Learning and Psychomotor Development

Grado en Primaria / Primary Education Degree

UNIT 1: INTRODUCTION TO LEARNING AND PSYCHOMOTOR DEVELOPMENT

Lecturer: Diego Jaén

@djaenc

Learning Objectives

By the end of this Unit, students will be able to:

- **Identify** the concept of **motor behaviour**.
- **Identify** the **evolution of the study** of learning and psychomotor development.

Index

1.1. MOTOR BEHAVIOUR

1.2. EVOLUTION OF THE STUDY OF LEARNING AND PSYCHOMOTOR DEVELOPMENT

1.2.1. FIRST STAGE: FROM THE BEGINNING TO COGNITIVISM

1.2.2. DEVELOPMENT STAGE: FROM COGNITIVISM TO THE 80s

1.2.3. LEARNING AND PSYCHOMOTOR DEVELOPMENT NOWADAYS

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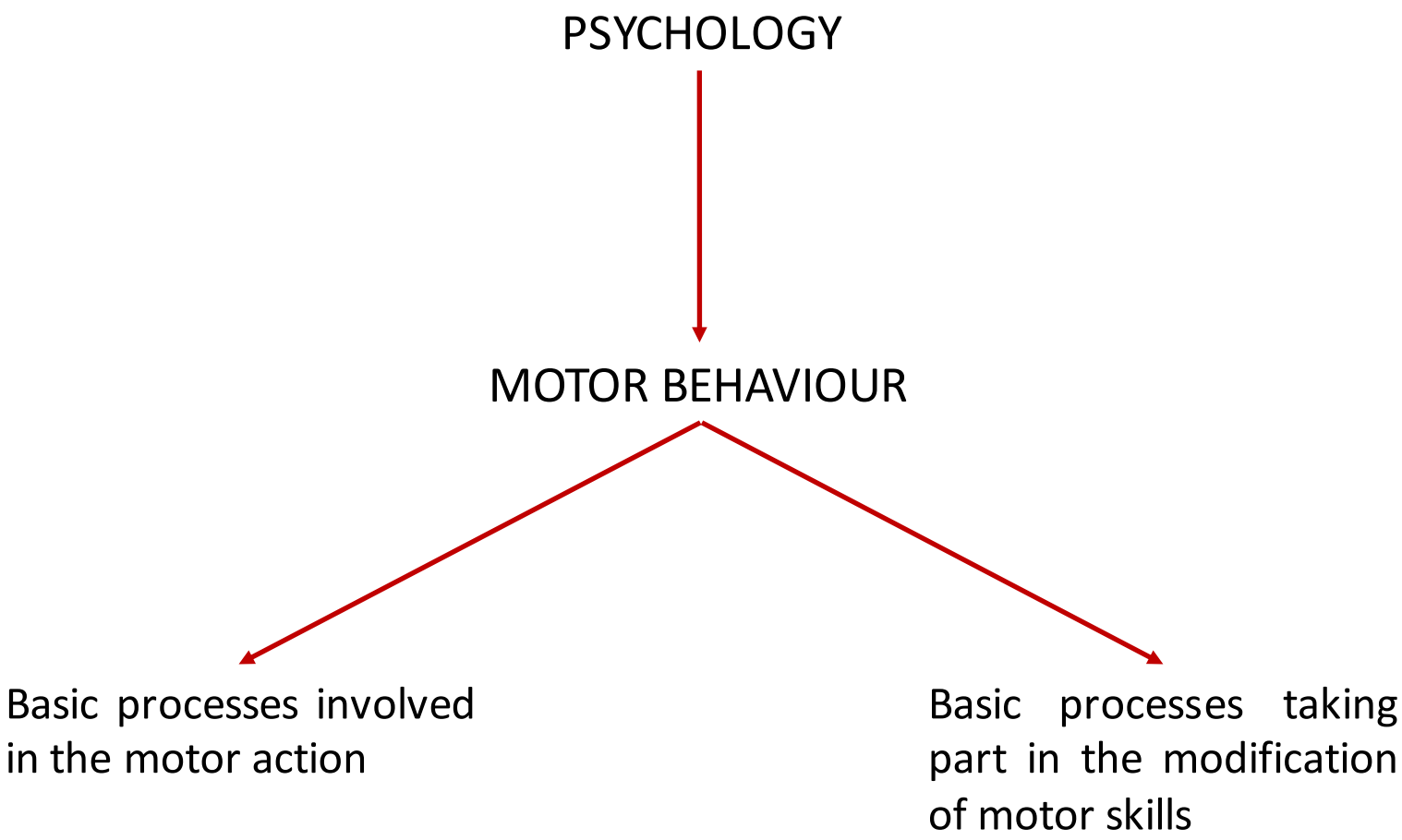
MOTOR BEHAVIOUR

Coordinated motor action, which may suffer individual variations, and performed based on the internal environment (organism) and the context of the subject's instant environment.

Dynamic expression between an individual and the environment

Behavioural Sciences



Oña et al. (1999)

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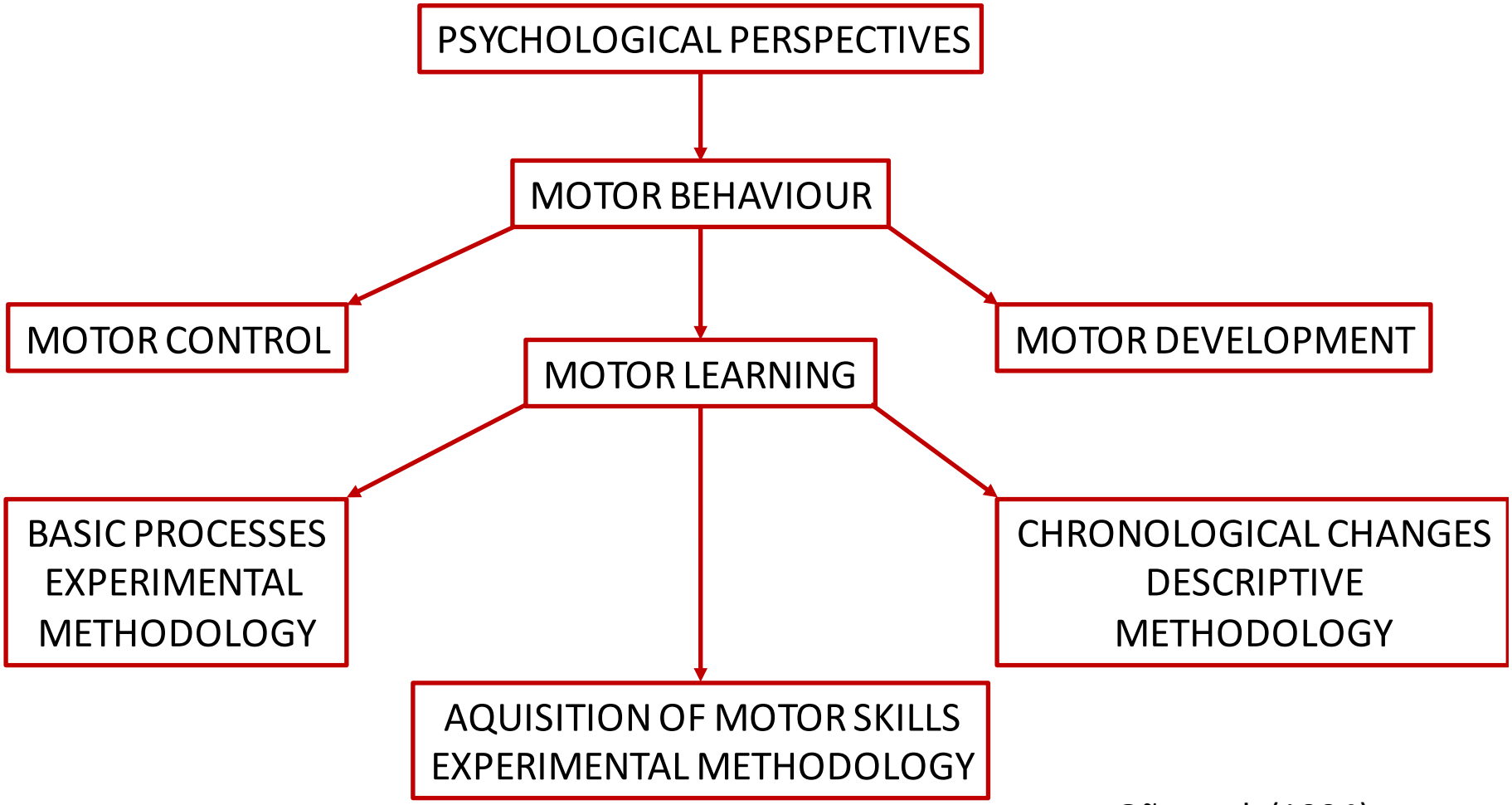
STRUCTURE OF MOTOR BEHAVIOUR



