CATHOLIC UNIVERSITY OF RWANDA

Faculty of Social Work

CHILD EDUCATION AND TEACHING METHODS

Course notes

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Learning Outcomes

The general aim of the module course is to gain solid knowledge base in theories of child development and learning; knowledge and understanding of the importance and complex characteristics of children's families and community; Apply understanding of children's development and learning to create healthy, respectful, supportive, and challenging environments; Involve families and communities in their children's development and learning, using a wide range of approaches, including the use of technology,…

At the end Students should be able to establish the following:

Knowledge and understanding

- ✓ Establish the early childhood development
- ✓ explain the role of the early childhood educator/facilitator
- ✓ understand culture and diversity and its impacts on young children
- ✓ identify strategies for developing partnerships
- ✓ define quality in early childhood education environments

Skills/Competences

- ✓ discuss critical skills for educators
- ✓ list local professional contacts and resources
- ✓ compare a variety of philosophical approaches to teaching young children
- ✓ describe issues in early childhood education, parenting and family support, mental health , poverty and other risk factors
- ✓ use the library catalogue, renew materials…internet to locate information and evaluate information from internet sources
- ✓ access online learning resources

Attitudes

- ✓ Incorporate the parent and educator behaviors
- ✓ Establish the teacher-to-children role model behaviors
- ✓ Avoid plagiarism in academic writing

Chapter1. Early childhood

1.0. Definition

Early childhood is a stage in human development. It generally includes toddlerhood and sometime afterwards. **Play age** is an unspecific designation approximately within the scope of early childhood. Some age-related development periods and examples of defined intervals are: newborn (ages 0–5 weeks); infant (ages 5 weeks – 1 year); toddler (ages 1–3 years); preschooler (ages 3–5 years); school-aged child (ages 5–12 years); adolescent (ages 13–19). (Kail, 2011)

1.1. Psychology

In psychology the term, *early childhood* is usually defined as the time period from the age of two until the age of six or seven years. There are three simultaneous development stages (Doherty & Hughes, 2009):

1.1.1. Physical growth and development

In this phase there is significant synaptic growth and myelination of neural fibers in the brain, especially within the frontal lobes. For example, between the ages 2 and 6, the brain increases from 70% of its adult weight to 90% (Berk, 2008). The growth of the brain is followed by a surge in cognitive abilities. Around the age of five, children start speaking properly and master their hand to eye coordination.

It is optimal that an environment is provided that encourages physical development and allows the children to explore and try out new things. The physical development in children follows a pattern. The large muscles develop before the small muscles, the large muscles are used for walking and running and other physical activities, these are known as gross motor skills. Small muscles are used for fine motor skills such as picking up objects, writing, drawing, throwing and catching.

Physical development in early childhood encompasses both physical growth and motor skill development. Both parents and pediatricians keep a close eye on physical development to ensure that children are meeting certain physical developmental milestones as they progress through the first five years of life.

Increases in Motor Skills

Physical development during the toddler years includes some major advances in gross motor skills and fine motor skills.

Walking, obviously, is one of the most significant physical milestones, which most children achieve sometime between the ages of 12 and 15 months. Soon, toddlers begin to show a host of more advanced abilities including walking backwards, tossing a ball, jumping in place, and riding a tricycle. Toddlers also become more adepts at activities that require fine motor movements such as scribbling, stacking blocks, using a spoon, and drinking from a cup.

The need for independence also grows during the toddler years, so kids this age become increasingly determined to do things on their own. The problem, obviously, is that while they might have the desire to do things independently, they very often do not have the skills to do so. Because kids often lack the ability or knowledge to do the things they'd like to do, they often become very frustrated when they find themselves unable to accomplish tasks such as buttoning up a shirt.

Temper tantrums are quite common at this age, and parents of toddlers usually become quite accustomed to hearing "No" used numerous times each day. Parents should help foster independence and motor skills by giving children tasks that they are capable of accomplishing either independently or with adult assistance.

Self-Feeding

Toddlers also become much more skilled at feeding themselves, and many kids may insist on eating meals without assistance from an adult. Self-feeding is important for many reasons. Not only does it help a child practice using their hands and fingers, it also helps foster independence. The self-feeling process usually begins with the introduction of finger foods, or small bites of food that she can pick up on her own. It can be messy, but once a child begins to pick up and feed herself small bites of food, it might be time to start introducing utensils to the process.

It is important to remember that each child is different and that kids reach developmental milestones at different times. While one child might be ready to start learning to eat with a spoon around age one, another child might need a few more months to be ready to take this step. If a

child has reached a point where she refuses to let adults feed her and tries to grab the spoon out of the adult's hand, she is probably ready to start practicing using utensils on her own. While mealtimes may take longer and will certainly be much messier, this is an important step in development.

Physical Changes During the Preschool Years

Some of the major physical advances that occur during the preschool years include:

- Kids continue to gain weight an height, but much more slowly than they did during the first two years of life.
- The end of the preschool period marks the loss of baby teeth and the emergence of permanent teeth in most children.
- Brain development is also in high gear. By the time a child reaches the age of three, the brain will have have already reached approximately 75 percent of the weight it will be in adulthood.

Physical Advances and Increased Motor Skills

As kids hit the preschool years, their physical skills become more and more advanced. During the ages of three and four, kids often learn how to perform physical actions such as catching a ball, riding a tricycle, standing on one foot, and jumping up and down.

In addition to these advancements in gross-motor skills, they also become far more adept at activities that require fine-motor skills such as putting together a puzzle, playing with small objects, drawing, and painting.

What is the difference between gross and fine motor skills and how are they a sign of physical development?

- **Gross-motor skills** involve large body movements such as running, kicking, jumping, climbing, and throwing. Fine-motor skills involve small body movements that require precision such as writing, drawing and using utensils.

- **Fine-motor skills** are much more difficult to master than gross-motor skills, but both types of motor skills improve significantly during the preschool years.

How to Encourage the Development of Motor Skills

Caregivers can help foster motor skills by selecting toys and activities that are suited to a child's skill level. A few ideas for encouraging such skills include:

- Giving kids the chance to engage in physical activity helps promote the development of such abilities. Kids should be allowed to try new things as long as they are performed in a safe and supervised environment.

- Mealtimes can also be an excellent opportunity for kids develop motor skills. While allowing kids to feed themselves is bound to result in spills and messes, it is also a great way for kids to build their manual dexterity and hand-eye coordination. Gaining independence and a sense initiative is also important during this age, and self-feeding can help foster these qualities.

- Drawing and other creative arts projects also encourage the development of fine motor skills. Not only are kids learning and practicing the use of tools, they must also think about what they are going to draw or paint. Mastering these skills helps kids advance physically and ensures that they are better prepared for school.

By the time they reach age four, children have become quite capable of performing a wide range of physical actions. Skipping, ball games, and playing tag are fun and exciting for preschool aged children. Plus, they have the added bonus of helping kids to practice important developmental skills.

It is essential for parents and other adults to give kids ample time and space to engage in physical play. While it's easy to dismiss it as "just kids playing," it's important to remember that such fun and games are actually helping children learn and develop.

The events that happen in the preschool period can also help determine how well-prepared a child is for school.

Kids who have the freedom to explore, gain independence and confidence, and practice skills are more likely to be ready for their first year of school. Children need to be encouraged to play in order to learn how to perform different actions on their own.

The Importance of Nutrition in Physical Development

While physical development generally proceeds in a very predictable manner, there are things that can have a major influence on how and when kids achieve these physical milestones. Nutrition is one important factor that can impact a child's physical growth.

As kids enter the preschool years, their diets become much more similar to that of adults. Eating a variety of foods is also important to ensure that kids get the nutrients that they need for healthy physical development. Rather than allowing children to fill up on juice and milk, experts recommend limiting the intake of such drinks. If a child is filling up on juice and milk, then he is probably missing out on eating other foods. By providing children with a variety of food options, parents can help encourage kids to form healthy habits and make good food choices throughout life.

