’ when attempting to develop the simple activities of early childhood to the more complex activities of later years. If FMS are mastered, they not only provide the optimal environment for this skill transition to occur, but also lay the foundation for a lifelong commitment to physical activity.

Research has shown that negative self-perceptions of motor-skill ability are often cited by children as a major barrier to participation in physical activity and sport as they feel they cannot perform the basic skills necessary to achieve any degree of success. This can lead to the rejection of future participation opportunities, lower self-esteem, reduced fitness and a decrease in social competence.

Alternately, children competent in FMS are more likely to enjoy and have a positive attitude towards sport and physical activity. Aside from the obvious health benefits (e.g. lower risk of obesity/cardiovascular disease), research has shown that the increased self-confidence children feel through successfully performing FMS can have a beneficial knock-on effect to other areas of their education e.g. proficiency in reading and writing.

*“Those with positive expectations about their ability are more willing to take risks, are popular playmates in the school ground, and are more likely to maintain an active and healthy lifestyle”*

(Department of Education, Western Australia 2001)

## When to teach FMS

Research (e.g. Vallentyne 2002) suggests that the 'window of opportunity' to teach FMS occurs during the first 8 years of life. Youth Sport Trust literature extends this notion further by stating that one of the most important periods of motor development for young people is between the ages of 7 and 12. At these ages, children are highly intrinsically motivated and naturally enthusiastic about learning, as well as being physically and intellectually capable of benefiting from instruction in physical education. However, the development of FMS does not happen by chance or maturation alone; children need opportunity and guidance within a supportive learning atmosphere. Components of this include:

- Developmentally appropriate activities and differentiation (e.g. regarding task difficulty levels, equipment)
- Visual demonstrations and the provision of strong mental images
- Instruction and feedback (from teachers and peers)
- Variety (e.g. through a multi-skill approach) with a focus on fun and challenge
- Encouragement
- The provision of a safe and positive learning environment

## The model of Long-term Athlete Development (LTAD)

| Active Start                                                                | FUNDamentals             | Learning to Train          | Training to Train            | Training to Compete                                                                        | Training to Win                | Active for Life  |
|-----------------------------------------------------------------------------|--------------------------|----------------------------|------------------------------|--------------------------------------------------------------------------------------------|--------------------------------|------------------|
| Males and Females 0-6                                                       | Males 6-9<br>Females 6-8 | Males 9-12<br>Females 8-11 | Males 12-16<br>Females 11-15 | Males 16-23 +/-<br>Females 15-21 +/-                                                       | Males 19 +/-<br>Females 18 +/- | Enter at any age |
| The first 4 stages are generally appropriate for late specialisation sports |                          |                            |                              | In the training to compete and training to win stages, age ranges vary from sport to sport |                                |                  |

Information adapted from:

Long Term Athlete Development Resource Paper

Canadian Sports Centres

*"The LTAD framework assists in creating an environment that enables participants to achieve their potential, ensuring that everyone learns the FUNDamentals of movement and is provided with an appropriate development pathway"*

(The Youth Sport Trust 2005)

The most significant period of FMS development occurs during the “FUNdamentals” stage of the LTAD framework as summarised below:

**“FUNdamentals” (Fundamental Movement Skills Phase)**

Chronological age: Males 6-9 and Females 6-8

- Focus on the general, overall development of physical ability by using a range of experiences and participation in a number of sports/activities
- Focus on the ABCs of Athleticism: agility, balance, coordination and speed
- Focus on the ABCs of Athletics: running, jumping, twisting, throwing
- Holistic approach used to introduce aspects of sport ethics, fair-play and the notion of sport as a positive method of character-building
- Well structured, positive programmes with the emphasis on FUN
- Aim for practice and subsequent mastery of the FMS to allow for sport-specific skills to be introduced during the next phase of development

### **Categories of FMS**

FMS can be broken down into three categories as follows:

|                           |                                                                                                                                                                        |
|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Locomotor</b>          | Locomotor skills involve moving the body from point A to point B. These skills include walking, running, jumping, leaping, hopping, skipping and galloping             |
| <b>Non-<br/>Locomotor</b> | Non-Locomotor skills involve body stability and balance. These skills include twisting, turning, pivoting and performing balances                                      |
| <b>Manipulative</b>       | Manipulative skills involve the control of objects using various body parts. These skills include throwing, passing, striking, catching, kicking and receiving objects |

Practical examples of movements from each category are provided through the ‘Movement Skill Assessment’ cards (available on the CD).