Oña et al. (1994)

Schmidt (1988) mentions two main periods in the historical evolution of learning and psychomotor development:

1. First period (until 1970): two different study lines live without contact –**neurophysiological and psychological lines**.
2. Second period (from 1970): it is characterised by a process of **approach and synthesis** of these two lines.

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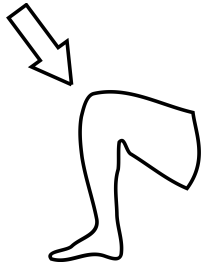
1.2.1. FIRST STAGE: From the beginning to cognitivism

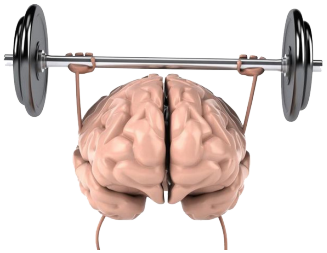
Neurophysiological source

Psychological part of the movements

Sherrington



Herrick (1924)



Period focused on motor control processes and the role of the nervous system in alignment with the movement control

Psychological source

Motor skills and skilful performance

Thorndike → Principles of effect and exercise

Period focused on movement learning, variability, reaction time, learning retention and the sort of practice

Ganda and Alemany (2002)

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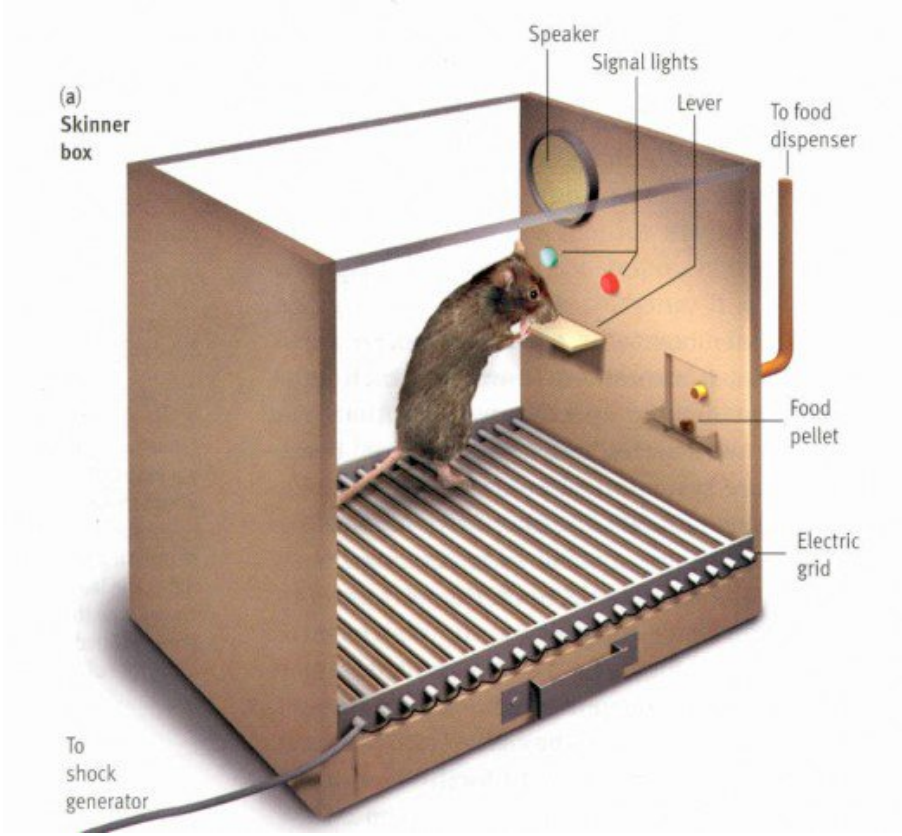
1.2.2. DEVELOPMENT STAGE: From cognitivism to the 80s

First stage → Stimulus-answer → Product of learning

B.F. SKINNER



Ganda and Alemany (2002)

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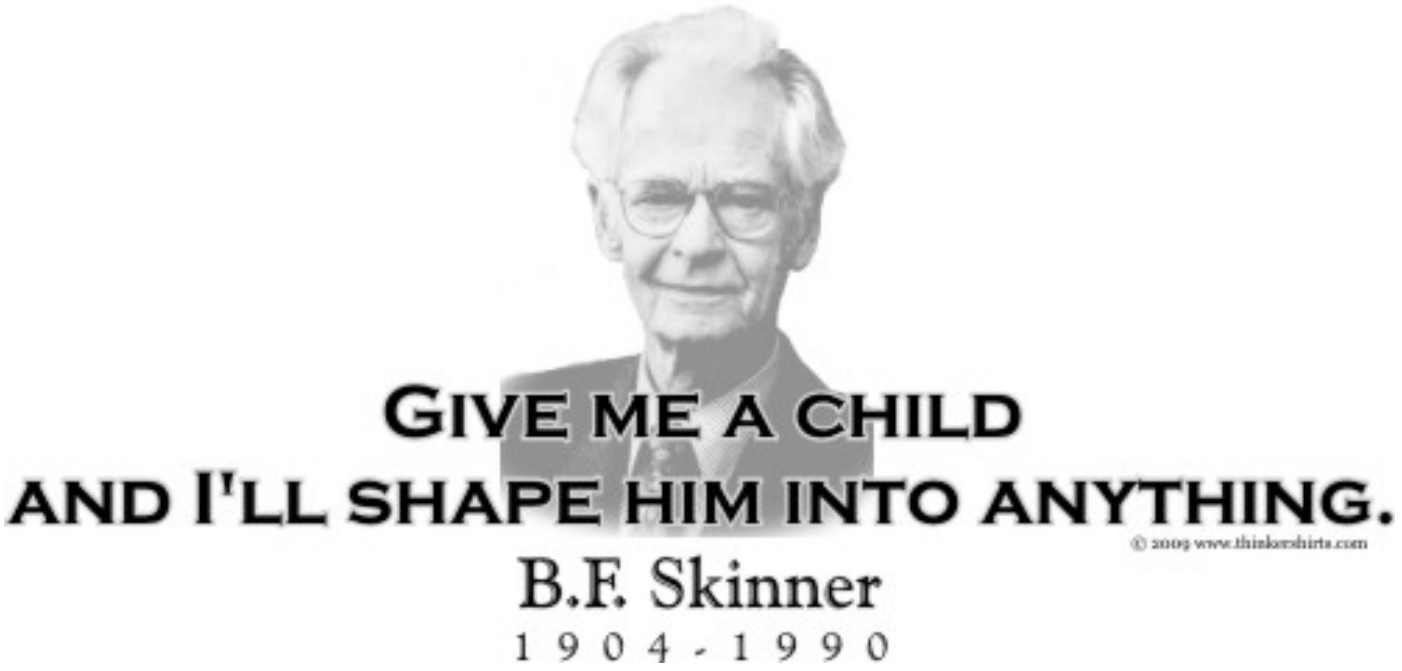
1.2.2. DEVELOPMENT STAGE: From cognitivism to the 80s

