TEACHING AND LEARNING

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Imaginex Inks Publication

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May 2025

Price: Rs. 450/-

ISBN: **978-81-986438-0-3**

Published by and copies can be had from:

Imaginex Inks Publication

71A 71B First Street, RKV Avenue,

Old Pallavaram, Chennai 600117, India.

Phone:9750663871, 9962991057

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ACKNOWLEDGEMENT

The successful completion of this book, "Teaching and Learning," would not have been possible without the support and encouragement from several individuals and institutions.

First and foremost, I express my profound gratitude to the management and leadership teams of our respective institutions—Vels Institute of Science, Technology, and Advanced Studies (VISTAS).

My heartfelt thanks go to my mentors, teachers, and academic guides who inspired my passion for education and helped shape my understanding of effective teaching and learning practices. Their insights and feedback were instrumental in refining the content of this book.

I am also grateful to my colleagues and peers, whose discussions and shared experiences enriched the quality of this work. Their collaboration and constructive criticism helped bring clarity and depth to the topics covered.

My heartfelt appreciation goes to our families and friends for their unwavering support, patience, and understanding during the writing process.

I also acknowledge the critical role played by Imaginex Inks Publication for their dedicated publishing support, meticulous editing, and design efforts that significantly contributed to the book's clarity and visual appeal.

Finally, I extend our gratitude to all the researchers, authors, and industry experts whose works and contributions to the domain of digital banking provided the foundational knowledge and inspiration for our exploration and analysis.

I hope this book will be an insightful resource for readers and professionals striving to understand the concept of Teaching and Learning.

Dr. K. Sheeba

PREFACE

Teaching and learning are at the heart of every educational journey. In a world that is constantly evolving, the methods we use to impart and acquire knowledge must adapt to meet the changing needs of students and educators alike. This book is an effort to explore the dynamic relationship between teaching and learning, blending foundational theories with practical insights drawn from classroom experiences.

The purpose of this book is to serve as a resource for educators, trainee teachers, education students, and anyone passionate about the craft of teaching. It aims to bridge the gap between theory and practice, offering a balanced perspective on how learners absorb information, how teachers can facilitate meaningful learning, and how the environment and tools used in the learning process can enhance educational outcomes.

Chapters in this book cover a wide range of topics, including learning styles, teaching strategies, classroom management, assessment techniques, and the use of technology in education. Each chapter is supported by research-based insights, real-world examples, and reflective questions designed to encourage deeper thought and application.

This book is the result of many years of teaching, observation, reflection, and collaboration. It would not have been possible without the support of fellow educators, researchers, students, and mentors who continually inspire the pursuit of excellence in

education.

I hope that readers will find this book not only informative but also inspiring—something they can return to as they continue to grow in their teaching and learning journeys.

Dr. K. Sheeba

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UNIT 1

UNDERSTANDING THE PROCESS OF TEACHING – LEARNING

TEACHING: CONCEPT

- ✓ The act of instructing or teaching another person is known as teaching.
- ✓ The act of giving instructions to students in a classroom setting is regarded as teaching.
- ✓ It is methodically observing.
- ✓ According to Dewey, it's a manipulation of the circumstances where the student gains knowledge and under standing on his own initiative.

MEANING

- ❖ In an educational setting, teaching is the activity that a teacher does with the intention of imparting knowledge, skills, and interpersonal abilities to a student, learner, or other audience.
- ❖ The process by which students assimilate this knowledge is known as learning, and it is intimately linked to teaching.
- ❖ The idea of education as a whole includes teaching.
- ❖ One method of facilitating learning is teaching.

- ❖ In order to address the particular educational needs of both society and the individual, teaching is the specialised application of information, skills, and attitudes.
- ❖ Teachers' direct interactions with students are the most crucial a spect of teaching, even if most of the work is done in a classroom.

DEFINITIONS

1. H C Morrison

"Teaching is an intimate contact between the more mature personality and a less mature one."

2. Jackson

"*Teaching is a face-to-face encounter between two or more persons, one of whom (teacher) intends to effect certain changes in the other participants (students)."*

3. J B Hough and James K Duncan

"*Teaching is an activity with four phases, a curriculum planning phase, an instructing phase and an evaluating phase. This definition presents the organizational aspect by which we can describe and analyse the teaching process."*

4. N.L.Gage (Democratic point of view)

"Teaching is interpersonal influence aimed at changing the behaviour potential of another person."