At this age, kids can also start to become quite picky about what they like to eat. While caregivers often worry that kids are not eating enough, this can be offset by giving kids nutritious snacks and smaller meals throughout the day is one way to ensure that they are receiving the nutrition that they need to grow and thrive.

Adults should avoid giving kids too many processed foods and snacks including soda and candy. Not only do these foods lack nutrients and contain excessive amounts of sugar, they also contribute to tooth decay. While kids may seem to eat less and not necessarily follow a perfectly balanced diet every day, experts suggest that there is little to worry about unless a child seems to not be growing or developing properly.

Refusing to eat specific foods at meals can be very frustrating, especially for parents who were raised in families that expected kids to "eat every bite" on their plates. However, being able to pick and choose foods is actually an important part of the developmental process. At this age, children are working on establishing a sense of independence, so giving them the freedom to express food preferences can be important for psychological development.

Parents can prevent nutrition problems and still allow their kids to make food choices by making mealtimes pleasant, offering a variety of foods, limiting fatty or sugary snacks, and ensuring that kids engage in lots of physical activity.

The best way to ensure that kids develop good eating habits is to set a good example. This works best of all when everyone in the house follows the same healthy habits and eating patterns. Keeping the kitchen with nutritious foods and snacks, preparing healthy meals using a variety of ingredients, and staying physically active helps instill children with good habits that can last a lifetime.

Types of Developmental Milestones

There are four basic categories for developmental milestones:

1. **Physical milestones** involve both large-motor skills and fine-motor skills. The large-motor skills are usually the first to develop and include sitting up, standing, crawling, and walking. Fine-motor skills involve precise movements such as grasping a spoon, holding a crayon, drawing shapes, and picking up small objects.

1. **Cognitive milestones** are centered on a child's ability to think, learn, and solve problems. An infant learning how to respond to facial expressions and a preschooler learning the alphabet are both examples of cognitive milestones.

2. **Social and emotional milestones** are centered on children gaining a better understanding of their own emotions and the emotions of others. These milestones also involve learning how to interact and play with other people.

3. **Communication milestones** involve both language and nonverbal communication. A one-year-old learning how to say his first words and a five-year-old learning some of the basic rules of grammar are examples of important communication milestones.

All Kids Develop at Different Rates

While most of these milestones typically take place during a certain window of time, there is one important caveat. Parents and caregivers must remember that **each child is unique**. Not all kids are going to hit these milestones at the same time. Some children might hit certain milestones

very early, such as learning how to walk or talk much earlier than their same-age peers. Other children might reach these developmental milestones much later. This does not necessarily mean that one child is gifted or that another is delayed.

It simply represents the individual differences that exist in the developmental process.

These developmental abilities also tend to build on one another. More advanced skills such as walking usually occur after simpler abilities such as crawling and sitting up have already been achieved.

Just because one child began to walk by eleven months of age does not mean that another child is "behind" if he still is not walking at 12 months. A child generally begins to walk anytime between the ages of 9 and 15 months, so anytime between those ages is considered normal.

If a child is over 15 months and still cannot walk, the parents might consider consulting with a doctor or developmental specialist to determine if some type of developmental issue is present.

By understanding these developmental milestones, caregivers and health care professionals can keep a watchful eye on children's growth. When potential problems are spotted, earlier interventions can help lead to more successful outcomes.

Physical Developmental Milestones

Some major physical milestones at different stages of childhood

From the moment of birth, babies are inundated with sensory experiences that they are eager to explore. Babies watch their parents with the eyes, attempt to move toward the warm touch of caregivers, and move their mouths to touch and taste just about anything they can get in their mouths. As children grow, their abilities to control balance, movement, and fine-motor skills become increasingly advanced.

Developmental milestones are abilities that most children are able to perform by a certain age. During the first year of a child's life, physical milestones are centered on the infant learning to master self-movement, hold objects, and hand-to-mouth coordination.

From Birth to 3 Months

At this age, most babies begin to:

- Use rooting, sucking, and grasping reflexes
- Slightly raise the head when lying on the stomach
- Hold head up for a few seconds with support
- Clench hands into fists
- Tug and pull on their own hands
- Repeat body movements

From 3 to 6 Months

At this age, babies begin to develop greater agility and strength. They also begin to:

- Roll over
- Pull their bodies forward
- Pull themselves up by grasping the edge of the crib
- Reach for and grasp object
- Bring object they are holding to their mouths
- Shake and play with objects

From 6 to 9 Months

During this time, children become increasingly mobile. They usually begin to:

- Crawl
- Grasp and pull object toward their own body
- Transfer toys and objects from one hand to the other

From 9 to 12 Months

In addition to the major milestones such as standing up and walking, children also begin to develop more advanced fine motor skills. In this window of development, most babies are able to:

- Sit up unaided
- Stand without assistance
- Walk without help
- Pick up and throw objects
- Roll a ball
- Pick up objects between their thumb and one finger

From 1 to 2 Years

Children become increasingly independent and this age and tasks requiring balance and hand-eye coordination begin to emerge. During this stage of development, most children are able to:

- Pick things up while standing up
- Walk backwards
- Walk up and down stair without assistance
- Move and sway to music
- Color or paint by moving the entire arm
- Scribble with markers or crayons
- Turn knobs and handles

From 2 to 3 Years

Building on earlier skills, children become increasingly adept at activities that require coordination and speed. From one to three years of age, most kids begin to:

- Run in a forward direction
- Jump in one place
- Kick a ball
- Stand on one foot
- Turn pages of a book
- Draw a circle
- Hold a crayon between the thumb and fingers

From 3 to 4 Years

Physical abilities become more advanced as children develop better movement and balance skills. From age three to four, most kids begin to:

- Ride a tricycle
- Go down a slide without help
- Throw and catch a ball
- Pull and steer toys
- Walk in a straight line
- Build a tall towers with toy blocks
- Manipulate clay into shapes

From 4 to 5 Years

During this period of development, children become increasingly confident in their abilities.

Most children begin to:

- Jump on one foot
- Walk backwards
- Do somersaults
- Cut paper with safety scissors
- Print some letters
- Copy shapes including squares and crosses

How Parents Can Help Kids Reach Physical Developmental Milestones

During early childhood, the progression of physical development can be an astounding thing to observe. One of the best ways parents can ensure that their kids achieve key physical developmental milestones is to create an environment that encourages kids to safely explore the world. For infants, this means giving your baby plenty of room to roll, crawl, and play. Parents should also ensure that their infant has plenty of safe objects nearby to practice grasping, shaking, and placing in the mouth.

In order to encourage large motor skill development, it is essential to give kids plenty of opportunities to practice their newly emerging abilities. Giving kids the time, space and resources they need to roll balls, run, jump, and balance. Offer kids the chance to engage in play, but do not pressure them to be experts at every single thing. Remember, kids need to be able to explore their abilities and build confidence in their skills.

Parents can help their kids develop fine-motor skills in much the same way. Give children play experiences involving drawing, putting together puzzles, or stringing beads to help them build better find-motor movements and improved hand-eye coordination.

Remember that safety is essential. As infants and children become increasingly mobile and more physically active, it is important to have some basic safety precautions in place. Stairway gaits, electrical outlet covers, and parental observation are all ways to minimize risks while still giving kids the freedom they need to explore and play

Child development is an extraordinary thing to observe. Anyone who cares for or works with kids cannot help but be fascinated by the rapid growth and change that takes place from birth through young adulthood. Even those without children may find this process captivating because, after all, we were all kids once.

The study of child development can tell us more not only about how our own children think and grow from birth through adolescence, but also provide insights into our own development through life.

As we watch children grow, learn, play, and even misbehave, we may often find ourselves worrying. Is this normal? Do other children do this? How does my child compare to other kids his own age? Parents, teachers, therapists, doctors, and other caregivers all have an interest in such questions.