First stage → Stimulus-answer → Product of learning



Ganda and Alemany (2002)

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1.2.2. DEVELOPMENT STAGE: From cognitivism to the 80s

After the use of new technologies and instruments, new streams were arisen whose studies were focused on

1. Motor schemas
2. Motor control processes through closed loops
3. Motor programming processes

This stage is characterised by the development of important motor control theories such as

- Henry's memory drum theory
- Adams' closed-loop theory
- Schmidt's schema theory

Ganda and Alemany (2002)

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1.2.3. Learning and psychomotor development nowadays

From the 90s new concerns are arisen within the study of motor learning

- Sports simulation
- Development and improvement of motor and sport skills
- The role of contextual interference in learning and motor control
- Practice conditions and organization from a variable perspective
- Visual training of the athlete
- Perspective and making-decision processes in sport

Ganda and Alemany (2002)

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2. Granda, J., & Alemany, I. (2002). *Manual de aprendizaje y desarrollo motor: una perspectiva educativa.* Barcelona: Paidós

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Learning and Psychomotor Development

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UNIT 2: KEY CONCEPTS IN THE STUDY OF LEARNING AND PSYCHOMOTOR DEVELOPMENT

Lecturer: Diego Jaén

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Learning Objectives

By the end of this Unit, students will be able to:

- **Clarify** the the concept of stage of development.
- **Identify** the behavioural domains.
- **Differentiate** the concepts of growth, maturation, environment and development.
- **Describe** the relationship between maturation and learning.
- **Recognise** the environmental factors that influence motor development.

Index

2.1. Introduction to the development concept.

2.2. Stage of development.

2.3. Behavioural domains.

2.4. The terminological problem.

- 2.4.1. Growth
- 2.4.2. Maturation
- 2.4.3. Environment
- 2.4.4. Development

2.5. The relationship between maturation and learning.

2.6. Environmental factors that influence motor development.

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EVOLUTIONARY PSYCHOLOGY

Psychological discipline focused on the study of the behavioural changes in relation to one's age along his/her development, that is, from birth to death

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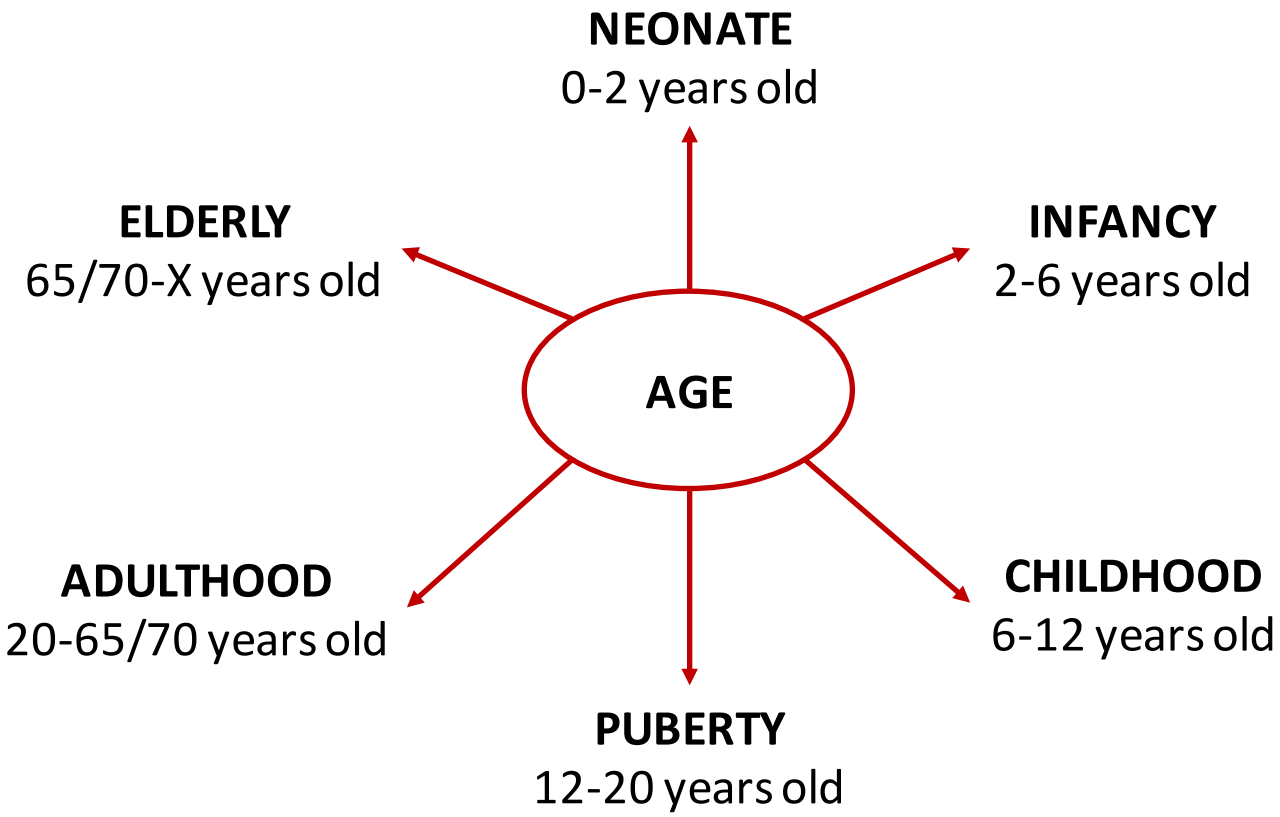
EVOLUTIONARY PSYCHOLOGY



Granda & Alemany (2002)

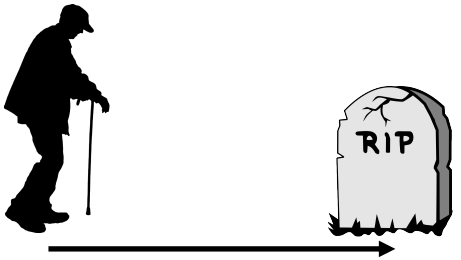
EVOLUTIONARY PSYCHOLOGY

CYCLE OF LIFE

DEVELOPMENT
0-25/30 years old

MATURITY
25/30-50/60 years old

REGRESSION
60-70 y.o. - death



Granda & Alemany (2002)

The **stage of development** is defined as those evolutionary moments which are distinguished according to particular homogeneous characteristics. The stages of development are characterised by:

- **Relative homogeneity and stability** of a behaviour.

When does a child take their first steps?

12 months

When does a child learn to read?

5 years old

The **stage of development** is defined as those evolutionary moments which are distinguished according to particular homogeneous characteristics. The stages of development are characterised by:

- **Order of succession of stages** with respect to others.

roll before creeping; creep before crawling; crawl before walking;…

- **Hierarchical organization** (complexity).
- **Receptivity** –defined as the aptitude shown to learn.

The analysis perspective of the study of the human being and their behaviours has been changing from a partial to an interactionist perspective.

The scope of the human development is spilt into 3 great domains:

1. Bio-social development: growth; body changes; genetic, nutritional, and health factors which determines this development as well as motor skills from taking a rattle to driving a car. Social and cultural factors must be taken into account.
2. Cognitive development: it focuses on all the mental processes used to acquire knowledge such as perception, imagination, language, memory,…being these processes used to think, make decisions, and learn. Within this scope education through study plans or given by parents, friends or media are included.