5. Clerk

"Teaching refers to activities that are designed and performed to produce in student's behaviour."

NATURE AND CHARACTERISTIC OF TEACHING

In order to help a person learn something in his life, teaching is a social and cultural activity that is organised. The following is a description of the nature and traits of teaching:-

- Education is an all-encompassing social process. Society both does and is the source of teaching. It is impossible to define the precise and permanent nature of teaching given how societal concepts are always evolving.
- Information is given during teaching. Students are taught the information they must know but are unable to learn for themselves. Knowledge sharing is a crucial component of teaching.
- For the purpose of guiding, advancing, and developing pupils, teaching is an interactive process involving the learner and the teaching resources.
- The process of teaching involves growth and learning.
- Behaviour changes as a result of instruction.
- Both science and art go into teaching.
- Instruction takes place in person.
- Education is observable, quantifiable, and adaptable.

- Being a teacher requires skill. It is expected of every successful teacher to be familiar with the general approaches to teaching-learning scenarios.
- Instruction promotes learning.
- The process of teaching is both conscious and unconscious.
- The level of instruction moves from memory to reflection.
- Instruction, indoctrination, training, and conditioning are all parts of the teaching process.
- Instruction can take many different forms, including didactic or experiential learning, performing or demonstrating descriptive or remedial work, or imparting knowledge.
- Teaching can be seen as a way to accomplish a predetermined set of learning goals because it requires specialised knowledge and skills.

QUALITIES AND CHARACTERISTICS OF A TEACHER

1. A passion for the topic:

- A teacher ought to be an expert in social science and studies subject. He must have a keen interest in the subject matter. A teacher cannot successfully instruct a class with fire, attention, and tenacity if he is not passionate about his subject. The instructor must be passionate about and committed to Social Science/Studies in order for it to have a rightful place in the curriculum.

2. Character:

- In the words of W. M. Ryburn, "The success of teaching process will depend on the teacher, on his knowledge and skill but especially on his general personality, qualities of life and character."

3. A sound body and sound mind:

- A teacher needs to be in good physical health in order to perform

4. Individual Appearance:

- The index of thought is the face. Students will be affected by a teacher whose look is appealing to them. Children today cannot be persuaded by a messy instructor wearing inappropriate attire; little children in particular cannot be influenced by a messy teacher.

5. Tone:

- A teacher should have a distinct and powerful voice. He needs to pronounce things correctly to avoid teaching the kids the wrong way to talk.

6. Wording:

- The youngster ought to be able to communicate clearly and consistently. A teacher must explain everything in depth, especially the crucial details. Only when he is proficient in language and expression will he be able to do this.

7. Higher Than Typical Intelligence:

- A person with above average intelligence alone can become a skilled teacher because of his genuine and quick-thinking attitude and outlook.

***8. Good Mental Health*:**

- A teacher ought to have a well-rounded perspective. His responsibilities require an active and spirited existence. He ought to approach every situation with enthusiasm. A teacher who has struggled in life also causes challenges for his students. He is capable of embarrassing himself in front of pupils and other educators. A depressed and pessimistic

individual is never a good instructor. A teacher ought to have a happy life.

9. Audio Qualities:

- A teacher's demeanour and mannerisms should never be criticised. He needs to regulate his emotions, particularly his fury. When interacting with pupils, he ought to exude bravery and satisfaction. He ought to live up to the values he tries to in still in his students. He must to have a fair, unbiased, and miscommunication-free attitude. He has to abstain from vices like drinking, smoking, lying; using foul language, etc., as society rightfully expects him to.

10. Passion:

- A person who is passionate and fervent tries to accomplish meaningful goals in life. To achieve significant success in life, one must possess this trait. A teacher should continue learning more about his field in order to stay up to date on the newest advancements in science and technology. In addition, he ought to research the most recent methods for creating curricula and organising their material.

11. Joyfulness:

- An instructor ought to be upbeat and forward-thinking. A teacher who holds out dated beliefs fosters a learning atmosphere that is unsuitable for effective instruction.

12. Crystal Clear Self-Reflection:

- A teacher ought to have a clear outlook on life. In addition to keeping in mind social norms and his obligations, he should consider his career, advancement, and well-being.