# Taxonomy of Movement Skills

**Locomotor Skills (L)**

**Manipulative Skills (M)**

**Non-Locomotor (NL)**

| <b>Basic Skills<br/>(Fundamentals)</b> | <b>L</b> | <b>M</b> | <b>NL</b> |
|----------------------------------------|----------|----------|-----------|
|                                        | Run      | Throw    | Twist     |
|                                        | Hop      | Kick     | Turn      |
|                                        | Skip     | Control  | Balance   |
|                                        | Jump     | Bounce   | Pivot     |
|                                        | Gallop   | Catch    | Stretch   |

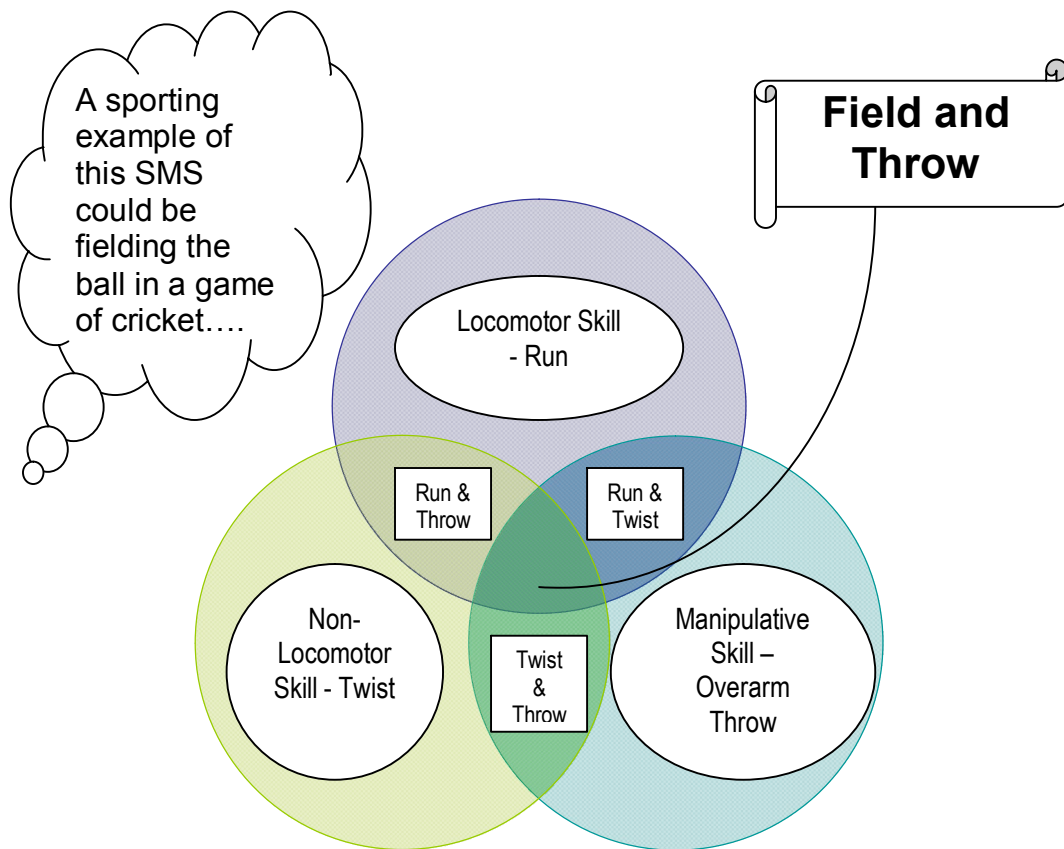
| <b>Intermediary<br/>(Specialised<br/>and Functional)</b> | <b>L</b>                               | <b>M</b>                                | <b>NL</b>                                | <b>L</b> |
|----------------------------------------------------------|----------------------------------------|-----------------------------------------|------------------------------------------|----------|
|                                                          |                                        |                                         |                                          |          |
|                                                          | Run, send and receive                  | Turn and throw / kick/ receive/ control | Zig-zag run                              |          |
|                                                          | Dribbling                              | Twist and throw/ receive/ control       | Shuttle run                              |          |
|                                                          | Run and bounce                         | Throw and receive on one leg            | Agility ladder / spot tasks              |          |
|                                                          | Run and throw / kick/ receive/ control | Bounce and pivot / turn                 | Footwork patterns (dance mat activities) |          |

| <b>Advanced Skills<br/>(Specialised<br/>and Functional)</b> | <b>L</b>                        | <b>M</b> | <b>NL</b> |
|-------------------------------------------------------------|---------------------------------|----------|-----------|
|                                                             |                                 |          |           |
|                                                             | Field and Throw                 |          |           |
|                                                             | Feed and Receive                |          |           |
|                                                             | Side Step Send and Receive      |          |           |
|                                                             | Hop, Step and Jump with Beanbag |          |           |
|                                                             | Rebound Catch                   |          |           |