Raising a child to become a healthy, happy adult involves a lot more than just waiting, watching, and worrying. Anyone involved in the raising or care of children can benefit from gaining a solid understanding of child psychology and what makes them tick. As important as it is to know what's normal, it's equally essential to understand what's not. By being on the lookout for problems, parents and caregivers can offer the intervention and support that kids need to get back on track.

In this article, you will learn more about some of the reasons why it is so important to study child development. Think of this as a road-map to your study of child psychology.

In this brief tour, you will explore some of the basic perspectives that developmental psychologists use to understand how children grow and change. In addition to this basic background, this article also explores what's normal, what's not, and what parents can do if they spot signs of trouble.

How Do Psychologists Define Normal Development?

What do we mean when we use the term "normal?" For the most part, children all over the world develop in much the same way.

Babies quickly become attached to their caregivers, begin to sit up at around six months, and are starting to walk right around their first birthdays. From the earliest days after birth when its seem like all they can really do is cry, sleep, and eat, the rapid change that happen during those first two years of life is astonishing.

If you are a parent, you will be watching with anticipation as your child reaches each of these developmental milestones, and worrying if your child does not reach these milestones as quickly as other children of his or her age group. This is perhaps one of the greatest reasons to learn as much as you can about child development.

If you know what is supposed to be happening and when it's supposed to happen, you will be able to recognize if your child's growth is not proceeding as it should. When a child falls far behind his or her peers or fails to achieve these basic milestones, obtaining outside assessment from professionals is important. By seeking help early, parents can ensure that their children get the help they need to grow and thrive.

Understanding normal development can also help ease worries or fears. While children tend to follow the same developmental progression, it is very important to understand that not all children achieve the same things at exactly the same ages.

While your friend's daughter was walking by eleven months, it may take your own daughter a bit more time to reach that same point. Realizing that individual differences are also part of normal development can help put your mind at ease.

Normal versus Abnormal: What's the Difference?

What about when development does not follow a normal path? While it is often referred to as abnormal development, it is important to remember that in many cases, it may involve things that are not particularly abnormal. Learning disabilities, emotional disorders, and behavioral problems can all present very real challenges, but these impairments do not mean that a child is "abnormal." In some cases, developmental problems may be a result of environmental changes.

Death, divorce, and traumatic events can cause children to experience mood changes, misbehavior, and anxiety.

As you learn more about child psychology and development, try to avoid creating black-and-white categorizations of what's normal and what's not. While these labels allow us to convey some of the basic expectations for how children grow, it is essential to remember that each child is a unique individual full of a distinctive blend of traits, abilities, and experiences.

Recognizing Potential Problems

By understanding both normal and abnormal development, those who raise and work with children, including parents, teachers, and doctors are better able to keep an eye out for potential problems. This is important because early detection results in early intervention. The sooner a child receives help with a developmental problem, the better the outcome is likely to be and the greater improvement the child is likely to demonstrate.

Problems with Physical Development

While people often focus on developmental issues related to psychological or behavior issues, physical problems can also impede normal development. In addition to chronic illness, children can be born with birth defects that can seriously impact their ability to function and achieve physical milestones.

Some of these physical problems may be present at birth, but some may only become evident as a child matures. Parents and caregivers should be on the alert for potential issues that might make crawling, walking, sleeping, or eating difficult.

Learning and Development

Learning plays a major role in the life of a child. While school is the most obvious example of this, learning does not just take place in academic settings. From the earliest days of a child's life, he is undergoing a continual process of learning. This learning will have a dramatic impact, affecting how the child things, feels, and behaves.

Clearly, learning is one of the most important parts of child development, which is why it is essential for parents and teachers to know how to spot potential learning problems. Attention problems and learning disabilities can make it difficult for children to focus and perform well

academically, but identifying these problems early and responding with appropriate interventions makes it possible for kids to overcome such issues and achieve their full potential.

Sometimes such issues can be easy to spot, but parents and teachers must be alert and knowledgeable about what to look for. Poor attention, delayed speech, and late motor skill development are all possible signs that a learning problem may be present.

What to Do If There Is a Problem?

So studying child psychology can help you understand what's normal and what's not, but how can you put this information into practice? At the heart of the study of development is the need for appropriate assessment, intervention, and treatment when problems do arise. Doctors, counselors, psychologists, teachers, and other professionals who work with children study the best ways to offer help to children facing specific developmental challenges.

Parents and caregivers who have learned about normal child development and who are alert to the signs of abnormal behavior are better able to pick up on problems and seek out assistance for their children. But where do you turn when you discover something is wrong? When kids need help, many parents and other adults would do anything and everything they could to find a way to help.

First, it is important to know how and where to seek help. If problems are spotted, parents might turn first to the family doctor for advice on what to do. When problems are identified in academic settings, schools often have the tools and resources to help. Teachers, counselors, and school psychologists are often able to identify behavioral, learning, emotional, and social problems and offer recommendations on what can be done.

No matter what the situation, teamwork and communication are often the key to effective treatment; Parents must be able to share relevant information with health care professionals, and educators must be prompt about alerting parents to any school-related issues that a child may be experiencing.

1.1.2. Cognitive growth and development

Called the preoperational stage by Jean Piaget, this is the stage during which the child repeatedly asks "Why?", and is used to build relationships with the child. The child can't yet perform the abstract thinking operations. The child has to be able to see what is being talked about, because they do not understand the concepts of logic, betrayal, contemplation, etc. This means that they think literally: if a child is told that they have to go to bed because "night is falling", they will ask how can the night (literally) fall from the sky. They also see the human characteristics in every object, e.g. the table "is bad" if they accidentally hit it with their foot and it hurts. They also exhibit egocentrism; not to be confused with egoism; that being said, they do not comprehend that the other person has beliefs and the children at this age think that what they think, everybody thinks. There is also a matter of perceptive centration, which causes the children to primarily see what is visually most prominent on someone/something, e.g. if a man has long hair, the child will think he's a woman.

This includes children understanding a sense of 'self', relationships with others and sociability. The emotional development includes expressions, attachment and personality (Doherty & Hughes, 2009). Children manifest fear of dark and monsters and around the age of three notice whether they are a boy or a girl and start acting that way. Boys are usually more aggressive, whilst girls are more caring. However, aggression is manifested in two different ways: boys are more physically aggressive, while the girls are more socially aggressive (name-calling and ignoring).

Young children are not only growing physically during early childhood, but they are also growing mentally. Children of this age continue to advance their skills in observing and interacting with the world around them. They also make tremendous leaps in how they process, store, and use information. As mentioned in the introduction, quantifying cognitive change is a bit tricky. We do not count the number of new neurons or measure the amount of connections between synapses and come up with averages for different ages. Rather, we rely on theories, such as Piaget's stages of cognitive development, Erickson's psychosocial stages, and Bronfenbrenner's ecological model to give us a way to understand and to measure children's mental and social development and progression.

According to Piaget, children in the Preoperational stage of development build on skills learned and mastered during the Sensorimotor stage. During this stage, young children's play becomes

increasingly imaginary and filled with fantasies. As children develop cognitively, their play will move from simple make-believe to plots involving more characters and scenarios, games with sophisticated rules, etc. According to Piaget, playing isn't just fun; it is an important part of brain development.

The Piagetian milestones described in this section are typical or average for young children ages 2-7 living in Western countries. Once again, however, each child is unique and will grow in his or her own time and way. As with physical milestones, if caregivers suspect that "something isn't right" or that their child is failing to complete major developmental tasks, they should discuss their concerns with a pediatrician or family doctor. Some young children may have developmental delays or challenges that can be identified and successfully addressed if caught early.

1.1.3. Social-emotional growth and development

As young children leave toddlerhood behind, they also begin to mature in their ability to interact with others socially. A baby's main social need and developmental task is bonding and connecting with primary caregivers. In contrast, young children are starting to branch out and to create other social relationships.

