**3.5 Physical Development**

The concern in studying the significance physical growth is to see how much it contributes to an individual’s personality development from his early age until his maturation. It also has to do with pupils at schools. Children grow at different rates and develop different body shapes, they may be tall; small, fat, slim or in some cases physically impaired. But, in general there some characteristics that they share while growing up. Below is a table that shows boys and girls development from early ages until they mature.

**3.5.1 Height and Weight**

The table below shows trends of height and weight for well- nourished and healthy children. It tackles averages of different ages from preschool up secondary school. But, it does not display the differences between children at the same age as in some cases some may be taller or smaller than the average height and the same remark is about weight.

**Table 1:** Average height and weight of well-nourished children (adopted from Seifert. k and Sutton. R 2009)

|  |  |  |
| --- | --- | --- |
| **Age** | **Height (cm)** | **Weight (kg)** |
| 2 | 85 | 7.0 |
| 6 | 115 | 20.0 |
| 10 | 135 | 31.0 |
| 14 | 162 | 52.0 |
| 18 | 169 | 60.5 |

The table above displays the most common heights and weights of children between the ages of 2 and 18, but there are some information that it does not show. Studies have shown that boys and girls in general have the same height and weight during their childhood, but show differences at the beginning of adolescence or more precisely while puberty signs began to show up (10-14), where the average girl is taller, but not that heavier, than the average boy. The period that follows that ,the average boy becomes both heavier and taller than the average girl, in spite of the fact that there are always exceptions (Malina, et al., 2004 cited in Seifert. k and Sutton. R 2009).

The second fact that the table above does not mention is that while children grow up, individual differences in weight may be more noticed than those in height. Around the age of 18, it is noticed that heavy teenagers weigh approximately twice the lighter ones. It is at this age that height and weight can be sensitive to teenagers.

A teenager with a well-developed body may find it easier to get along with other teenagers ad may feel accepted in his surrounding and thus develops a kind of self-confidence and a positive self-concept. However, the teenager with weak small weak body usually develops a feeling of unwanted individual within a group of learners. Thus, parents and teachers alike should be aware of this physical development trend as it may have dramatic consequences on the teenagers’ behaviour and learning too.

**3.5.2 Puberty and its impact on Learning**

They key word when it comes to puberty is change. Your body is changing, your feelings are changing and your relationships with those around you are changing. You are growing up and becoming an adult. This change from being a child to becoming an adult is called*puberty***.**

Puberty is a change in the body that is common among all humans throughout the world. It is embodies changes during adolescence that fosters sexual maturity. Not only that, but it also involves changes in internal organs such as growth of breasts in females and the penis in males, along with an increase in height and weight.

Dr. Valérie M. Schwitzgebel from the Paediatric Division in Geneva Hug Children Hospital defines puberty as ‘ the stage of physical maturation in which an individual becomes physiologically capable of sexual reproduction.’

Indeed as explained by McClintock & Herdt (1996), by the age of 10 or 11 children usually experience a kind of sexual attraction towards the other gender and this attraction, according to Rosenbaum (2006), intensifies when children are at high school. This according to many studies might affect children’s social life both in and outside school. Thus, parents and teachers should be aware of these changes that the child is enduring so as understand his behaviour and help him/her answer questions that might bother him during this critical period. Teachers should also be flexible towards the behaviour of children in class at his age, and should be very attentive not frustrate the learner by inadequate observations that might make him be a joke among his classmates.

**3.5.3 Motor Skills Development**

One the most complex fields of study in human beings is the one related to child development, because it combines biological aspects with a multitude of environmental factors. The on-going development of motor skills in children lead to a growing independence and the capacity to adapt with the physical and social environment. ( Formiga, C, 2015)

The most rapid physical changes in a child’s life take place during the first five years. At this period of life, children develop noticeable physical, motor and sensory capabilities that foster exploration and discovery of the environment.