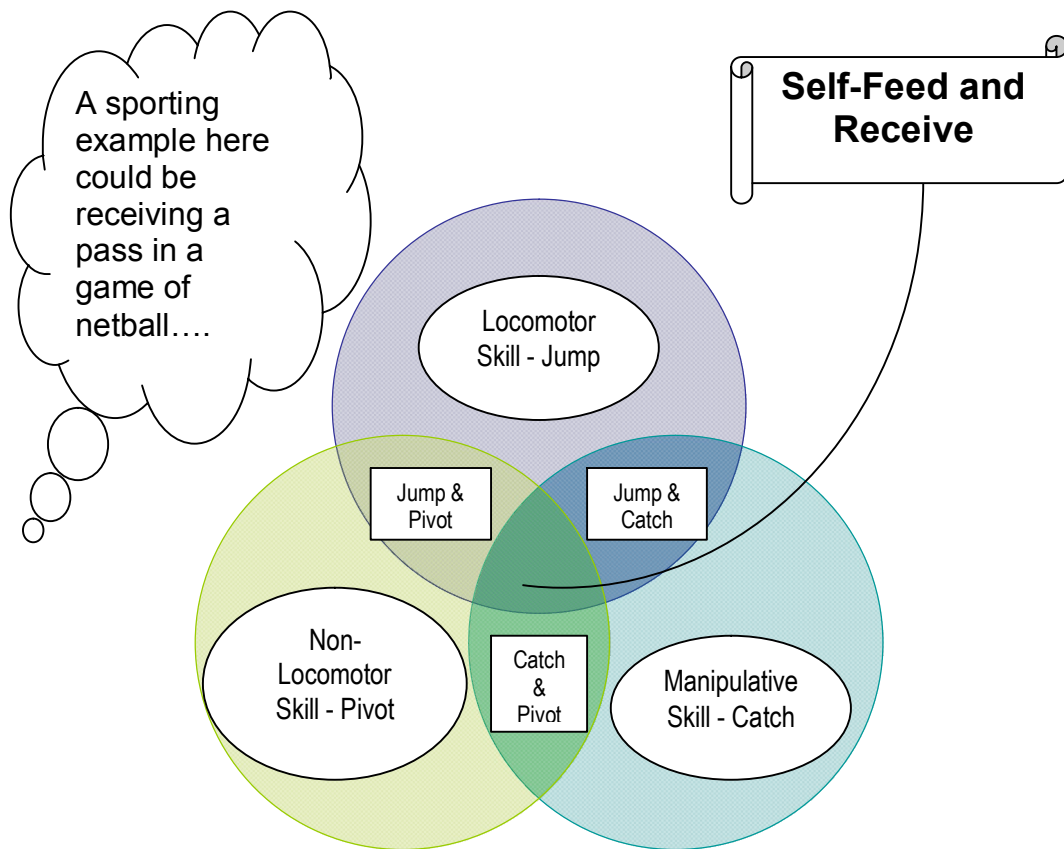
As the above table shows, when a combination of FMS are performed simultaneously, Specialised Movement Skills (SMS) and Functional Movement Skills develop.

SMS are sports/activity specific skills that require a combination of refined FMS to be performed successfully. For example, quickly fielding and throwing a moving ball would require a combination of several FMS (running, receiving, twisting, throwing, balancing etc).