3. Psycho-social development: emotions development; social skills;… the role of the family, community, culture and society are key. Multitculturalism, values, sex roles in our culture are shown in this scope.

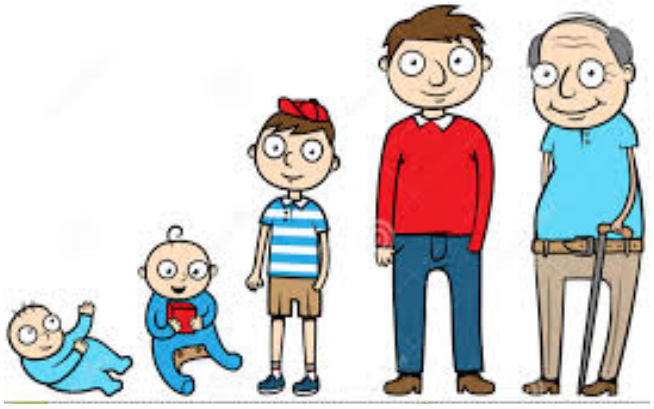
2.4. The terminological problem

Growth

Environment

Maturation

Development



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Growth

It refers to an increase in size of the body or any of its parts –generally takes place during the first 20 years of life.

- It is measurable –quantitative changes. Height, weight,…

Growth is associated with inheritance but it is also influenced by environmental factors.

There are 3 principles related to growth:

1. Progression: the younger the subject is the faster the organism grows.
2. Dissociation: every part of the organism grows in a different way and in different proportions.
3. Alternation: periods of slow growth alternates with periods of fast growth.

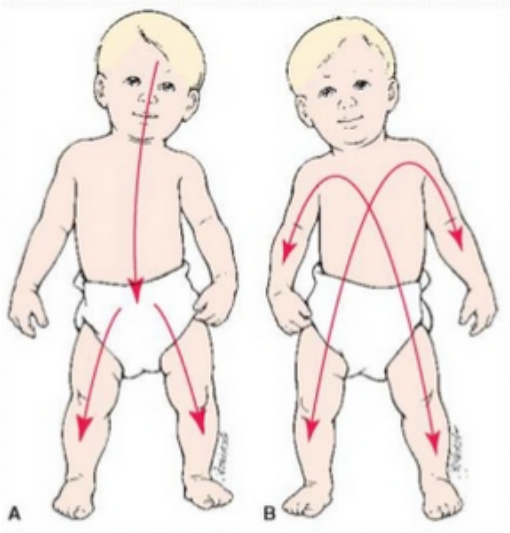
Maturation

It refers to the sequential characteristic of biological growth and development. It is qualitative and not visible. Maturation and growth are not always linked.

Maturation is based on:

1. Sequentiality
    a. Head downward principle
    b. Centre of the body outward principle

2. Universal sequentiality



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Environment

It is all the conditions and external influences that affect to the life and development of an organism.

It can be split into:

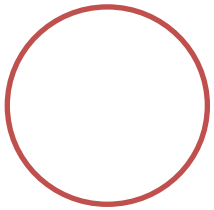
- Physical environment: weather, geography, nutrition, diseases,...
- Cultural environment: social organization, culture, religion, ethnic group,...
- Psychological environment, which is divided into 3 big groups:
    1. Psychological stimulation: improve skills and experience through environment.
    2. Learning: processes which take part in the nervous system of a subject, not visible, and are linked to memory processes. Its aim is to develop new skills in the subject.
    3. Education: process derived from stimulation and learning which aims at pupil's personality development.

Development

It makes reference to all the changes that a person undergone and proceeds from general to specific. In all areas of development, general activities precedes specific activities.

There are some principles to take into account,

- It proceeds gradually from the simple to more complex.
- It improves the subject's skills.
- The tempo of development is not even.



2.5. The relationship between maturation and learning

According to Piaget, the relationship maturation-learning is multiplicative.

If we express it mathematically:

Maturation x Learning = Development

If we have a multiplicative relationship and one of the factors is 0, there is no development

Maturation x No learning = No development

No maturation x Learning = Waste of time

No maturation x No learning = No effects

2.5. The relationship between maturation and learning

The relationship between maturation-learning can be described as:

1. Maturation is a necessary condition to get a particular behaviour learnt but it is not enough.
2. Mature children need less training to achieve progress than immature children.
3. A particular learning given before the organism is ready for that particular learning will produce either temporal or no improvement.
4. Insistence on a particular learning when the subject is not ready for it produces more damage than profit –it may produce frustration in the subject and disappointment in the teacher.
5. Genetic structure imposes limits, but these limits are not fixed.

Granda & Alemany (2002)