**3.5.3.1Gross Motor Skills Development**

Fundamental movement skills are the basis upon which advanced movements are founded (Clark &Metcalfe, 2002). Mastering the fundamental movement skills during childhood boosts the confidence and fosters kids participation in physical activities and consequently fosters a balanced life style at advanced ages (Bakhtiar,2014).Fundamental movement skills involve loco motor skills such as running and jumping

**Table 2:** Main motor skills and their development at different stages.( The information above is retrieved from the Florida Early Learning and Developmental Standards).

|  |  |
| --- | --- |
| **Age** | **Motor skills** |
| **Birth- 8 months** | Gross motor development focuses on arm, body and leg movements. Tone, strength and coordination improve progressively from head to toe. While the sequence of development is predictable, there is variation in each young infant’s timetable |
| **8 - 18 MONTHS** | Older infants climb and reach for objects beyond their reach. They are preoccupied with controlling their movements and finding new ways to move around in their environments |
| **18 - 24 MONTHS** | As young children become more mobile, they continue developing their independence through coordinated, purposeful movement. They often use large muscles to explore their environments. Young toddlers show fearless determination and energy in order to accomplish a task |
| **2 - 3 YEARS (24 - 36 months)** | Two-year-olds continue developing their independence through purposeful, coordinated activities. Movement now comes with a goal in mind and it tends to be practiced over and over again until mastered |
| **3 - 4 YEARS (36 - 48 months)** | Three-year-olds continue improving balance and control, as well as coordination. They are able to combine muscle movements to complete more complex gross motor tasks. Developing coordination requires opportunities and practice to challenge these skills. |
| 4YEARS - KINDERGARTEN (48 months - Kindergarten**)** | Four-year-olds are gaining increasing control over their gross motor skills and coordinated movements. As they practice, they become more confident in their abilities. |

As one can notice in the table above, children’s main motor skills are generally well developed while they reach kindergarten, but are not yet definitely well-coordinated.

At the age of five years, children can generally walk in a normal way. For some children at this age, running is not yet well tuned and would rather look like a hurried walk, but they will perfection it within a year or two. The same thing would be noticed with body movement such as jumping, throwing, and catching objects such as balls. Practically, most kids can perform these body movements, though not perfectly, but they generally better their skills during the elementary years (Payne & Isaacs, 2017).

In spite of the fact that physical skills are not the main concern of school teachers, they are usually of a great importance to kids themselves. Whatever their grade is, pupils who do not control their body movement well are aware of that fact and this might negatively affect their respect in the eyes of their class mates. This may affect their self-esteem in the long term and may consequently have a bed effect on their learning achievements. (Petlichkoff,1996).

**3.5.3.2 Fine Motor Skills**

Fine motor skills are the ability to make movements using the small muscles in our hands and wrists. We rely on these skills to do key tasks in school, at work, and in everyday life.

Here is a table that summarises the main fine motor skills that children are supposed to refine through time.

**Table 3:** Fine Motor skills: A Checklist adopted from Payne (2017).

|  |  |
| --- | --- |
| Age | Skill |
| 0-6 months | - Demonstrating a reflexive grasp when objects are placed in hand.  - Reaching for and grasping objects.  - Mastering controlled reach (6 months).  - Holding objects in the palm of 2 hands (by 3 months) or palm of one hand (by 5 months).  - Recovering an object dropped within their visual field, by feel, or hear it within reaching range. |
| 6-12 months | - Reaching and grasping to put objects in mouth.  - Demonstrating controlled release of objects.  - Picking up small objects with thumb and one finger.  - Transferring objects from one hand to the other.  -Pointing with the index finger. |
| 1-2 years | - Building a tower of three small blocks.  - Putting rings on a stick.  - Turning pages of a book (two or three at a time).  - Painting using whole arm movements to make strokes.  - Eating independently (minimal assistance).  -Signing to communicate wants and needs.  -Bringing a spoon to mouth.  -Holding and drinking from cup independently.  -Picking up small objects with thumb and one finger. |
| 2-3 years | -Building a tower of 3-5 small blocks.  -Copying a simple sequence of coloured blocks in a tower.  -Turning single pages in a book.  -Holding a crayon with thumb and fingers.  -Using one hand consistently for most activities.  -Imitating circular, vertical and horizontal strokes.  -Eating without assistance.  -Picking up small objects with thumb and one finger.  -Completing insert puzzles. |
| 3-4 years | -Building a tower of approximately nine small blocks.  -Copying block designs of up to 6 blocks.  -Tracing on thick lines.  -Using one hand consistently for most activities.  -Copying a circle or imitating a cross.  -Holding a pencil with thumb and fingers on opposite sides of the pencil.  -Using the non-dominant hand to assist and stabilise object.  -Cutting roughly around pictures.  -Completing 4-6 pc interlocking puzzles.  -Co-ordinating hands to brush teeth or hair.  -Dressing independently including large buttons, socks and shoes (excluding shoelaces, small buttons and initiating zip on a jacket). |
| 4-5 years | -Cutting along a line continuously.  -Coordinating hands to brush teeth or hair.  -Copying 9 block models.  -Copying a circle, cross and a square.  -Holding the pencil with a tripod grasp (3pt grasp).  -Colouring inside the lines.  -Colouring an entire picture.  -Writing their name.  -Copying letters and numbers 1-5.  -Using a preferred hand for most activities.  -Dressing and undressing independently (excluding shoe laces). |
| 5-6 years | -Cutting out simple shapes.  -Coordinating hands to brush teeth or hair.  -Writing numbers 1-10 independently.  -Self generating letters independently.  -Copying a triangle.  -Holding a pencil with a 3 fingered grasp and generating movement from fingers (not wrist).  -Cut and paste projects.  -Drawing basic pictures. |
| 6-7 years | -Forming letters and numbers correctly.  -Dressing and toileting independently.  -Cutting neatly around shapes.  -Pencil control.  -Endurance for writing tasks.  -Drawing detailed pictures with recognisable objects. |
| 7-8 years | -Writing neatly.  -Maintain legibility of handwriting for entirety of a story. |