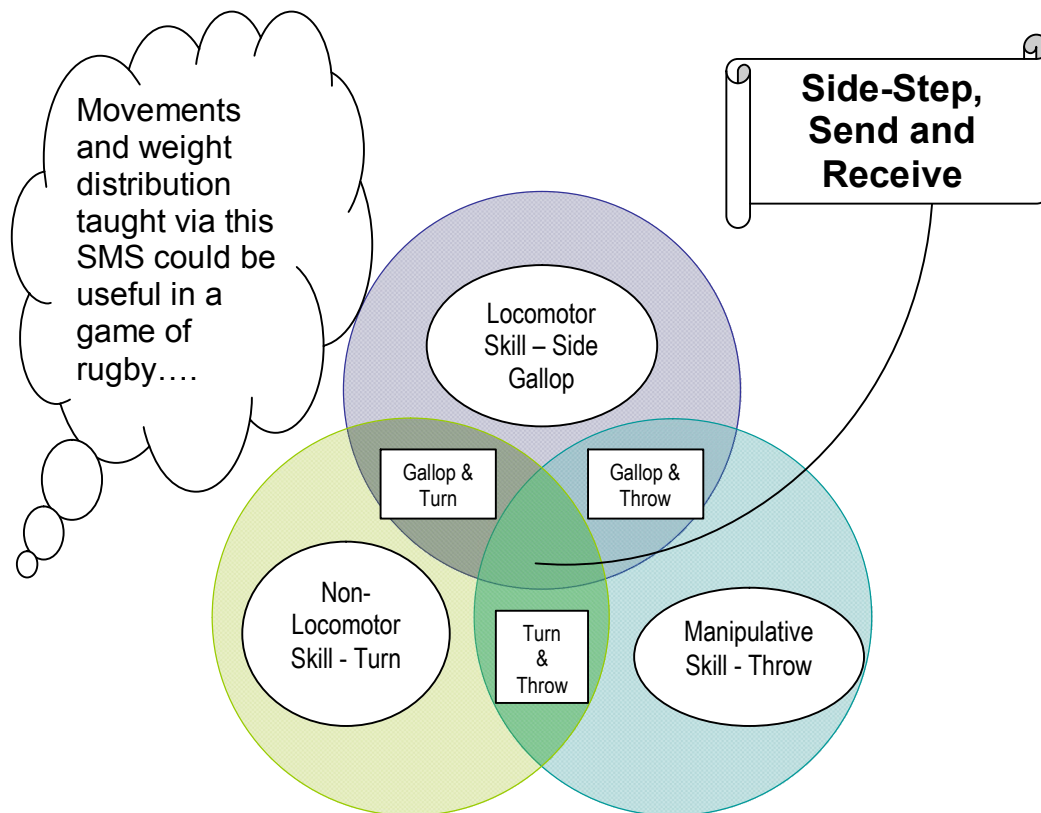
The following diagrams show examples of SMS broken down into their FMS components. Accompanying each diagram is a simple guide on how to effectively execute and assess the skill.

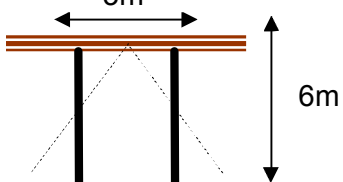


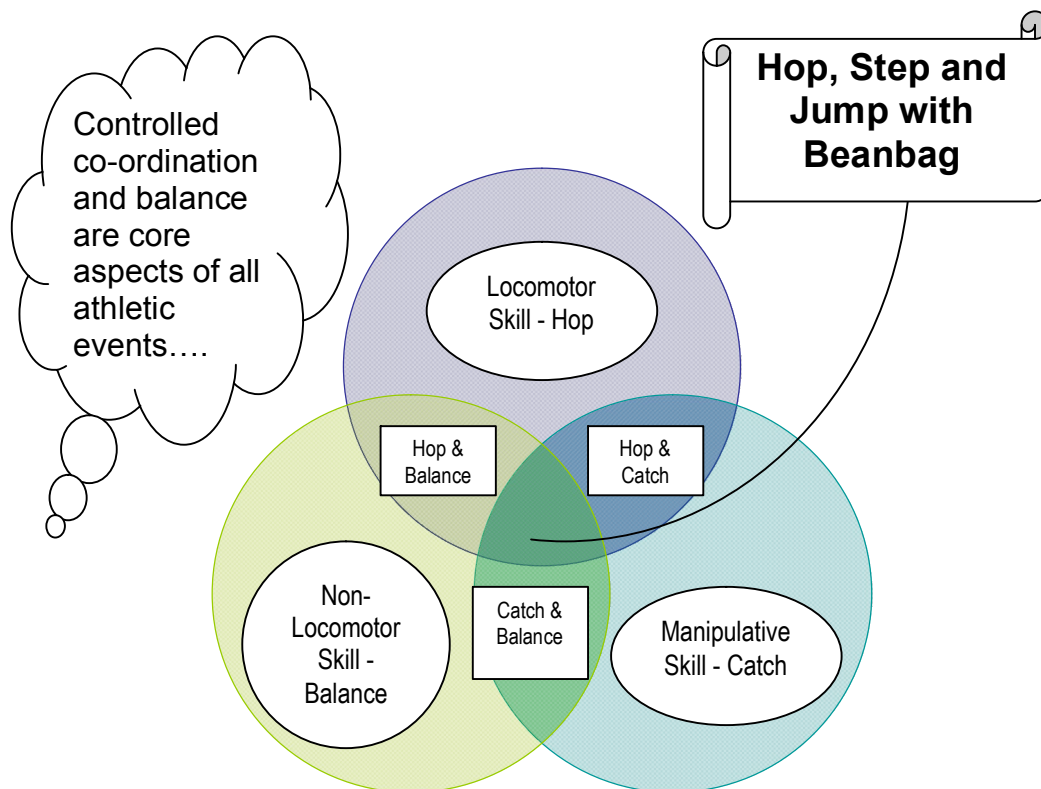
| Skill           | Equipment                                                 | Directions                                                                                                                                | Teaching Points                        |
|-----------------|-----------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|
| Field and Throw | Tennis ball<br><br>Large indoor space<br><br>Marking tape | Mark two parallel line 5 metres apart                                                                                                     | Feed is high and straight              |
|                 |                                                           | Start from a static position behind the line                                                                                              | Ball is collected after one bounce     |
|                 |                                                           | Feed underarm to land beyond 5 metre line                                                                                                 | Jump, twist and throw in one movement  |
|                 |                                                           | Sprint in same direction                                                                                                                  | Ball is returned in opposite direction |
|                 |                                                           | Using one hand, collect ball after one bounce.<br><br>Jump, twist and throw the ball hard in opposite direction using an over-arm action. | Controlled follow through and recovery |