2.6. Environmental factors that influence motor development

Physical factors

diet

weather

geography

diseases

Cultural factors

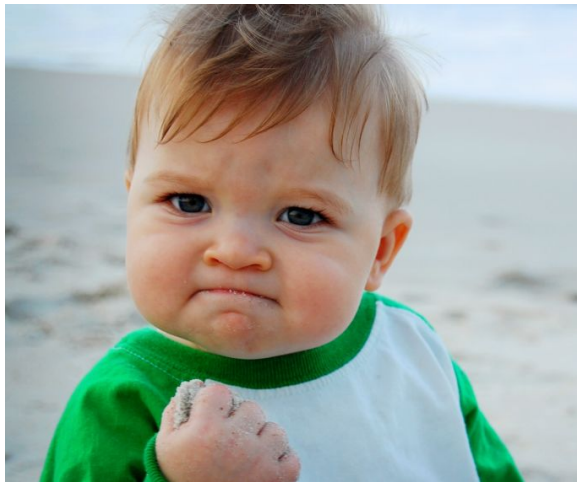
Social organisation

culture

religion

System of values

media



education

Psychological factors

learning

2.6. Environmental factors that influence motor development

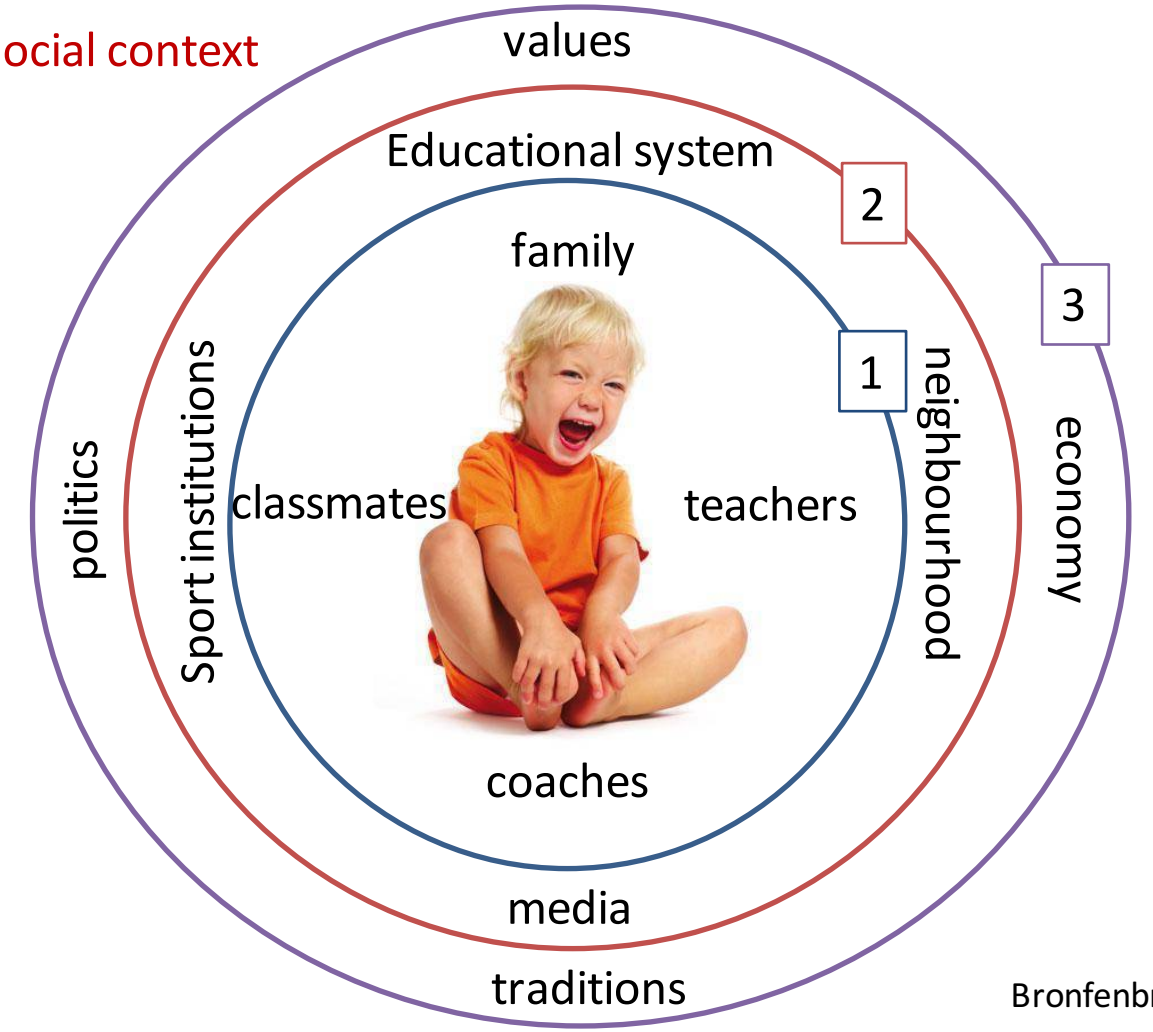
The environmental factors which influence the motor development are:

1. Social context

1 Micro-system

2 Exo-system

3 Macro-system



Bronfenbrenner (1997)

2.6. Environmental factors that influence motor development

The environmental factors which influence the motor development are:

2. Friends

3. Sex differences

4. School: P.E. Teachers should provide activities which foster the practice of a wide range of motivating motor activities.

5. Media: Internet, videogames, TV.

6. Materials: materials have an important effect on the physical and motor development as well as on the learning of complex motor skills related to sports and PE. All the materials should foster motor development and avoid sex connotations.

Granda & Alemany (2002)

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Learning and Psychomotor Development

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UNIT 3: MOTOR DEVELOPMENT IN THE NEONATAL PERIOD

Lecturer: Diego Jaén

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Learning Objectives

By the end of this Unit, students will be able to:

- **Identify** the motor general characteristics in the neonatal period.
- **Differentiate** the 6 substages.
- **Analyse** behaviour according to the different areas.

Index

3.1. General characteristics.

3.2. Behaviour analysis – Motor skills area.

3.2.1. Reflex motor skills.

3.2.2. Non-reflex motor skills.

3.2.2.1. Gross motor skills.

3.2.2.2. Fine motor skills.

1. Changes occurred in the baby are very fast in comparison with later stages.
2. Faster motor-sensory development than other areas.
3. Manifestation of characteristics which show that the baby is at the beginning of evolution, such as: lack of motor control, adult dependency, egocentrism, mood swing, and attentional disability.

Oña (1987)

Due to changes velocity, it is needed to split this stage into 6 substages:

1. Substage I (0-1 month): reflex stage. Characteristics:
    - Reflexes and inherited actions are key. Some of them will be kept such as sneeze, hiccup, and patellar reflex, others will disappear (moro reflex, palmar reflex).
    - Lack of game, imitation and intencionality. The baby responds to basic needs will produce pleasure (clean, calm, fed) and displeasure (hunger, pain, instability).
    - Vague relationship with the environment. The only interest is the mother, who gives protection and care.
    - The only emotion is pleasure-displeasure.

Due to changes velocity, it is needed to split this stage into 6 substages:

2. Substage II (1-4 months): primary circular reactions. Characteristics:
    - Some voluntary behaviours are shown, although reflex behaviours are still present.
    - Further development of actions showing some coordination (f.i. identifying where a sound comes from by looking at it and turning head towards –audiovisual scheme).
    - All the actions taking place in this substage refer to the own body.
    - Pre-imitation behaviours.
    - Game behaviour is present (repeat an action over again).

Due to changes velocity, it is needed to split this stage into 6 substages:

3. Substage III (4-8 months): secondary circular reactions. Characteristics:
    - They become aware of things beyond their own body –object-oriented. They interact with objects surrounded them and as a consequence of this experience, there is cognitive development.
    - Better motor control and willingness of actions carried out.
    - Interest for everything they have around –objects, people,.. F.e. shake a rattle, throw objects to the floor,…
    - Emotions development –joy as they see people they know and worry as they see people the do not know (weeping, screw up their face,...)
    - Imitation of body parts ("cinco lobitos") and search for hidden objets.

Due to changes velocity, it is needed to split this stage into 6 substages:

4. Substage IV (8-12 months): autonomous movements.

   Characteristics:

   - Crawling as a mean of movement. Not only motor achievement, but cognitive as well.

   - Behaviour imitation (such as face imitation).
   - Intentional behaviour mean-objective (what to do in order to get what I want).

Due to changes velocity, it is needed to split this stage into 6 substages:

5. Substage V (12-18 months): experimentation. Characteristics:
   - Ability to walk is achieved and control of the surrounding world is increased –further stimulation of cognitive development.
   - Use of new means to solve problems systematically (f.e. pull a blanket to get a toy over the blanket, use a stick to get sth)
   - Imitation and game are improved. Game is mainly motor.
   - Further development of presence of an object. Babies are able to search for the hidden object successfully. The ability to infer invisible movements is not acquired.

Due to changes velocity, it is needed to split this stage into 6 substages:

6. Substage VI (18-24 months): symbolism stage. Characteristics:
    - Symbolic function, what implies that there is mental representation.
    - As a consequence of this qualitative change, reflexion in the children in acquired and their actions are effective because of the ability to plan.
    - Remote imitation (a model is imitated without being present).
    - Language is acquired.

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In this stage, motor skills need to be divided into 2 big groups:

1. Reflex motor skills
2. Non-reflex motor skills
    a. Gross motor skills
    b. Fine motor skills

1. Reflex motor skills

A reflex is an automatic response to a stimulus that does not receive or need conscious thought. The purposes of the reflex are: (1) to point out the totality of the infant nervous system and (2) to help know the infant's maturity.

There are 3 survival essential sets of reflexes which develop as the baby grows up:

- Maintenance of proper oxygen supply: hiccup, sneeze, spit
- Maintenance of body temperature: cry, shiver, shrink
- Search for the nipple and suck

1. Reflex motor skills

There are other reflexes which work as indicators of proper brain working:

- Babinski reflex
- Stepping reflex
- Swimming reflex
- Palmar grasp reflex
- Moro/startle reflex

2. Non-reflex motor skills

Reflex motor skills → Non-reflex motor skills → Automatic movements

Psychomotor development during the first two years allows the baby to interact with the surround world. This development is due to the great physical changes carried out in the baby, which will allow to keep upright and to walk properly.

2. Non-reflex motor skills – **Gross motor skills**

Main objective → Acquisition of walk ability

2 months

4-6 months

8 months

10 months

12 months

2. Non-reflex motor skills – **Fine motor skills**

- 2 months: arms, hands and fingers movements.
- 3-6 months

- 4-8 months: babies can change the object from one hand to the other.
- 9 months: can take objects more accurately.