When interacting with other children their age, such as peers at daycare or preschool, Sensori-motor children engage in parallel play. In parallel play, children play beside each other without truly interacting with each other. For example, Jimmy plays with his blocks and builds his structure independently while sitting by Jane, who is creating her own block tower.

During the Preoperational stage, young children begin to play more cooperatively. In cooperative play, young children engage in the same activity in a small group. Often, these first forms of cooperative play include pretend or symbolic play. For example, Jane and Jackie may "play house" together and assign one child to be the mother and the other to be the baby. Pretend play begins as early as toddlerhood and then peaks for the majority of young children at ages 4 and 5 years.

As young children continue to develop socially with peers, they often enter a stage of rough and tumble play which includes running, racing, climbing, or competitive games. Often, this is the stage when social skills such as learning to take turns and follow simple group rules and norms are practiced.

Young children in the Preoperational stage often identify friends at the park or at daycare; however, "friendship" is still a very concrete, basic relationship. At this stage of social development, friendship usually means sharing toys and having fun playing together. Friendship at this age does not have the associated qualities of empathy and support that older children, adolescents, and adults develop.

During the Preoperational stage, young children are also developing socially inside the family. Families typically give young children the opportunity to interact with a variety of people in a range of roles. Today's families take on many different forms. Young children can be raised in nuclear families, with two opposite sex biological parents and sometimes one or more siblings. Children are also commonly raised in "blended" families, spending time with both parents in different homes, perhaps with step-parents and half- or step-siblings. Some young children grow up with an extended family, living with or spending lots of time with grandparents, aunts, uncles, cousins, etc. Still others grow up in small clusters, spending most of the time with a single parent, and perhaps one or more siblings. Some children may be adopted into a nuclear, blended, or extended families. Still others are raised with two homosexual parents alone or with other biological or adopted siblings.

Chapter2. Early childhood education

1. Context

Early childhood education (ECE) is a branch of education theory which relates to the teaching of young children (formally and informally) up until the age of about eight. Infant/toddler education, a subset of early childhood education, denotes the education of children from birth to age two. In recent years, early childhood education has become a prevalent public policy issue, as municipal, state, and federal lawmakers consider funding for preschool.

While the first two years of a child's life are spent in the creation of a child's first "sense of self", most children are able to differentiate between themselves and others by their second year. This differentiation is crucial to the child's ability to determine how they should function in relation to other people. Parents can be seen as a child's first teacher and therefore an integral part of the early learning process (Oatley, 2007).

1.1. Learning Through Play

Early childhood education often focuses on learning through play, based on the research and philosophy of Jean Piaget, which posits that play meets the physical, intellectual, language, emotional and social needs (PILES) of children. Children's natural curiosity and imagination naturally evoke learning when unfettered. Thus, children learn more efficiently and gain more knowledge through activities such as dramatic play, art, and social games (Winner, 2009).

Tassoni suggests that "some play opportunities will develop specific individual areas of development, but many will develop several areas." (Tassoni,2000) Thus, It is important that practitioners promote children’s development through play by using various types of play on a daily basis. Key guidelines for creating a play-based learning environment include providing a safe space, correct supervision, and culturally aware, trained teachers who are knowledgeable about the Early Years Foundation.

Davy states that the British Children's Act of 1989 links to play-work as the act works with play workers and sets the standards for the setting such as security, quality and staff ratios (Davy, 2000). Learning through play has been seen regularly in practice as the most versatile way a

child can learn. Margaret McMillan (1860-1931) suggested that children should be given free school meals, fruit and milk, and plenty of exercise to keep them physically and emotionally healthy. Rudolf Steiner (1861-1925) believed play allows children to talk, socially interact, use their imagination and intellectual skills. Marie Montessori (1870-1952) believed that children learn through movement and their senses and after doing an activity using their senses.

In a more contemporary approach, organizations such as the National Association of the Education of Young Children (NAEYC) promote child-guided learning experiences, individualized learning, and developmentally appropriate learning as tenets of early childhood education.

Piaget provides explanation an for why learning through play is such a crucial aspect of learning as a child. However, due to the advancement of technology the art of play has started to dissolve and has transformed into "playing" through technology. Greenfield, quoted by the author, Stuart Wolpert in the article, "Is Technology Producing a Decline in Critical Thinking and Analysis?", states, "No media is good for everything. If we want to develop a variety of skills, we need a balanced media diet. Each medium has costs and benefits in terms of what skills each develops." Technology is beginning to invade the art of play and a balance needs to be found (Wolpert, 2009).

1.2. Theories of child development

The Developmental Interaction Approach is based on the theories of Jean Piaget, Erik Erikson, John Dewey and Lucy Sprague Mitchell. The approach focuses on learning through discovery (Shapiro, & Nager,1999). Jean Jacques Rousseau recommended that teachers should exploit individual children's interests in order to make sure each child obtains the information most essential to his personal and individual development (McDowall Clark, 2013).

The five developmental domains of childhood development include (Jonathan Doherty; Malcolm Hughes (2009:

- Physical: the way in which a child develops biological and physical functions, including eyesight and motor skills

- Social: the way in which a child interacts with others Children develop an understanding of their responsibilities and rights as members of families and communities, as well as an ability to relate to and work with others.
- Emotional: the way in which a child creates emotional connections and develops self-confidence. Emotional connections develop when children relate to other people and share feelings.
- Language: the way in which a child communicates, including how they present their feelings and emotions. At 3 months, children employ different cries for different needs. At 6 months they can recognize and imitate the basic sounds of spoken language. In the first 3 years, children need to be exposed to communication with others in order to pick up language. "Normal" language development is measured by the rate of vocabulary acquisition.
- Cognitive skills: the way in which a child organizes information. Cognitive skills include problem solving, creativity, imagination and memory. They embody the way in which children make sense of the world. Piaget believed that children exhibit prominent differences in their thought patterns as they move through the stages of cognitive development: sensorimotor period, the pre-operational period, and the operational period.

2.1.1. Vygotsky's socio-cultural learning theory

Russian psychologist Lev Vygotsky proposed a "socio-cultural learning theory" that emphasized the impact of social and cultural experiences on individual thinking and the development of mental processes. Vygotsky's theory emerged in the 1930s and is still discussed today as a means of improving and reforming educational practices (Cole, 1978).

Vygotsky argued that since cognition occurs within a social context, our social experiences shape our ways of thinking about and interpreting the world. Although Vygotsky predated social constructivists, he is commonly classified as one. Social constructivists believe that an individual's cognitive system is a result of interaction in social groups and that learning cannot be separated from social life (Oxford, 1997).

Vygotsky proposed that children learn through their interactions with more knowledgeable peers and adults. His concept of the zone of proximal development (ZPD) is the difference between what a learner can do without help and what a learner can do with help. According to Vygotsky, "what is in the zone of proximal development today will be the [child's] actual developmental level tomorrow". This theory heavily influenced contemporary early educational practices by increasing focus on material within the ZPD. Vygotsky proposed that children should be taught materials that employ mental processes within the ZPD (Vygotsky, 1978).

ZPD encourages early childhood educators to adopt "scaffolding", in which a teacher adjusts support to fit a child's learning needs (Louis, 2009). Scaffolding requires specially trained teachers, a differentiated curriculum, and additional learning time. Vygotsky advocated that teachers facilitate rather than direct student learning. His approach calls for teachers to incorporate students' needs and interests when developing curricula. Every student should actively participate in a reciprocal interaction with their classmates and educators (Jaramillo, 1996).

Vygotsky's socio-cultural learning theory has also proven especially important for the education of the mentally disabled. According to Vygotsky, "special education was the creation of what he called a 'positive differential approach'; that is, the identification of a disabled child from a point of strength rather than disability" (Gindis, 1995). Providing the appropriate scaffolding enables students with special needs to develop abstract thinking.