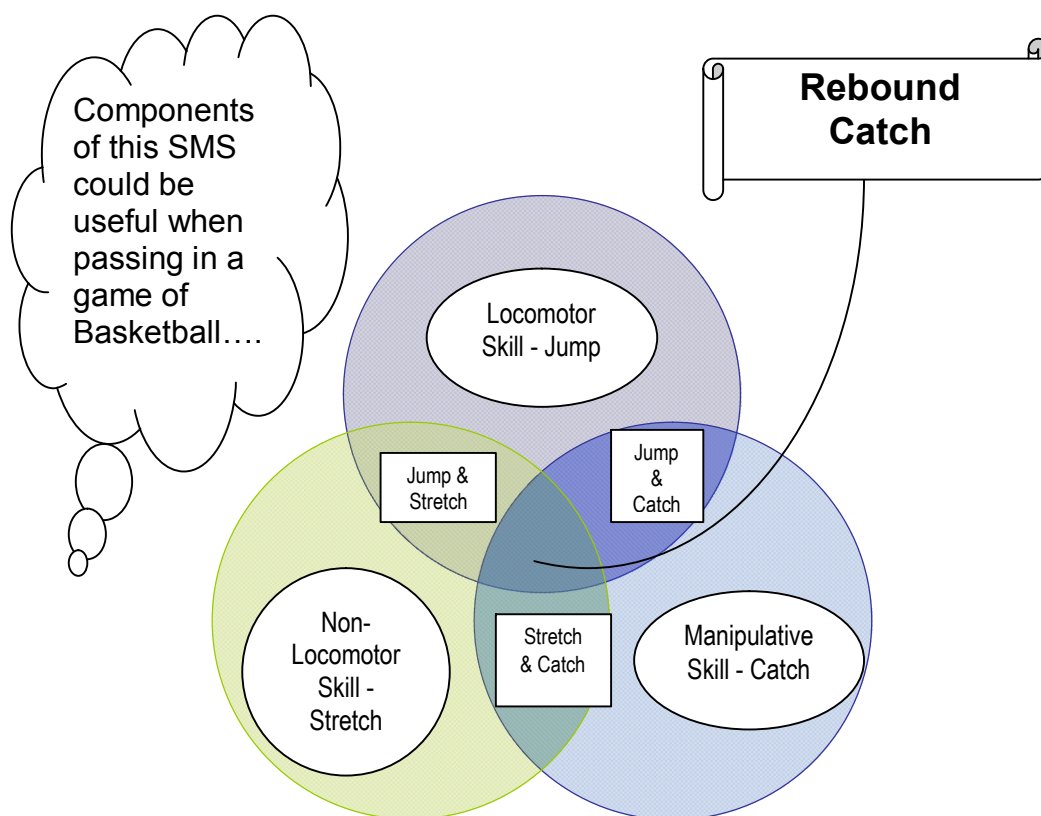
| Skill                 | Equipment                                   | Directions                                      | Performance Criteria                                           |
|-----------------------|---------------------------------------------|-------------------------------------------------|----------------------------------------------------------------|
| Self-feed and receive | Size 4 ball<br>Indoor space<br>Marking tape | Mark two parallel lines 3 metres apart          | Feed is high and straight                                      |
|                       |                                             | Start from a static position behind the line    | Ball is received beyond 3 metre mark                           |
|                       |                                             | Feed ball underarm and travel in same direction | Acceleration / deceleration is smooth and controlled           |
|                       |                                             | Jump to receive ball                            | Pivot results in the starting position (not too far from line) |
|                       |                                             | Land beyond the parallel 3 metre line           | Head and body in upright position throughout                   |
|                       |                                             | Stop under control close to line                |                                                                |
|                       |                                             | Pivot 180° and repeat action                    |                                                                |