BIBLIOGRAPHY

1. Cano de la Cuerda, R., Martínez, R. M., & Miangolarra, J. C. (2017). *Control y aprendizaje motor: fundamentos, desarrollo y reeducación del movimiento humano.* Madrid: Médica Panamericana.
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Learning and Psychomotor Development

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UNIT 4: MOTOR DEVELOPMENT IN THE CHILD PERIOD

Lecturer: Diego Jaén

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Learning Objectives

By the end of this Unit, students will be able to:

- **Identify** the motor general characteristics in the child period.
- **Analyse** behaviour according to the cognitive, social, emotional, and motor skills area.

Index

4.1. General characteristics.

4.2. Behaviour analysis in relation to

4.2.1. Cognitive area.

4.2.2. Social area.

4.2.3. Emotional area.

4.2.4. Motor skills area.

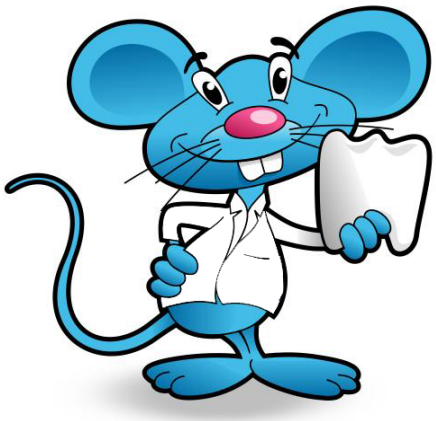
From 2-6 years old.

1. Game is the main role (imagination, motor skills, social skills,…).
2. First time at school.
3. Brain and Central Nervous System maturation.
4. Pre-functional thinking. Characteristics:
    a. Irreversible thinking
    b. Centralisation
    c. Juxtaposition
    d. Syncretism
    e. Egocentrism

Memory and attention are unstable

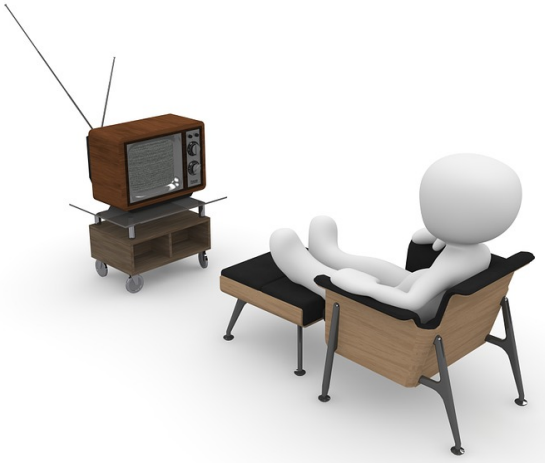
4.2.1. Cognitive area

- Pre-functional intelligence – children are *pre-logical.*
- 3 characteristics of the world:
  1. *Realism*. Fantasy (psycho-world) + reality (physical world) = real world
  2. *Animism*. Everything is alive
  3. *Artificialism*. Everything has been created.



4.2. Behaviour analysis – Social area

In this stage, children spread their social world.



In this stage, children spread their social world.

- Children do not constitute a group or a team.
- They play together but they do not respect rules – they all want to win.
- They respect rules imposed by an adult.

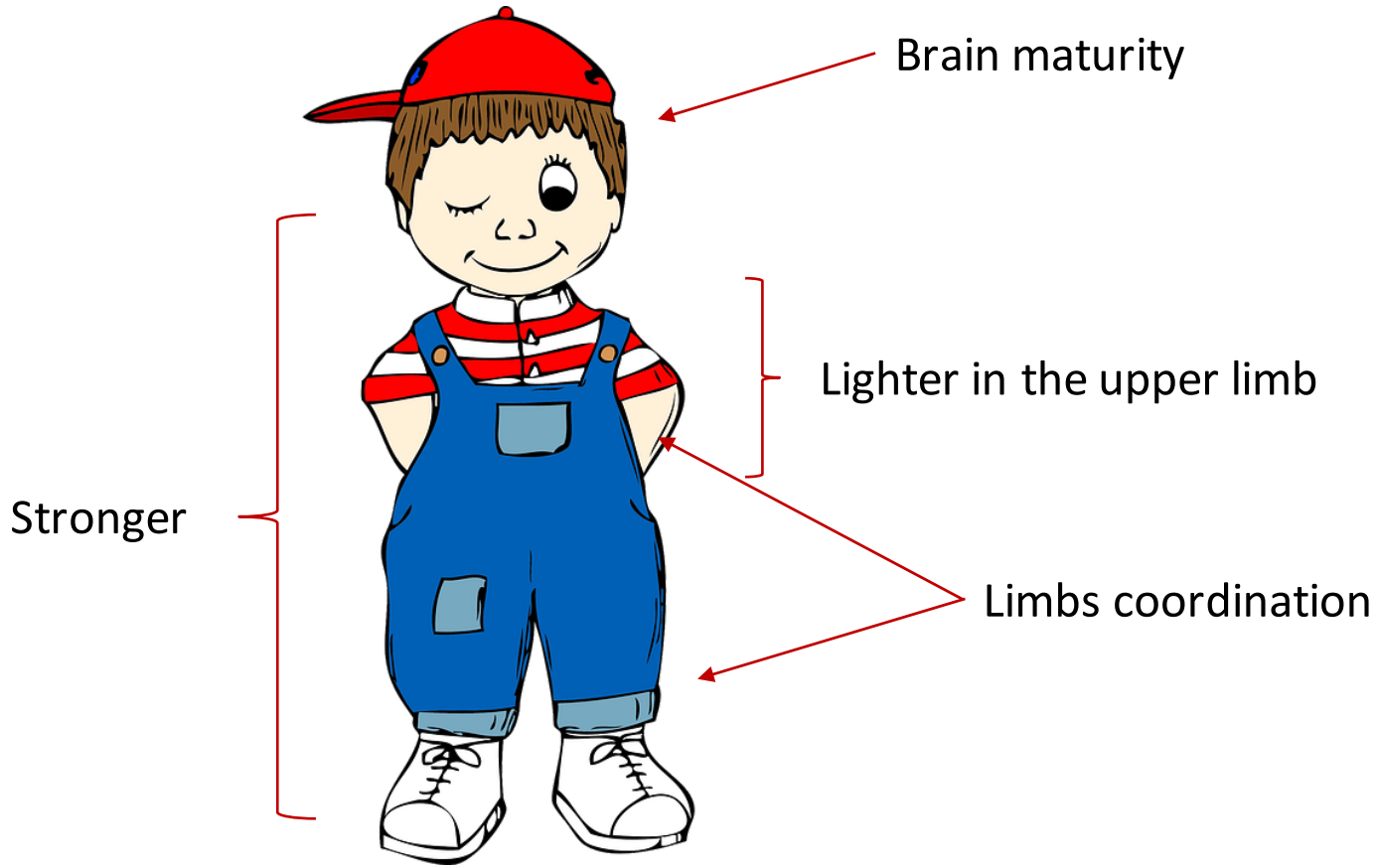
In this stage, children begin to differentiate emotions:

- They get angry/anxious/happy/…
- They begin to deal with their emotions such as sadness or angry.



The body of the children in this stage suffers the following changes:

Well-balanced body



Gross motor skills

Basic motor skills

1. Body displacement
    a. Walk, run and jump
2. Objects grasp skills
    a. Receive, throw and kick a ball

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Gross motor skills

Basic motor skills

1. Body displacement

   a. **Walk**

Acquisition	Age
Toe-heel walk	2 years old
Sideward walk	2,5 y.o.
Walk automatism	3 y.o.
Arms swing Feet coordination	4 y.o.
Walk mature	5 y.o.