2.1.2. Piaget's constructivist theory

Jean Piaget's constructivist theory gained influence in the 1970s and '80s. Although Piaget himself was primarily interested in a descriptive psychology of cognitive development, he also laid the groundwork for a constructivist theory of learning. Piaget believed that learning comes from within: children construct their own knowledge of the world through experience and subsequent reflection. He said that "if logic itself is created rather than being inborn, it follows that the first task of education is to form reasoning." Within Piaget's framework, teachers should guide children in acquiring their own knowledge rather than simply transferring knowledge (Smith, 1985).

According to Piaget's theory, when young children encounter new information, they attempt to accommodate and assimilate it into their existing understanding of the world. Accommodation involves adapting mental schemas and representations in order to make them consistent with reality. Assimilation involves fitting new information into their pre-existing schemas. Through these two processes, young children learn by equilibrating their mental representations with reality. They also learn from mistakes (Piaget, 1997).

A Piagetian approach emphasizes experiential education; in school, experiences become more hands-on and concrete as students explore through trial and error. Thus, crucial components of early childhood education include exploration, manipulating objects, and experiencing new environments. Subsequent reflection on these experiences is equally important.

Piaget's concept of reflective abstraction was particularly influential in mathematical education. Through reflective abstraction, children construct more advanced cognitive structures out of the simpler ones they already possess. This allows children to develop mathematical constructs that cannot be learned through equilibration — making sense of experiences through assimilation and accommodation — alone (Simon; Tzur, Heinz, Kinzel, 2004).

According to Piagetian theory, language and symbolic representation is preceded by the development of corresponding mental representations. Research shows that the level of reflective abstraction achieved by young children was found to limit the degree to which they could represent physical quantities with written numerals. Piaget held that children can invent their own procedures for the four arithmetical operations, without being taught any conventional rules (Kamii, 1996).

Piaget's theory implies that computers can be a great educational tool for young children when used to support the design and construction of their projects. McCarrick and Xiaoming found that computer play is consistent with this theory. However, Plowman and Stephen found that the effectiveness of computers is limited in the preschool environment; their results indicate that computers are only effective when directed by the teacher. This suggests, according to the constructivist theory, that the role of preschool teachers is critical in successfully adopting computers (Towns, 2010).

2.1.3. Kolb's experiential learning theory

David Kolb's experiential learning theory, which was influenced by John Dewey, Kurt Lewin and Jean Piaget, argues that children need to experience things in order to learn: "The process whereby knowledge is created through the transformation of experience. Knowledge results from the combinations of grasping and transforming experience." The experimental learning theory is distinctive in that children are seen and taught as individuals. As a child explores and observes, teachers ask the child probing questions. The child can then adapt prior knowledge to learning new information.

Kolb breaks down this learning cycle into four stages: concrete experience, reflective observation, abstract conceptualization, and active experimentation. Children observe new situations, think about the situation, make meaning of the situation, then test that meaning in the world around them.

2.2. The practical implications of early childhood education

In recent decades, studies have shown that early childhood education is critical in preparing children to enter and succeed in the (grade school) classroom, diminishing their risk of social-emotional mental health problems and increasing their self-sufficiency as adults. In other words, the child needs to be thought to rationalize everything and to be open to interpretations and critical thinking. There is no subject to be considered taboo, starting with the most basic knowledge of the world he lives in, and ending with deeper areas, such as morality, religion and science. Visual stimulus and response time as early as 3 months can be an indicator of verbal and performance IQ at age 4 years.

By providing education in a child's most formative years, ECE also has the capacity to pre-emptively begin closing the educational achievement gap between low and high-income students before formal schooling begins. Children of low socioeconomic status (SES) often begin school already behind their higher SES peers; on average, by the time they are three, children with high SES have three times the number of words in their vocabularies as children with low SES. Participation in ECE, however, has been proven to increase high school graduation rates,

improve performance on standardized tests, and reduce both grade repetition and the number of children placed in special education.

Especially since the first wave of results from the Perry Preschool Project were published, there has been widespread consensus that quality early childhood education programs correlate with gains in low-income children's IQs and test scores, decreased grade retention, and lower special education rates.

Several studies have reported that children enrolled in ECE increase their IQ scores by 4-11 points by age five, while a Milwaukee study reported a 25-point gain (Barnett, 1995). In addition, students who had been enrolled in the Abecedarian Project, an often-cited ECE study, scored significantly higher on reading and math tests by age fifteen than comparable students who had not participated in early childhood programs. In addition, 36% of students in the Abecedarian Preschool Study treatment group would later enroll in four-year colleges compared to 14% of those in the control group (Hart, 1995).

Beyond benefitting societal good, ECE also significantly impacts the socioeconomic outcomes of individuals. For example, by age 26, students who had been enrolled in Chicago Child-Parent Centers were less likely to be arrested, abuse drugs, and receive food stamps; they were more likely to have high school diplomas, health insurance and full-time employment.

2.3. The Perry Preschool Project

In Ypsilanti, Michigan, 3 and 4 year-olds from low-income families were randomly assigned to participate in the Perry Preschool. By age 18, they were five times less likely to have become chronic law-breakers than those who were not selected to participate in the Preschool.

The Perry Preschool Study also found that low-income individuals who were enrolled in a quality preschool program earned on average, by age 40, $5500 per year more than those who were not. The Perry Preschool Study produced a total benefit/cost ratio of 17:1 (4:1 for participants, 13:1 for the public), with participants on average earning higher incomes, more likely to own their own homes, and less likely to be on welfare (Schweinhart, 2005).

The authors of the Perry Preschool Project also propose that the return on investment in education declines with the student's age. This study is noteworthy because it advocates for public spending on early childhood programs as an economic investment in a society's future, rather than in the interest of social justice.

2.4. International agreements

The first World Conference on Early Childhood Care and Education took place in Moscow from 27 to 29 September 2010, jointly organized by UNESCO and the city of Moscow. The overarching goals of the are to:

- Reaffirm ECCE as a right of all children and as the basis for development
- Take stock of the progress of Member States towards achieving the EFA Goal 1
- Identify binding constraints toward making the intended equitable expansion of access to quality ECCE services
- Establish, more concretely, benchmarks and targets for the EFA Goal 1 toward 2015 and beyond
- Identify key enablers that should facilitate Member States to reach the established targets
- Promote global exchange of good practices

According to UNESCO a **preschool curriculum** is one that delivers educational content through daily activities, tuition and furthers a child's physical, cognitive and social development. Generally, preschool curricula are only recognized by governments if they are based on academic research and reviewed by peers.

Preschool for Child Rights have pioneered into preschool curricular areas and is contributing into child rights through their preschool curriculum (Neaum, 2013).

The National Association for the Education of Young Children (NAEYC) defines “early childhood” as occurring before the age of eight, and it is during this period that a child goes through the most rapid phase of growth and development. Their brains develop faster than at any other point in their lives, so these years are critical. The foundations for their social skills, self-

esteem, perception of the world and moral outlook are established during these years, as well as the development of cognitive skills.

Early childhood education is encouraged for the healthy development and nurturing of all these important foundations, and trends show that parents are increasingly recognizing this. In fact, according to the National Center for Education Statistics (NCES), enrollment in prekindergarten-level education has risen from 96,000 to over 1 million in the last 30 years.

Early childhood education is not mandated by the United States Department of Education. Elementary and secondary education is all that is legally required for students, though early childhood education is doubtlessly an important and fundamental stage of learning.

2.5. Working with Young Children

When deciding if early childhood education is right career choice for you, the first and most important question to ask yourself is: Do I like working with children? If you can't answer yes, then this career may not be best for you. Working with children requires patience, dedication and sensitivity. Trying to keep up with them can be exhausting, but if you're up to the challenge, it can also be extremely rewarding.

Young children are not like other students. Their needs are unique and you must be aware of this. It is important to understand that you could be one of the first adults a young child has interacted with outside of his or her own family. The separation from their parents in the beginning can be difficult, and a teacher must help them through this transition. A child can become very attached to you as a "substitute" for their parents, or they may shun you completely. Great teachers are adaptable to the emotional reactions of their students. And when it comes to your students' interactions with other children, this can be one of the first times they interact with children their age. A teacher's role often becomes that of mediator when children have problems sharing or learning how to get along.