| Skill                      | Equipment                               | Directions                                                                                                                                        | Performance Criteria                                                              |
|----------------------------|-----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Side-step send and receive | Tennis ball<br>Marking tape<br>Gym wall | Mark two parallel lines 3 metres apart at right angles to the wall                                                                                | Ball is thrown high at the correct angle (to contact wall half way between lines) |
|                            |                                         |  <p>3m</p> <p>6m</p> <p>Start to the left of the left line</p> | Smooth rhythmical side steps. Arms coordinated with legs                          |
|                            |                                         | Underarm throw high against the wall                                                                                                              | Weight on balls of the feet                                                       |
|                            |                                         | Side-step in the direction of other line                                                                                                          | Controlled receive outside of the parallel lines                                  |
|                            |                                         | Catch ball with two hands beyond the right line                                                                                                   | Quick change of direction and repeat of action                                    |
|                            |                                         | Repeat in opposite direction                                                                                                                      |                                                                                   |



| Skill                            | Equipment                                        | Directions                                                                                                                      | Performance Criteria                                                              |
|----------------------------------|--------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Hop, step and jump with bean bag | Bean bag<br><br>Indoor space<br><br>Marking tape | Mark a line of four spots (80cm between each spot)                                                                              | Throw is high and accurate                                                        |
|                                  |                                                  | Start from a static position on one leg behind the first spot                                                                   | Foot / feet in contact with marker as bean bag is caught                          |
|                                  |                                                  | Using two hands, throw the bean bag underarm towards second spot and hop in same direction                                      | Foot pattern is correct at each stage of movement (hop, step and jump)            |
|                                  |                                                  | Catch bean bag with two hands at the same time as landing the hop                                                               | Bean bag is caught using two hands in front of the body                           |
|                                  |                                                  | Repeat throw and catch action for each movement (hop, step and jump)<br><br>Pause and balance in between each phase of movement | Movement is controlled and balanced throughout with a pause in between each stage |



| Skill         | Equipment                               | Directions                                                                                                                                                                                                                                                                                                                                          | Performance Criteria                                         |
|---------------|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|
| Rebound Catch | Size 4 ball<br>Marking tape<br>Gym wall | <p>Mark one line at a right angle to the wall</p> <p>1m</p> <p>Catch Zone</p> <p>1m</p> <p>1.5m</p> <p>Start behind marker 3.5m from wall</p> <p>Two-handed underarm throw against wall</p> <p>Run into catch zone</p> <p>Within the Catch Zone, jump to catch the ball above the head using two hands</p> <p>Controlled landing with both feet</p> | Ball is thrown high and straight to rebound at correct angle |
|               |                                         |                                                                                                                                                                                                                                                                                                                                                     | Quick movement into Catch Zone                               |
|               |                                         |                                                                                                                                                                                                                                                                                                                                                     | Both feet in the air when ball is caught                     |
|               |                                         |                                                                                                                                                                                                                                                                                                                                                     | Stretch to catch ball above head using both hands            |
|               |                                         |                                                                                                                                                                                                                                                                                                                                                     | Controlled landing (on both feet together) within catch zone |

The development of SMS helps to further enhance and improve children's physical literacy at a crucial time before they may choose to specialise in specific sporting activities. As the primary teaching focus switches from fundamental movement skills to specialised movement skills, the model of LTAD suggests children are seen to enter the 'Learning to Train' phase of development. LTAD describes these movement skills as 'Fundamental Sports Skills'

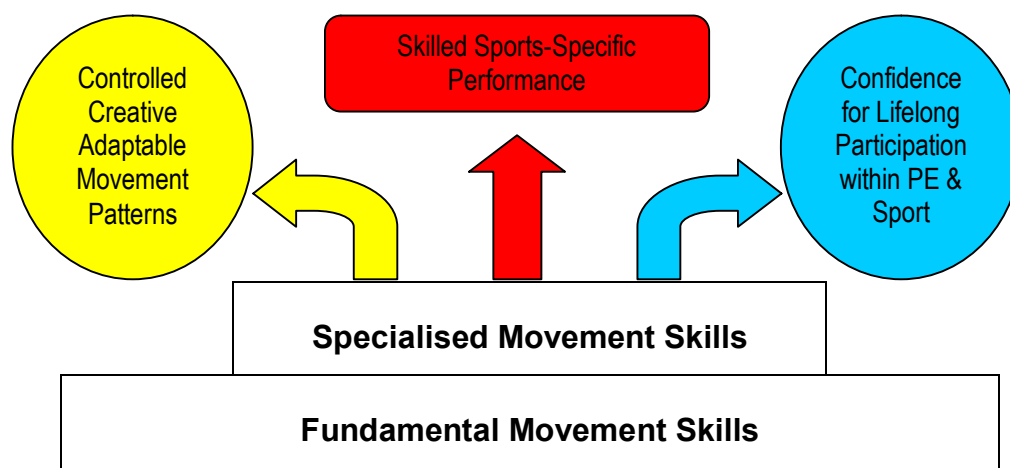
Characteristics of this stage can be summarised as follows:

