

ANALYSE THE ROLE OF GENETIC AND ENVIRONMENTAL FACTORS, CULTURAL INFLUENCES, LIFE-STYLES, EXPECTATIONS AND GENDER ISSUES AND EXPLAIN HOW THEY MIGHT AFFECT LEARNING AND DEVELOPMENT. IDENTIFY WHAT IMPACT SPECIAL EDUCATIONAL NEEDS MAY HAVE ON LEARNING AND DEVELOPMENT.

Over the centuries many theorists, biologists, psychologists and socialists have theorized, experimented and offered explanations and approaches of their own interpretation of learning and development, based on many years of research. In addition, the argument of Nature vs. Nurture is of paramount importance to their research, findings and beliefs.

Before starting to analyse what factors affect learning and development, I need to establish and define what learning and development actually mean. Questions I have to ask myself when researching this topic are as follows:

- What is learning and development?
- Are they interlinked?
- Do they have the same/separate meaning?

The answer in my own broad based opinion based on what I have read, is that the term, “**Learning**” is a cognitive process of acquiring new concepts and skills, in order to complete a task which in-turn increase’s knowledge and understanding of the subject area to be learnt. In addition, individuals will be able to build on past experiences to identify how a situation could be improved, and then with this knowledge make actual improvements.

Furthermore, learning is influenced from the environment in which we find ourselves, which reflects greatly in our behaviour. Moreover, it is continuum throughout the human life-span.

In comparison the term, “**Development**” refers to the biological process by which a human organism grows and functions through its life-span. Development can be monitored by physical growth, and a marked change in performance which is usually associated with progression of increasing knowledge and skills. Development

happens gradually over a period of time, allowing achievements to be built upon and improved, which is similar to the learning process. Development seems to be sequential with age, and I believe what happens in the early stages of development can have a significant affect in the later stages of development.

Furthermore, development can be influenced by our own personal experiences within the environment.

It is important to understand that there is a clear difference between learning and development. Learning occurs within specific situations and development is linked to functionality and physical growth, however, they are closely related, but have separate meanings.

Educational pioneer, Friedrich Froebel (1782-1852) urged early year's educators to respect the sanctity of children learning and developing new skills through this statement:

“We grant space and time to young plants and animals because we know that, in accordance with the laws that live in them, they will develop properly and grow well. Young animals and plants are given rest and arbitrary interference with their growth is avoided, because it is known that the opposite practice would disturb their pure unfolding and sound development; but the young human being is looked upon as a piece of wax or a lump of clay which man can mould into what he pleases,” (www. Geocities.com).

The origins of learning theory are in an area of philosophy called “Epistemology,” a field concerned with how we acquire knowledge.

Two philosophical traditions emerged from the writings of the ancient Greek philosophers, Plato and Aristotle. These traditions are **nativism**, (Plato) and **empiricism**, (Aristotle).

In the early seventeenth century before the beginnings of modern Psychology, there was a philosophical debate between the empiricists and the nativists, known more commonly today as the nature-nurture debate.

The nature-nurture debate is another example of determinism. The debate is concerned with what causes something to develop. On one side, nativists see development as arising from innate factors - from inherited characteristics. On the other side, empiricists see development occurring because of experience and learning.

British philosopher John Locke, (1632-1704) the founder of empiricism, advanced the hypothesis that children learn primarily from external forces, he implied:

“Without nurture, we are nothing” (Haralambos & Rice 2002, p.761).

Empiricists believed that the human infant is born with no skills or knowledge; they refer to the infant as a, “Tabula rasa,” or “Blank slate.” The rationale behind this idea is that the knowledge and skills will be, “Written on” the child by the knowledgeable hand of experience, and influenced by environmental factors. Furthermore, the infant will learn through instruction from others, in addition to their own direct experiences, which in-turn will determine their achievements.

Nativists (such as Jean- Jacques Rousseau 1712- 1778) in contrast, argue that we are born with innate intelligence, in addition to genetic inheritance which determines intellectual achievement and, to some extent, personality. William McDougal, (Nativist-1908) states:

“The human mind has certain innate or inherited tendencies which are the essential springs or motive powers of all thought and action, whether individual or collective, and are the bases from which the character and will of individuals and of nations are gradually developed,” (Haralambos & Rice 2002, p.761).

A modern form of the, (Nurture debate) relating to learning theory was proposed by B. F Skinner (1904-1990) in the form of behaviourism. The Behaviourists believed that human behaviour is learned. Behaviourism is primarily concerned with observable and measurable aspects of human behaviour, in relation to what we can see, how people react, in addition to how people behave. Behaviour theorists define learning as nothing more than an acquisition of new behaviour.