Furthermore, teachers in early education need to be creative and adaptive. They must think outside their own mature perspective and be able to place themselves in their students' shoes. What motivates a very young child? How do you hold a toddler's interest? How do you make

learning fun? These are all questions you will have to ask yourself. Lessons in early education classrooms are very hands-on. They involve arts and crafts, storytelling, exercise, educational games and more. You need to be fast on your feet and highly adaptable to continuously come up with new ways to guide children through their early learning stages.

2.6. How Can I Become an Early Childhood Educator?

As an aspiring early education teacher, you need to have the right temperament. Patience, creativity, sensitivity, communication skills and ability to connect with children are arguably some of the most important qualifications. However, you're also expected to have the proper schooling and credentials, and each state sets its own standards for what they expect from qualified teachers. Before beginning your path to becoming an early childhood educator, you should find out what the requirements are for your state or school where you want to teach.

Because teaching young children is such a highly specialized field, some schools require a degree in early childhood education or child development. Many preschools set their minimum requirement at an associate's degree, and most Montessori schools require a Bachelor's degree. Having a Bachelor's degree in early childhood education will generally qualify you to teach through the third grade. Of course, having an advanced degree such as a master's in education or teaching in this field only improves your abilities, job prospects and opportunities for career advancement.

Once you have attained your degree, you need to look into your state's requirements to earn your official teaching credential. The Council for Professional Recognition offers the Childhood Development Associate (CDA) credential in different areas of early childhood education. The National Council for Accreditation of Teacher Education offers national certification as well. Also, it is important to note that to teach at a Montessori school you must complete a special Montessori teacher education program. Once you are certified, the most important way to build your career is through experience. Many preschool and Montessori teachers begin as teaching aids to gain practical classroom experience before becoming teachers.

2.7. Where Can I Teach?

2.7.1. Preschools

Preschool is not daycare, contrary to some general misconceptions. Whereas daycare is often childcare without an emphasis on learning, preschool is a child's first formal learning environment. Preschool focuses on cognitive and social development by stimulating a child's curiosity and imagination. Children learn through sharing toys, taking turns, and interacting with their teachers and each other. The classrooms themselves are very lively, brightly decorated with posters of the alphabet, maps, number tables and student artwork. Classrooms must be interactive and stimulating to foster an exciting learning environment. Teacher-student ratios are also closely monitored to ensure close interactions, and class sizes are kept relatively small.

Despite increasing public interest in early childhood education, preschools are still generally considered private schools. Many are funded by tuition and donations, and because the government does not mandate preschool, it is considered an option for families. However, the evidence of the lasting effects of preschool has prompted some government action. The Department of Health and Human Services instituted the Head Start Program to provide early childhood education to children from low-income families and promote their healthy development.

2.7.2. Montessori Schools

Montessori schools are institutions centered around the Montessori method of learning. This method, founded by Dr. Maria Montessori over a hundred years ago, emphasizes the curiosity, creativeness and self-motivation of the child and stresses independence. This "child centered" approach to education differs from traditional methods in several major ways. Perhaps the most notable feature of Montessori schools is the classroom itself, where multiple age groups learn within one environment. Children in Montessori classrooms range from ages two and up, with no distinction in education levels. Thus, an eight-year-old learns side-by-side with a three-year-old to simulate a real-life social environment and promote peer learning. Younger children learn from the older ones, while the older children are able to practice teaching things they already know.

Montessori classrooms are also designed to foster independence and exploratory learning. In these classrooms, students are given the freedom to choose what to learn and to set their own pace. The classrooms have multiple interactive spaces, each dedicated to a different academic area, such as language arts, math and science. Children are encouraged to explore these areas in the order that most interests them, and they often end up working closely with other students to explore these areas together. Despite the autonomy, teachers in Montessori schools are by no means passive or uninvolved. Rather, the teachers work alongside students, guiding them through their exploration of the classroom, answering questions and facilitating group work. They are highly involved in this self-motivated learning process. The American Montessori Society provides a very detailed Introduction to Montessori schools that further illustrates the methods and pedagogy of this innovative approach.

Montessori institutions are private schools, and are therefore not funded by the government. Their teachers are also not subject to national teacher certification and licensure standards, though they are required to have at least a Bachelor's (preferably in child development or early childhood education) and complete a special teacher education program.

2.7.3. Kindergartens

Kindergarten is usually seen as the beginning of formal education, and it is fully integrated into the elementary school system. Kindergarten is public education and subject to state law (therefore, kindergarten teachers must be properly licensed and certified), though it is not mandatory in every state. Children enter kindergarten during ages five to six, and many states do not begin mandating education until age seven. However, whether it is mandatory or not, it is still highly encouraged; though kindergarten is more formal, it still qualifies as early childhood education because students are under eight years old. They are still developing at a rapid pace, and kindergarten is important to easing their transition into elementary school.

Kindergarten focuses heavily on social development and peer-to-peer interactions, though there is greater emphasis on fundamental academics than there is in preschool. In preschool children learn how to count, but in kindergarten they begin learning about adding and subtracting. They learned colors, and now learn how to blend those colors to make new ones. And whereas in

preschool they learned the alphabet, kindergarten teaches them how to spell and string basic words into simple sentences. Basically, kindergarten lays the groundwork for their formal education by introducing new concepts that develop into the different academic subjects they will learn throughout the rest of their educational career.

2.8. Early Learning

During the first few years of life, a child learns a lot about themselves and the world around them, and parents are their first teachers. Parents teach them how to speak, how to walk, how to feed themselves. They teach them the alphabet, shapes and colors, and even how to count and spell very simple words. But for healthy development, children need active stimulation and interaction with others. This is where early childhood education is the most beneficial. It is in these classrooms where children apply what their parents have taught them to a practical setting and have their first interactions with people outside of their family. Beginning with children as young as two, teachers guide them through an important transition and oversee their adjustment. Early childhood education focuses on "learning through play" by providing a hands-on, interactive atmosphere where children learn about themselves through playing with other children. As a teacher of young children, you become somewhat of a surrogate parent, their first source of guidance in playing with others and forming friendships. You teach them how to share, how to take turns, how to have manners--lessons that stay with them and evolve with each crucial phase of their life.

Children this young also have more physical demands than older students. Many preschools incorporate a nap time into their schedule or are on half-day schedules to accommodate a child's exhaustion after a long morning of playing and learning. Snack time is also built into these schedules, which serve as a great opportunity to teach your students table manners. Teaching young children requires nothing short of complete devotion and perseverance. It can be a daunting task, but to a truly committed teacher, it is worth the effort.

There is much debate over what is covered by an ideal preschool curriculum, but in actuality, early childhood is a period of such tremendous growth and curiosity that it is hard to decide exactly what, and when, a child needs to learn. Many preschool curricula establish the teacher as

a guide, allowing children to discover for themselves while the teacher leads them through the process. Much research goes into preschool curricula, and organizations such as the National Institute for Early Education Research and the National Association for the Education of Young Children strive to preserve and advance the education of some of our country's youngest students, as well as increase awareness about the importance of early childhood education.

2.9. How to Teach Kids: Learn the best teaching methods and techniques

While many people find teaching children to be rewarding, some will tell you that it's just plain stressful at times. What are the best ways to teach kids? Do the methods and techniques vary across subject manner? For example, would you use the same approach to teach a child how to tie their shoes as you would how to do multiplication tables? Probably not! That being said though, there is no fool-proof way on how to teach kids. The good news is there are several methods and techniques you can use. Children are versatile. Before you dedicate yourself to a teaching method, figure out how the kids learn best. From there, you can choose teaching methods and techniques that are right for them. You will be surprised how fast they can learn something once you teach to their learning style.