Gross motor skills

Basic motor skills

1. Body displacement

   a. Run

   Differences in respect with walking

   - Speed and fly phase
   - Base and time of support decrease
   - Step length and arms swing increase

Gross motor skills

Basic motor skills

1. Body displacement

a. Jump

This skill needs complex modifications of the walk and run mechanisms.

- **Strength**, **balance** and **coordination** are key factors.
- Jump evolution is as it follows:
  - Joints extension and stiffness phases during the push phase.
  - Maximal extension during taking off.
  - Landing = from stiffness to softening

Gross motor skills

Basic motor skills

2. Objects grasp skills

a. Throw

It is a basic motor skill with a huge social-cultural importance.

- Children have a poor pattern until the age of 3. From the age of 4 a few children show a good throwing pattern and at the age of 6 most of them can do it properly.

Gross motor skills

Basic motor skills

2. Objects grasp skills

a. Throw

From an evolutionary point of view this skill implies different body segments:

Body segments	Age
Arm	2-3 years old
Arm + body rotation	3,5 y.o.
1) Homolateral throw 2) Contralateral throw	5-6 y.o.
Full arm movement Body implication	6,5 y.o.

Ruíz (1987)

Gross motor skills

Basic motor skills

2. Objects grasp skills

a. Receive

It follows the next stages:

- Until the age of 3,5 – waiting position
- At the age of 4,5 – waiting position but hands are open
- At the age of 5 children are able to receive the ball by taking into account speed and trajectory.

Size and material of the objects must be taken into account

Gross motor skills

Basic motor skills

2. Objects grasp skills

a. Kick (a ball)

It follows the next stages:

Body segments	Age
Extended leg and hip movement	2 - 3,5 years old
Arms + leg gradually Knee flexion Short swing	4 - 6 y.o.

The action of kicking is considered mature when children take a step and flex the support leg before kicking (the ball) and swing back the kicking leg by using the upper limbs to keep the balance.

Fine motor skills

to cut out, to draw, to stick/glue, to button/zip,…

- From an evolutionary point of view, fine motor skills improve gradually between the age of 4 and 6 for easy actions and between the age of 6 and 12 for more complex actions such as drawing, modelling or cutting out.
- Isolated finger movements improve between the age of 5-8 years and handling between the age of 4-8 years.

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Learning and Psychomotor Development

Grado en Primaria / Primary Education Degree

UNIT 5: MOTOR DEVELOPMENT IN THE SCHOOL PERIOD

Lecturer: Diego Jaén

@djaenc

Learning Objectives

By the end of this Unit, students will be able to:

- **Identify** the motor general characteristics in the school period.
- **Analyse** behaviour according to the cognitive, social, emotional, and motor skills area.

Index

5.1. General characteristics.

5.2. Behaviour analysis in relation to

5.2.1. Cognitive area.

5.2.2. Social area.

5.2.3. Emotional area.

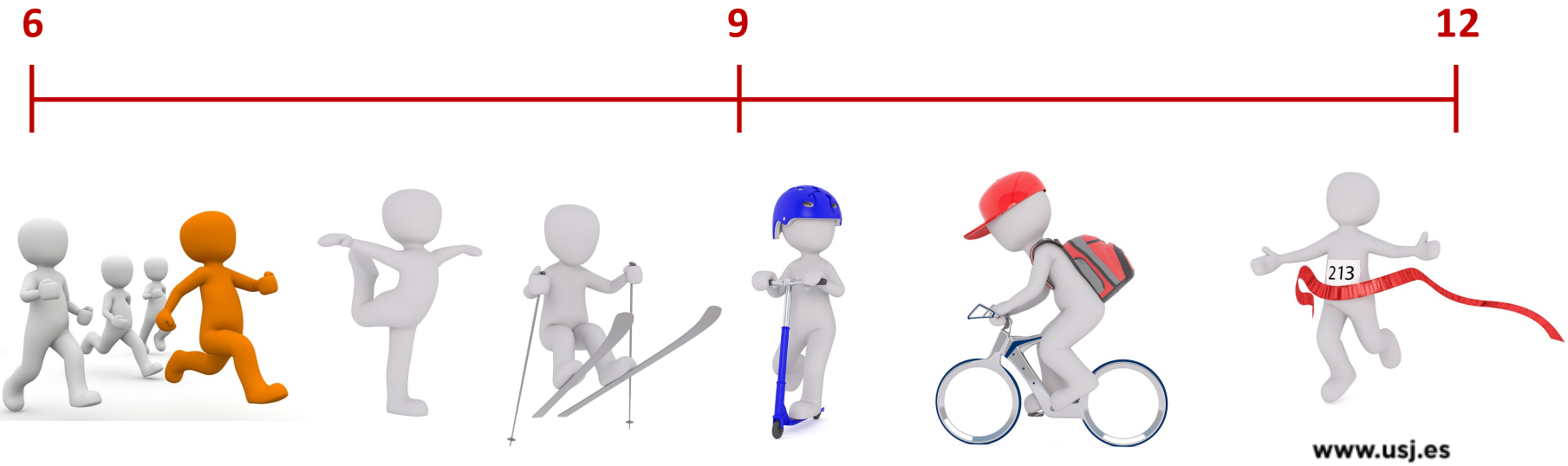
5.2.4. Motor skills area.

5.1. School period - General characteristics

1. Improvement of all the areas
2. Stability and further behaviour control

From 6-12 years old.

1. Beginning of school stage.
    a. Relation with classmates increases.
    b. Independence from family also increases gradually.
    c. Interest for their own group arises.
    d. More contact with adults by taking in values and rules.



5.2.1. Cognitive area

This period is known as the concrete (real) operations period.

There are important changes in the mind of the child:

1. They are able to deal with logic and they do not believe in appearance.
2. Use of logical operations.
3. Children distinguish between 'good thought' and 'bad thought' –an important cognitive achievement (Flavell, 1993).
4. Assessment is another cognitive quality of this period. Children want to compare with others in order to know their own position within the group (Oña, 1987).

5.2. Behaviour analysis – Cognitive area

Child period	School period
Pre-operational period	**Concrete operations period**
Centralisation	Decentralisation
Appearance (realism)	Reality
Irreversibility	Reversibility
State	transformation