Fine motor skills are skills which involve the implication of small muscles that children usually use to manipulate objects using their hands and fingers. The development of these skills will enable the child to perform very important tasks such as writing, eating and drawing. The Exposure of the child to a variety of toys, materials and even foods, usually help in the development of such skills.

The development of such motor skills is so important in the life of a child because, because they will help him grow stronger. Thus, parents, caregivers, preschool teachers can help little children to develop these skills by encouraging them to perform or take part in different games as well as using different types of items. Below are some home activities, as proposed by the occupational therapist Patty Bunce, that parents can use with their children to help them develop their fine motor skills:

* **Tummy Time**

Your baby needs time to push up, shift from side to side and eventually swipe at objects in front of him/her, both on his/her tummy and when on /his her back.

* **Finger Feeding**

Let your little one finger feed as much as possible. Picking up food with her fingers will help her develop a pincer grasp (thumb and first finger together), which is a necessary precursor to holding a crayon.

* **Play with Small Items**

Toddlers should be encouraged to stack blocks, string beads, use one piece puzzles and play with pop beads. Children should not be left alone when playing with beads as they may be a choking hazard.

* **Play with Play Dough**

One of the very best ways to build hand strength is to play with play dough, play foam or a similar non-toxic and malleable substance. Think resistance!

* **Finger Painting**

Be sure to encourage finger painting, either with paint, pudding or shaving cream.

* **Puzzles**

Simple puzzles can help children learn about manipulating objects through turning, placing and flipping pieces.

* **Two-Handed Tasks**

Any activity that encourages your child to coordinate both hands together is a great tool for development. An example is rolling a ball of play dough into a long “snake” and then cutting it with a plastic knife.

* **Buttoning and Tying**

Practice buttoning and unbuttoning, zippering, hooking fasteners or tying helps to build strength and dexterity. Large child-appropriate practice boards that help facilitate these activities are available in most toy stores.

* **Practice with Clothes Pins**

Have your child hang pictures, colouring pages or clothes on a clothesline with spring loaded clothes pins. This activity builds pincer strength.

* **Colouring**

Parents should be careful about the time when their child shows interest in colouring, and that usually happens by the age of 2 or 3.When this interest to painting is manifested , parents should provide small crayons that fit his/her tiny fingers.

Look for opportunities throughout the day for your child to manipulate small items, push and pull with her hands and fingers and practice small movements. Being aware of these opportunities is the first step in helping your child develop fine motor skills. Be sure to ask your child’s teacher if there are any areas of concern with your child’s fine motor development and ask for suggestions if there are concerns. When delays are significant or impeding your child’s ability to perform age appropriate tasks, an assessment by a pediatric occupational therapist may be necessary.