There are 7 primary learning styles:

Visual (Spatial) – These individuals learn best through pictures, images, and spatial understanding

Aural (Auditory) – These individuals learn best through sound and music

Verbal (Linguistic) – These individuals learn best through words, verbal and/or written

Physical (Kinesthetic) – These individuals learn best through experience and rely on the sense of touch

Logical (Mathematical) – These individuals learn best through logic and reasoning

Social (Interpersonal) – These individuals learn best through group interaction

Solitary (Intrapersonal) – These individuals learn best through self-study

It is important to note that many kids learn well from a blend of learning styles. Think of yourself for example. Do you learn best through just one of these learning styles or several?

Try the following teaching methods and techniques below as they apply to the child's learning style.

2.9.1. Visual Learners

To help your visual learner grasp concepts faster, teach them through pictures, icons, charts, diagrams, and color coded information. For example, if you are teaching a kid how to tie their shoes, walk them through step by step instructions with each step illustrated. Use shoe laces that are half one color and half another to help them identify which side is which. If you are teaching an academic subject like rain forest ecosystems, allow kids to research topics using graphics and compile their findings into a poster. Visual learners can also retain information better if it has been categorized according to colors. Try color coding the parts of speech when you read together to teach grammar. As a teacher (official or unofficial), always have different colored pens, pencils, markers, labels, and sticky notes on hand.

2.9.2. Aural Learners

Aural learners thrive on teaching techniques that involve sound. Making up a story or a song with the directions or the main concepts of the lesson will help this type of learner succeed. Encourage them to rewrite the lyrics to their favorite songs to learn new things. You can also use music to set the mood of the learning environment. If the kids are taking an exam, trying playing some classical music. If you need them to be excited about something they find boring (math, grammar, history, could be anything), play some pump-it-up music for a few minutes. For younger children, use oral storytelling and sing-alongs to teach important lessons. For example, if you are teaching about different body parts, sing the "Heads, Shoulders, Knees, and Toes" song.

2.9.3. Verbal Learners

Verbal learning centers on the use of words. Copying down phrases and words, taking their own notes during lectures, reading out loud, listening to audio recordings, and discussions are effective teaching methods and techniques for this type of learner. Teach spelling by having them write out the word correctly multiple times on a piece of paper or on a white board. Help your children understand rules by writing them on a poster board that they can see and refer to. If your kids are interested in writing, learn how to help them write a mystery story that they can be proud of.

2.9.4. Physical Learners

Physical learners learn through "doing". Encourage kids to build, create, act things out, and experience what they are learning. If you are teaching about Ancient Rome, allow kids to build models of ancient buildings and historical sites. If they are not good at building models and structures, try having your students act out what they are learning in a skit, improv, or a play. Field trips, technology, and playing games are also effective teaching methods for physical learners. For example, if you are teaching the angles of triangles in geometry, bring the lesson out to the basketball court. You can have two students demonstrate and make different angles while standing next to the basketball hoop. Experimentation is also a good method to use. Encourage kids to learn from their mistakes and failed attempts. If you are trying to teach kids about entrepreneurship, a subject that is very hands on, try taking this course to learn more about effective teaching methods.

2.9.5. Logical Learners

Logical learners need to know the elusive "why?". The answer "because" or "it just is" will never sit right with them. They will excel at following complicated directions and using technology and games to reach learning outcomes. You can learn more on how to teach with technology and connect with your students with this course. Children who are logical learners often go on to be engineers or mathematicians, as both of these professional fields typically follow logical rules. Trying using problem solving as a way to learn new material. For example, have the kids develop a hypothesis that they can test. Discuss the results on whether failed or

succeeded and ask them why this was the case. You may be surprised how they articulate their answers.

2.9.6. Social Learners

Social learners thrive on interpersonal communications and learn best in a group atmosphere. You can teach to this learning style through role playing, group projects, volunteering, service projects, and debates. Let kids engage with others, facilitate discussions, and encourage collaboration. You will also find that social learners can make great pen pals.

2.9.7. Solitary Learners

Solitary learners prefer individual teaching or self-paced learnings. Being in group situations can cause anxiety and lead to them shutting down. Try centering your lesson plans around things they are already interested in and use their interest as a vessel to learn new things. For example, if you have a child obsessed with airplanes you can use this to teach about gravity, weather, physics, motivation, cultural differences, motivation, or even cooking. Solidary learners will also enjoy watching how-to-videos and reading to learn new things. Because solitary learners are often drawn to online communities, help your child succeed by learning how to teach them game development and programming.

Chapter3.Teaching method

2. Introduction

A **teaching method** comprises the principles and methods used for instruction to be implemented by teachers to achieve the desired learning in students. These strategies are determined partly on subject matter to be taught and partly by the nature of the learner. For a particular teaching method to be appropriate and efficient it has to be in relation with the characteristic of the learner and the type of learning it is supposed to bring about. Davis (1997)

suggests that the design and selection of teaching methods must take into account not only the nature of the subject matter but also how students learn (Westwood, 2008). In today's school the trend is that it encourages a lot of creativity. It is a known fact that human advancement comes through reasoning. This reasoning and original thought enhances creativity. The approaches for teaching can be broadly classified into teacher centered and student centered. In Teacher-Centered Approach to Learning, Teachers are the main authority figure in this model. Students are viewed as "empty vessels" whose primary role is to passively receive information (via lectures and direct instruction) with an end goal of testing and assessment. It is the primary role of teachers to pass knowledge and information onto their students. In this model, teaching and assessment are viewed as two separate entities. Student learning is measured through objectively scored tests and assessments. In Student-Centered Approach to Learning, while teachers are an authority figure in this model, teachers and students play an equally active role in the learning process. The teacher's primary role is to coach and facilitate student learning and overall comprehension of material. Student learning is measured through both formal and informal forms of assessment, including group projects, student portfolios, and class participation. Teaching and assessments are connected; student learning is continuously measured during teacher instruction. Commonly used teaching methods may include class participation, demonstration, recitation, memorization, or combinations of these.

2.1. Methods of instruction

2.1.2. Lecturing

The lecture method is just one of several teaching methods, though in schools it's usually considered the primary one. It isn't surprising, either. The lecture method is convenient and usually makes the most sense, especially with larger classroom sizes. This is why lecturing is the standard for most college courses, when there can be several hundred students in the classroom at once; lecturing lets professors address the most people at once, in the most general manner, while still conveying the information that he or she feels is most important, according to the lesson plan. While the lecture method gives the instructor or teacher chances to expose students to unpublished or not readily available material, the students plays a passive role which may hinder learning. While this method facilitates large-class communication, the lecturer must make constant and conscious effort to become aware of student problems and engage the students to

give verbal feedback. It can be used to arouse interest in a subject provided the instructor has effective writing and speaking skills.

2.1.3. Demonstrating

Demonstrating is the process of teaching through examples or experiments. For example, a science teacher may teach an idea by performing an experiment for students. A demonstration may be used to prove a fact through a combination of visual evidence and associated reasoning.

Demonstrations are similar to written storytelling and examples in that they allow students to personally relate to the presented information. Memorization of a list of facts is a detached and impersonal experience, whereas the same information, conveyed through demonstration, becomes personally relatable. Demonstrations help to raise student interest and reinforce memory retention because they provide connections between facts and real-world applications of those facts. Lectures, on the other hand, are often geared more towards factual presentation than connective learning.

2.1.4. Collaborating

Collaboration allows students to actively participate in the learning process by talking with each other and listening to other points of view. Collaboration establishes a personal connection between students and the topic of study and it helps students think in a less personally biased way. Group projects and discussions are examples of this teaching method. Teachers may employ collaboration to assess student's abilities to work as a team, leadership skills, or presentation abilities.

Collaborative discussions can take a variety of forms, such as fishbowl discussions. After some preparation and with clearly defined roles, a discussion may constitute most of a lesson, with the teacher only giving short feedback at the end or in the following lesson.