**"Learning to Train" (Fundamental Sports Skills Phase)**

Chronological age: Males 9-12 and Females 8-11

- Major Skill Learning Stage with regards to overall sport skills development
- Children participate in complementary sports i.e. those that use similar movement patterns, energy systems and technical/tactical skills, and learn how to effectively adapt movement patterns
- Ancillary capacities are introduced e.g. warm up/cool downs, relaxation/focusing techniques
- Strength is developed using exercises that incorporate the individual child's own body weight (as well as Medicine, Swiss balls)
- Endurance is developed through games, circuits and relays
- Full range of abilities relating to physical education (i.e. not only physical prowess) are developed e.g. cognitive, social, creative etc
- Sports each individual child enjoys, and are predisposed towards success in, are identified and training activities are focused accordingly

As the last point states, children begin to specialise in certain sports during this phase as sports-specific skills are introduced and developed through previously learnt FMS and SMS movement patterns. As the diagram below shows, this not only facilitates skill development in a range of sports, but it also develops self-confidence that significantly contributes towards a lifelong commitment to physical activity and sport.

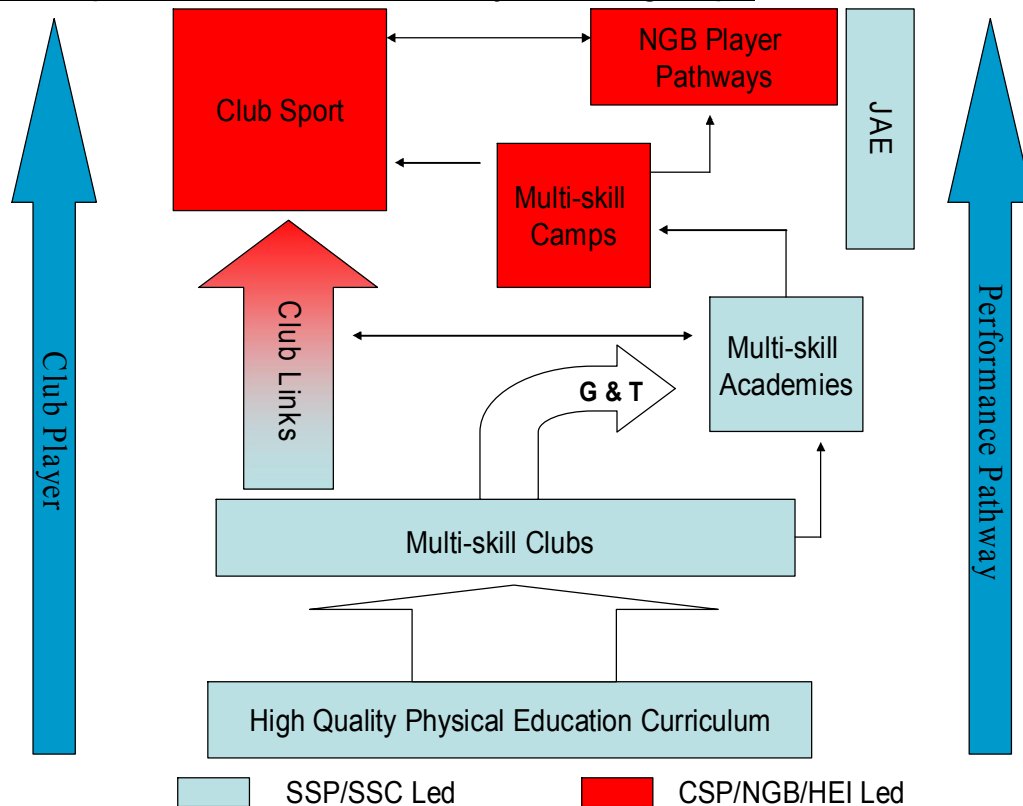


**Developing FMS and SMS through a Multi-Skills Approach**

The term 'Multi-Skill', when used in relation to the teaching of physical activity and sport, is seen to indicate a method whereby diversification (as opposed to specialisation) provides an extensive variety of movement experiences. As this summary has shown, this can be achieved through a focus on FMS and SMS development, taught in a fun and positive PE environment.

Multi-Skill Clubs:

#### Youth Sport Trust Performance Pathways for Young People



As the above diagram shows, multi-skill clubs form the foundation of the multi-skills pathway and are seen as an extension and augmentation of the PE National Curriculum. The club's primary aims are to provide children from the ages of 7-11 with their first real 'club' experience and thus attempt to bridge the gap between school and community sport. Using the same terminology, they are also an effective way of bridging any gap between the 'FUNdamentals' and 'Learning to Train' phases of the LTAD framework.