Skinner's theory is based on the idea that learning occurs through a process of reinforcement. He believes changes in behaviour are the result of an individual's response to events, (stimuli) that occur in the environment.

A response produces a consequence, for e.g. when children utter sounds and words which are to become their native language, and are greeted with a positive response. This positive response is the reinforcement which encourages the child to repeat the sound of the word, which in turn reinforces learning.

Furthermore, behaviourists support the, **Transmission Model** of learning (Nurture) as the model uses the hand of experience, the knowledgeable adult to nurture the child through the learning process, enabling them to control what learning takes place.

The Social Learning theory developed from behaviorism. Albert Bandura emphasizes the importance of observing and modeling the behaviors, attitudes, and emotional reactions of others. Bandura, (1977) states:

"Learning would be exceedingly laborious, not to mention hazardous, if people had to rely solely on the effects of their own actions to inform them what to do."
(www.bandura.com.edu/ctds)

Bandura was well known for his experiment in 1965, for his experiments using bobo dolls, to see if children would imitate what they had seen. Evidence from this experiment suggested that children were positively influenced by the rewarding of negative behaviour.

The opposition, (Nativists) for e.g. Jean Jacques Rousseau, believed learning occurred through nature, he supports the Leave it to Nature/ **Laissez-Faire** model of learning. He thought children were born with a biological program to learn naturally, and they would learn particular things at particular times.

This model of learning suggests that children learn and develop, through choice and exploration if they are cared for in a supporting environment, but no adult intervention was allowed, within the learning process.

The third main model of learning is the view of the **Social Constructivists**, (Nature & Nurture) Piaget, Bruner and Vygotsky all believe learning occurs through interaction between the developing child and the environment, in addition to practical experience. This model of learning draws on the ideas of the Transmission and Laissez-Faire models of learning, bringing them together and using helpful elements from both models to construct and promote, positive learning.

Swiss biologist and psychologist Jean Piaget, (1896-1980) is renowned for constructing a highly influential model of child development and learning. Piaget's theory is based on the idea that the developing child builds cognitive structures, in other words, mental maps, or schemas, which are concepts for understanding and responding to physical experiences, within their environment.

In addition Piaget suggests that a Child's cognitive structure increases in sophistication with development, moving from a few innate reflexes such as crying and sucking to highly complex mental activities. Piaget proposed four stages of cognitive development. (Appendix 1 refers)

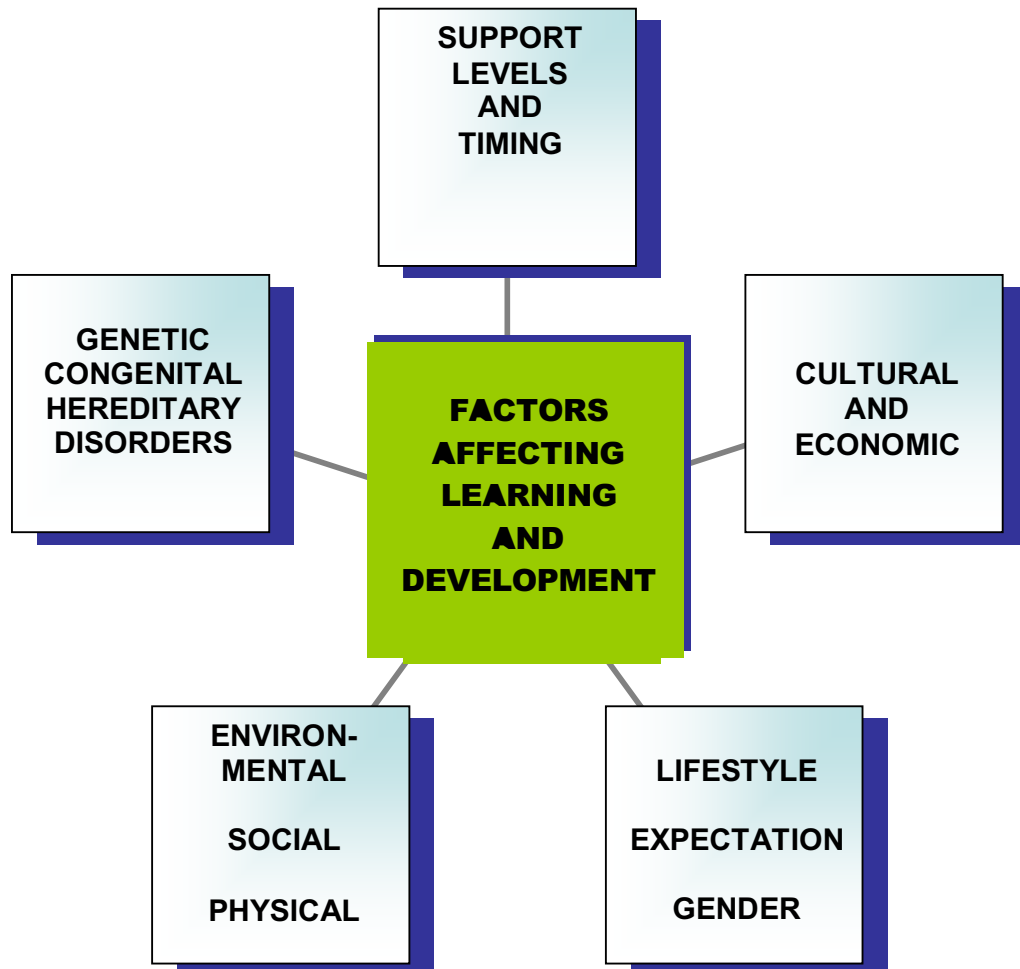
Many theorists have produced ages with stages of development in relation to their theories, and ideas on learning and development. However, it has to be emphasised when we are dealing with children on a day to day basis we need to be able to refer to the normative stages of development, which have been researched throughout the world and show what most children can do, at a certain age.