2.1.5. Classroom discussion

The most common type of collaborative method of teaching in a class is classroom discussion. It is the also a democratic way of handling a class, where each student is given equal opportunity to

interact and put forth their views. A discussion taking place in a classroom can be either facilitated by a teacher or by a student. A discussion could also follow a presentation or a demonstration. Class discussions can enhance student understanding, add context to academic content, broaden student perspectives, highlight opposing viewpoints, reinforce knowledge, build confidence, and support community in learning. The opportunities for meaningful and engaging in-class discussion may vary widely, depending on the subject matter and format of the course. Motivations for holding planned classroom discussion, however, remain consistent. An effective classroom discussion can be achieved by probing more questions among the students, paraphrasing the information received, using questions to develop critical thinking with questions like "Can we take this one step further?;" "What solutions do you think might solve this problem?;" "How does this relate to what we have learned about..?;" "What are the differences between ... ?;" "How does this relate to your own experience?;" "What do you think causes .... ?;" "What are the implications of .... ?"

2.1.6. Debriefing

The term “debriefing” refers to conversational sessions that revolve around the sharing and examining of information after a specific event has taken place. Depending on the situation, debriefing can serve a variety of purposes. It takes into consideration the experiences and facilitates reflection and feedback. Debriefing may involve feedback to the students or among the students, but this is not the intent. The intent is to allow the students to "thaw" and to judge their experience and progress toward change or transformation. The intent is to help them come to terms with their experience. This process involves a cognizance of cycle that students may have to be guided to completely debrief. Teachers should not be overly critical of relapses in behaviour. Once the experience is completely integrated, the students will exit this cycle and get on with the next.

2.1.7. Classroom Action Research

Classroom Action Research is a method of finding out what works best in your own classroom so that you can improve student learning. We know a great deal about good teaching in general (e.g. McKeachie, 1999; Chickering and Gamson, 1987; Weimer, 1996), but every teaching

situation is unique in terms of content, level, student skills and learning styles, teacher skills and teaching styles, and many other factors. To maximize student learning, a teacher must find out what works best in a particular situation. Each teaching and research method, model and family is essential to the practice of technology studies. Teachers have their strengths and weaknesses, and adopt particular models to complement strengths and contradict weaknesses. Here, the teacher is well aware of the type of knowledge to be constructed. At other times, teachers equip their students with a research method to challenge them to construct new meanings and knowledge. In schools, the research methods are simplified, allowing the students to access the methods at their own levels.

2.2. Evolution of teaching methods

2.2.2. Ancient education

About 3000 BC, with the advent of writing, education became more conscious or self-reflecting, with specialized occupations such as scribe and astronomer requiring particular skills and knowledge. Philosophy in ancient Greece led to questions of educational method entering national discourse.

In his literary work *The Republic*, Plato described a system of instruction that he felt would lead to an ideal state. In his dialogues, Plato described the Socratic method, a form of inquiry and debate intended to stimulate critical thinking and illuminate ideas.

It has been the intent of many educators since, such as the Roman educator Quintilian, to find specific, interesting ways to encourage students to use their intelligence and to help them to learn.

2.2.3. Medieval education

Comenius, in Bohemia, wanted all children to learn. In his *The World in Pictures*, he created an illustrated textbook of things children would be familiar with in everyday life and used it to teach children. Rabelais described how the student Gargantua learned about the world, and what is in it.

Much later, Jean-Jacques Rousseau in his *Emile*, presented methodology to teach children the elements of science and other subjects. During Napoleonic warfare, the teaching methodology of Johann Heinrich Pestalozzi of Switzerland enabled refugee children, of a class believed to be unteachable, to learn. He described this in his account of an educational experiment at Stanz.

2.2.4. 19th century - compulsory education

The Prussian education system was a system of mandatory education dating to the early 19th century. Parts of the Prussian education system have served as models for the education systems in a number of other countries, including Japan and the United States. The Prussian model required classroom management skills to be incorporated into the teaching process.

2.2.5. 20th century

Newer teaching methods may incorporate television, radio, internet, multimedia and other modern devices. Some educators believe that the use of technology, while facilitating learning to some degree, is not a substitute for educational methods that encourage critical thinking and a desire to learn. Inquiry learning is another modern teaching method. A popular teaching method that is being used by a vast majority of teachers is hands on activities. Hands-on activities are activities that require movement, talking, and listening, it activates multiple areas of the brain. "The more parts of your brain you use, the more likely you are to retain information," says Judy Dodge, author of 25 Quick Formative Assessments for a Differentiated Classroom (Scholastic, 2009).

Chapter4.Education Issues in Rwanda

The level of education one has is often seen as a form of capital accumulation which helps in countries' development. In Rwanda, the government implemented policies over the years to ensure there is a high literacy rate among the population. As of 2004-2008, 77% of males and females are literate, which is a relatively high percentage, however, those who continue into secondary schooling stands at a low 31%. Nevertheless, the **Ministry of Education (MINEDUC)** can be seen as partially successful in getting the young to receive schooling.

The education level, in Rwanda, remains low despite implementation of the policies such as mandatory education for primary school (6 years) and lower secondary schooling (3 years) that is run by state schools. The children are not required to pay school fees for the mandatory schooling. A Rwandan is expected to complete an average of 10.6 years of education. However, the mean number of years that a Rwandan spends on education is 3.3 years, which is lower than the expectation. It is also lower than the average years of schooling in developed countries and Sub-Saharan Africa, which are 10.0 years and 4.5 years respectively. Based on the 2010 **Human Development Index (HDI)** report, Rwanda is ranked at 152 out of a total of 169 countries under the 'Low Human Development' category.

The number of Rwandans admitted into schools has increased between 2001 to 2008, but the facilities and resources have not increased at the same rate. Enrollment in primary school almost doubled over the decade, with an average annual growth rate of 5.4 percent between 1998 and 2009, to reach almost 2.2 million students in 2008. However, enrollment growth slowed in 2007/08 with a total increase of only 40,000 students, compared to an increase of 160,000 students in 2005/06. Surprisingly, no significant increase is apparent following the implementation of the fee-free primary education policy in 2003/04, implying that factors other than school fees play a role in the decision to send a child to school. In 2008, around 71 primary level pupils are taught in a single classroom and within the secondary school level for Rwandans, around 5 students shared 1 textbook on average. An average primary school teacher has to handle around 62 students as the class size increases at a faster rate as compared to the number of

teachers employed. The schools in the more remote rural areas also find it tough to attract teachers.

The constraints are aggravated by the fact that supplementary reading materials were inadequate, particularly for the lower primary school grades.

- (i) textbook distribution is heavily dependent on the availability of funds, which affects the government's ability to conduct adequate planning, and may not effectively respond to supply and demand;
- (ii) the evaluation of textbook publishing bids often take a long time;
- (iii) teachers feel that they are insufficiently involved in the textbook selection process; and
- (iv) textbooks may be damaged because of poor distribution and stock management.

These factors result in discrepancies in pupil to textbook ratios between schools and within districts. This goes to show that there is still a challenge in terms of access and high quality textbooks in Rwanda which are expected to be addressed in upcoming plans.

About 40% of the teacher's population in Rwanda have less than 5 years of teaching experience. The amount of teachers who are qualified in the primary school have increased to 99% in 2008, however the amount of teachers who are qualified in the secondary school are only 36% and 33% for lower and upper secondary respectively. This means that Rwanda is not able to produce a highly skilled workforce, especially when considering the large proportion of teachers who are not qualified to teach the secondary school pupils.

Most of the teachers, felt that they have been poorly paid. As a result, only 10% of the total teacher respondents have undergone qualification upgrading to attain higher qualifications for teaching in Rwanda. Most of the secondary school teachers are studying for higher qualification that is not for teaching. This shows that the incentive for further education is low and there are other jobs that have a higher benefit as compared to teaching in Rwanda. Overall, the lack of

quality in the education system, such as the standards of the teachers, lack of facilities and resources makes schooling unattractive.

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