Youth Sport Trust Literature states that a Multi-Skill Club should have the following characteristics:

Multi-Skill clubs should:

- Be delivered by a community coach or qualified teacher
- Provide a real 'club' experience, where children feel part of a structured environment different from their normal PE lessons
- Develop children's movement competence, understanding of skills and levels of self-confidence
- Provide a fun, yet challenging environment within which talent and future potential can be recognised
- Be open, accessible and fully inclusive to all young people in terms of gender, ethnicity etc
- Develop FUNDamental skills (movement & sport) in all children whether they choose to progress into sport as a performance or purely recreational athlete
- Deliver activities that encourage young people towards a lifelong involvement in physical activity and sport

Multi-Skill clubs also aid the talent development process by focusing not only on physical capability, but the full range of abilities involved in PE and sport. As Morley and Bailey (2005) state, as well as teaching and assessing the actual performance of movement skills, MS clubs also ask practitioners to consider the cognitive processes involved in performing the various movements. Children are also challenged to extend their creative and social skills within physical activity settings. An integrated multi-skill approach, whereby an all-round PE ability is developed, based within a MS club not only allows children to refine and successfully adapt their FMS and SMS for use in sports-specific situations, it provides them with connections to community sport and the next links in the talent development pathway.

#### Multi-skill Club Session Plan

This session plan centred on the ABCs can be accessed from the CD (see Fundamental Movement Development – Example Session Plan)

### **Assessment of Movement Skills**

Jess (2002) claims that most basic movements develop through three phases to reach technical efficiency. The 'Immature' phase occurs when the movement first appears and is minimalist in that it usually involves few body parts. As movements go through the 'Transitional' phase, they become more controlled but may still not be performed efficiently. In the 'Mature' phase, performance criteria are introduced and integrated into a well-coordinated and proficient movement. These criteria, as seen on the 'Movement Skill Assessment' cards, can be used for teacher and peer assessment activities. For teachers, the ability to assess FMS is vital to record pupils' progress and to inform effective planning and delivery. Furthermore, the use of peer assessment techniques facilitates the pupils' knowledge and understanding of movement skills and their ability to analyse and evaluate others.

## Example of Pupils' Assessment Card

### Pupils' Card

### Overhand Throw



| Skill                              | Directions                                                   | Performance Criteria                                    | 1 <sup>st</sup> | 2 <sup>nd</sup> | 3 <sup>rd</sup> |
|------------------------------------|--------------------------------------------------------------|---------------------------------------------------------|-----------------|-----------------|-----------------|
| Overhand Throw                     | Stand sideways and throw a tennis ball towards a target      | 1. Eyes focussed on target                              |                 |                 |                 |
|                                    | Throw hard using an overhand action                          | 2. Lift throwing arm high and back                      |                 |                 |                 |
|                                    | Tick the boxes of the parts done well.                       | 3. Step towards target with opposite leg                |                 |                 |                 |
|                                    | Perform 3 times each. Get advice from partner after each go. | 4. Rotate body towards target                           |                 |                 |                 |
|                                    | Complete the summary box after 3 goes.                       | 5. Bring throwing arm across and down to follow through |                 |                 |                 |
| Summary (how did they do overall?) |                                                              |                                                         |                 |                 |                 |

## Example of a Teacher's Assessment Card

### Teacher's Card

### Kick



| Skill | Equipment                                                                  | Directions                                                                                                                                                    | Performance Criteria                                                       | Good  |   |   |   |              | Excellent |
|-------|----------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|---|---|---|--------------|-----------|
|       |                                                                            |                                                                                                                                                               |                                                                            | 1                                                                                          | 2 | 3 | 4 | 5            |           |
| Kick  | Large indoor / outdoor area<br><br>Size 4 football (light ball if indoors) | Instruct pupils to run up to and kick a size 4 football towards a target<br><br>Ball should be kicked hard using top of foot<br><br>Demonstrate action slowly | 1. Eyes focussed on the ball throughout                                    |                                                                                            |   |   |   |              |           |
|       |                                                                            |                                                                                                                                                               | 2. Large step towards ball with non kicking leg                            |                                                                                            |   |   |   |              |           |
|       |                                                                            |                                                                                                                                                               | 3. Non kicking foot placed beside ball                                     |                                                                                            |   |   |   |              |           |
|       |                                                                            |                                                                                                                                                               | 4. Contact ball with top of foot                                           |                                                                                            |   |   |   |              |           |
|       |                                                                            |                                                                                                                                                               | 5. Ball travels in intended direction and kicking leg follows through high |                                                                                            |   |   |   |              |           |
|       |                                                                            |                                                                                                                                                               | Pupil name:                                                                |                                                                                            |   |   |   | Total score: |           |