In this stage,

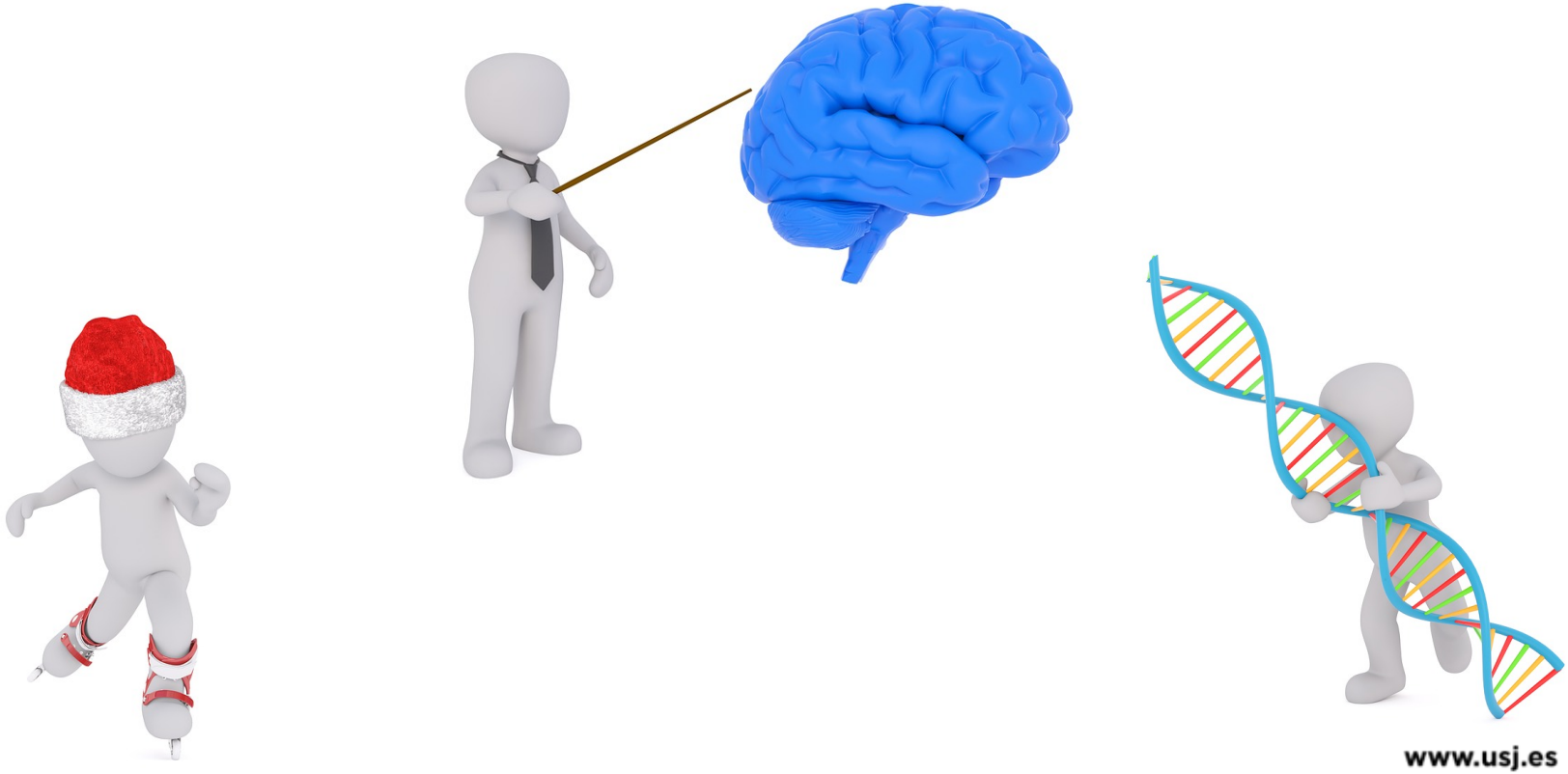
- Children know that they have to adapt their behaviour to the group in order to work in groups, to play games and to do sport.
- Agreement with parents decreases while agreement with classmates increases –this interaction provides opportunities for the social development.
- Children develop their own subculture with language, values and codes.
- Abilities to solve problems show the children's ability to think of different solutions to social problems.
- Careful selection of friends as children grow up.

Motivation is key in this stage

- Social motivation –communication and interaction with their classmates.
- Achievement motivation –children want to compete in order to know their place within the group. *Who is the fastest? And the strongest? And the …?*
- Knowledge motivation –curiosity, exploration, assessment.

Oña (1987)

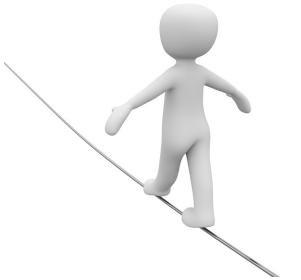
In this stage, children grow up slowly in order to develop further their motor skills. They are able to carry out any motor activity as long as they are not too demanding in terms of power, strength, speed and distance.



General characteristics in the school period

1. Better stability and body control.
2. Motor skills are adapted to the context.
3. Analytical motor skills – children are able to split a particular skill into parts.
4. Group physical activities.
    a. Ability to understand and follow rules.
    b. Need to compare to their peers.
5. Improvement of all the motor skills due to maturity and growth.

In this stage, children get to master the basic motor skills and their variants



Basic motor skills

1. Body displacement
   a. **Run**
   - Body leans forward
   - Head upright and looking forward
   - Arms swing freely along the sagittal axis
   - Arms movement is opposed to the legs
   - Elbows flexed
   - Support leg extended
   - Knee moves upwards
   - Absolute control of the movements –stops, cutting while running,…

Basic motor skills

1. Body displacement

   a. Jump

   - Full development at the age of 7
   - 2 types of jump: vertical jump and broad jump

Gross motor skills

Basic motor skills

2. Objects grasp skills

a. Kick

The action of kicking is considered mature when children take a step and flex the support leg before kicking (the ball) and swing back the kicking leg by using the upper limbs to keep the balance.

Gross motor skills

Basic motor skills

2. Objects grasp skills

a. Throw

Children can throw properly at the age of 6.

- It follows the following pattern:
  a. Hand backward over the shoulder
  b. Trunk rotates towards the side of the throw
  c. Leg of throwing hand moves backward

Gross motor skills

Basic motor skills

2. Objects grasp skills

a. Receive

It follows the next stages:

- No waiting position
- Children are able to infer the trajectory of the object
- They adapt their movement to the objet
- Arms move according to the object

Ability to measure distance
Eye-hand coordination
Proper reaction time

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Learning and Psychomotor Development

Grado en Primaria / Primary Education Degree

UNIT 5: MOTOR DEVELOPMENT IN THE SCHOOL PERIOD

5.3. MOTION GAMES IN PSYCHOMOTOR DEVELOPMENT

Lecturer: Diego Jaén

@djaenc

Learning Objectives

By the end of this Unit (5.3), students will be able to:

- **Identify** the importance of motion games in the psychomotor development of schoolers.
- **Apply** the knowledge acquired to a psychomotor proposal.

Index

5.3. Motion games in the psychomotor development.

5.3. Motion games in psychomotor development

- ✓ Psychomotricity is not restricted to motor activity, but it also involves the presence of the manifestations of perceptive and intellectual functions.
- ✓ Psychomotor habits evolve according to their innate skills, degree of physical and intellectual development and to the educational environments in which they have been educated during childhood.
- ✓ The education of psychomotricity in primary school is extremely important because of the age of the pupils. It is a propitious time in the life of an individual, the optimal stage to posit the matter of psychomotor education at the highest parameters.

5.3. Motion games in psychomotor development

- ✓ Psychomotricity, as a primary objectvie of the PE lesson, may be developed through several means. The means with the highest applicability in psychomotor development is the motion game because
  1. it creates positive emotional states;
  2. it contributes to the harmonious development of the body and to maintain an optimal state of health;
  3. it contributes to the development of the motor qualities, to the formation of basic motor skills, applicative skills and skills specific to some sport branches;
  4. it stimulates the cooperation with the game partners, it harmonises the personal interests, motives, actions and efforts with the ones of the group;

Iconomescu et al. (2017)

5.3. Motion games in psychomotor development

- ✓ Psychomotricity, as a primary objectvie of the PE lesson, may be developed through several means. The means with the highest applicability in psychomotor development is the motion game because
  5. it facilitates the integration into the collective and responsibility;
  6. it contributes to the education of moral and will qualities;
  7. it contributes to the education of attentiveness, perception and motor reaction;
  8. it helps in the development of thinking, initiative, creativity, the decisional and anticipation ability.

Iconomescu et al. (2017)

5.3. Motion games in psychomotor development

- ✓ The game has many roles in development, and daily activity should be carried out accordingly.
- ✓ In order to attain maximum effectiveness, it is necessary that games be
  1. judiciously selected,
  2. organised, and
  3. carried out and led.
- ✓ Teachers should know their students, age, gender particularities, general physical preparation level and working material (facilities, materials, etc.).

All these determine the quality, contents and the level of the PE activities

Iconomescu et al. (2017)

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