These stages are invaluable when dealing with factors which might affect learning and development, because academic attainment is the starting point for looking for children who may have special educational needs. Referring to the normative stages of development and “Benchmarking” will help professionals monitor a child, if they feel they are not progressing and learning at the same rate as their peers.

However, the developmental norms can help us decide whether a child is delayed or impaired, but it must be noted that the, “Norms” do not accurately reflect all racial cultural differences, they may even cause concern to parents if their child is not attaining to the level that the, “Norms” say they should. At this stage it should be explained to parents that, they are only a guide and children develop at their own pace.

It is fair to say that there are many conditions that can lead to learning and developmental difficulties in children, which in some children the causes can never be established. Moreover, research has identified over the years a variety of factors which are attributed to influencing learning and development, these include the following:

FACTORS AFFECTING LEARNING AND DEVELOPMENT



Having identified the factors which may affect learning and development, I will now discuss them in-turn.

Genetic Factors:

Hereditary and congenital disorders are inherited by a gene defect, the human body is made up of thousands of genes and our genetic inheritance is determined by the combination of genes present in the chromosomes of our biological parents.

Genetically-inherited disorders can be due to dominant, recessive or x-linked transference, which in-turn can cause many diseases and disability. Often, diseases that run in families are caused by inherited genes, which can affect all aspects of our growth and development. Research has shown that predispositions to certain diseases, for e.g. coronary heart disease, breast cancer and diabetes, are linked to inherited genes.

Cystic fibrosis is transmitted through a recessive gene defect. This disorder affects the lungs and the pancreas. Airways become blocked with mucus, making breathing difficult. In addition the pancreas does not function adequately, causing problems with the digestive system. At present there is no cure for this condition. Children suffering from this condition spend long periods absent from school, which leads to gaps in learning and extra support in school is needed, as the child is termed as having, "Special Educational Needs."

I will discuss special educational needs in more detail further on, but for now please be aware, an official definition of the term "Special Educational Needs" is as follows;

"Children have special educational needs if they have a learning difficulty which calls for special educational provision to be made for them," (Section 312, Education Act 1996. Alcott, 2002 p.ix)

Sickle-cell anaemia is an inherited blood disorder caused by changes in haemoglobin – the substance within red blood cells that carries oxygen around the body. Each year, about 3,500 babies in the UK are born carrying the abnormal sickle haemoglobin gene, which causes the disorder. Two hundred of these will develop the disorder. Children suffer various symptoms

including; painful swelling of hands and feet, fatigue, eye problems and delayed growth, all of which may hinder their development at some stage due to this condition.

Environmental and physical factors:

The environment plays a crucial part in the developing child, from as early as conception. In addition has an effect on the rate at which we grow and develop throughout our life-span.

Pregnancy and smoking Tobacco has significant adverse-effects for pregnant women in addition to the unborn child. Smoke in the mother's bloodstream alters the heart rate, blood pressure, oxygen supply, and acid balance of the unborn child. An expectant mother who smokes blocks the equivalent of 25% of oxygen supply to the foetus. Smoking during pregnancy accounts for an estimated 20 - 30% of low birth weight babies, up to 14% of premature deliveries, and 10% of all infant deaths.

Children born to mothers, who smoke during pregnancy, may have measurable deficiencies in physical growth, learning disabilities, birth defects and chronic breathing difficulties

Inadequate diet and poor living conditions (poverty) result in poor health, which in-turn can have serious effects on a child's physical development, because as their muscles develop they require a large amount of energy to grow. Without the proper amount of nutrients, a child's muscles may be weak and slow to develop. If grasping, crawling, standing and walking are delayed, then other skills like writing and reading may be delayed, too. It is of paramount importance that young children receive proper nutrition so that they have enough nutrients to meet the demand of their fast growing bodies.

When rubella occurs in a pregnant woman, it may cause serious malformations of her developing foetus. Children infected with rubella before birth (a condition known as congenital rubella) are at risk from the following: retardation, heart defects, blindness, deafness; and liver, spleen, and bone marrow problems, which will all impede learning and development.

Expectations and cultural factors:

The culture in to which a child is born can greatly influence their development. Values, beliefs, and language will differ from culture to culture, in addition to the clothes that we wear in our society. As we live in a multi-cultural society today it is important to recognise equality regardless of culture and value diversity. A child's culture is important to them individually and if their cultural requirements are not met within their learning environment, their development may suffer as a consequence.

Parents' expectations of a child may hinder their development if they feel pressured into something they do not want to do, they could become depressed and rebel against their parents for pushing too hard. Others may not get this opportunity as their parents may not have done well at school, and do not push the child on to develop to their full potential.

Lifestyle:

The home environment and lifestyle of a child can be influenced from as early as conception. In pregnancy if a mother chooses to drink alcohol they run the risk of alcohol crossing the placenta, which can lead to foetal alcohol syndrome. This condition affects foetal growth and causes delayed development, learning difficulties and congenital abnormalities. In addition there is a risk of miscarriage.

Furthermore, increasing hours of work pressured upon parents from their place of work can lead to bad eating habits, for example, fast food takeaways giving children snacks, fizzy drinks, sweets and crisps, which in-turn could lead to obesity and all the health problems that are associated with obesity, such as diabetes and osteo-arthritis. Moreover they could be the subject of bullying at school. The child may become socially excluded because of their size; they may feel depressed and withdrawn hindering their learning potential.

Gender influences:

Children are aware of their gender identity. Research indicates:

“By the age of 2½ years, children think girls prefer to play with dolls and engage in domestic activities with mum, while boys prefer to play with cars or construction toys and helping dad.” (www.geocities/gender.edu.)

Gender stereotyping is damaging to children’s social development and their personality as it damages their self-image, in addition to the identity of girls because it can affect their confidence and lower their self-esteem.

Boys too can be limited by gender stereotypes by being forced to behave tough or less caring, in order to conform and by accepted by others. This can be overcome by early year’s practitioners providing role-play opportunities including dressing-up clothes, which allow children to explore different roles. Furthermore, books and games should be avoided, which demonstrate gender stereotyping.

Special Educational Needs:

The range of special educational needs, (SEN) is vast and the starting point for looking if a child may have a learning difficulty can be seen through their level of academic attainment.

Learning difficulties can be described as moderate, severe or profound and multiple. They can range from a mild hearing impairment, to a severe impairment, for example, **Cerebral palsy**.

This condition affects the part of the brain that controls movement. This may cause disability of all four limbs. Children with this condition may have motor problems, visual and hearing impairments, in addition to speech and perceptual difficulties.

Dyspraxia is referred to as, “Clumsy child Syndrome” in this condition the child has difficulty with physical movement, language development may be delayed. In addition learning difficulties can occur where fine or gross motor skills are needed.

Dyslexia is a condition where the child has difficulty with words and learning to read, spell and write. This could cause the child to have low self-esteem and become frustrated, or even disruptive.

These examples are just a few of the conditions that may have an impact on a child's ability to learn and develop to their full potential. It is just as important recognising the child has SEN, as to meeting their needs to help them achieve. Communication is of paramount importance, in addition to remembering to put the needs of the child first and then the disability.

In conclusion it can be shown that a child's learning and development can be affected by many factors, throughout the human life-span. This is why it is imperative that these factors are highlighted to early year's professionals, so they can recognise and act upon them in the child's best interests, to promote their well being and education.

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Appendices:

Appendix 1 refers – Piaget's stages of development.