13. Characteristics of a Leader:

- The person in charge of a class is called a teacher. A teacher can easily impose discipline in the classroom if he possesses strong leadership abilities**.**

14. A Wide Range of Hobbies:

- A teacher ought to have a wide range of interests and pastimes. In addition to the scheduled activities, he ought to participate in sports and games and co-curricular activities.

15. Harmony of Emotions:

- An educator ought to be emotionally stable. Without it, teachers might not be able to help pupils develop their emotional intelligence and might have to deal with a variety of challenges.

16. Firm Decision:

- Since teachers are seen as the ones who construct nations, they are required to possess a spirit of unwavering resolve. An educator ought to be sincere, understanding, and truthful. He cannot effectively lead the community and the kids if he lacks high moral standards. A teacher would be more successful if he or she were more determined. As a result, a teacher needs to be very determined in what they do.

17. Positivity Regarding Subject:

- A teacher's attitude directly affects the learning process and rate of pupils, hence it is important for him to model a good and constructive attitude for his subject. To help the kids acquire a positive outlook on life, teachers should introduce the students to the lives of notable people.

18. Creativity:

- When teaching becomes more successful, a resourceful teacher can make arrangements for various resources (appliances, aids, etc.) as needed. An educator ought to possess creativity and imagination, which should be evident in their actions.

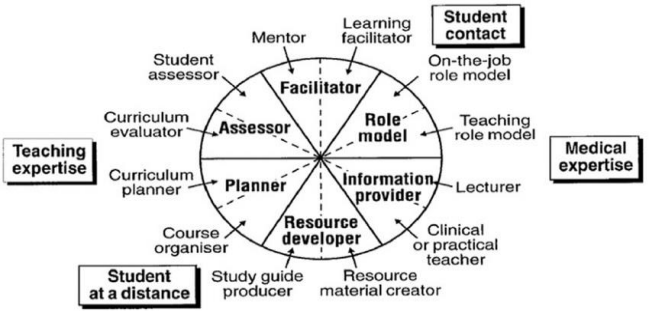
19. Self-belief and patience:

- It is essential for educators to have self-assurance. Teachers who analyse and teach the subject need to be confident and tolerant. When they are not present, he becomes agitated and finds it difficult to provide instructions. A proficient educator needs to possess patience, tolerance, and confidence to effectively and promptly address the challenges faced by their pupils.

20. Well-being:

- A teacher ought to be in good physical and mental health. He ought to be a morally upright person. It's commonly believed that a sound body belongs to a sound mind. A teacher's ability to perform at his best may be affected by his health, as excitement for teaching is derived from vitality and energy. A teacher should be aware of his surroundings and not just physically powerful; this is even more crucial and vital.

TEACHER'S ROLES:



TEACHER AS A PERSON:

First, we must comprehend the function of a teacher in diverse contexts. It is common knowledge that educators have obligations to the family, the school, society, and the country.

The roles that follow will teach us about what is expected of teachers, from their job in the classroom to their duty as citizens of the nation.

❖ *AN INSTRUCTOR IN A CLASSROOM:*

- A teacher's primary duty in the classroom is to make sure that learn ing objectives are met.
  These can be defined as learning in terms of predefined attitudes, a bilities, and knowledge in particular
  subject areas.
- A teacher works to accomplish both school objectives and the overall purpose of education—the holistic development of students through these courses.
- To do this, a teacher sets up an artificial environment in the

classroom to aid in students' learning.

- Put another way, teachers use material as a medium or tool to supp ort students in developingtheir whole personality, which is what education is all about, in addition to helping them acquire information, skills, and attitudes.

❖ ***INSTRUCTOR AS A COWORKER:***

The position of a teacher as a "teamplayer" comes to mind when we consider their job as a coworker.

A teacher can only complete a lot of tasks in the classroom and at school with the assistance of other teachers.

These qualities are necessary for a teacher to be a good colleague:

- We should be open to hearing other people's thoughts first.
- We should be aware of the situations in which you can help students and the situations in which you can assist other educators.
- The greatest person to determine how involved you are is yourself.

  Teachers benefit from tight collaboration and ongoing engagement not just in helping them better understand their students and their issues, but also in helping they grow perso nally as educators.

  Additionally, it indirectly encourages students to adopt a min dset of "openness."

❖ ***TEACHER AS A CITIZEN:***

A teacher serves as an example for future citizens since they are both educated individuals who impart knowledge to others.

By engaging in democratic processes, acting as an impartial and objective critic of society, being aware of national events such a s riots, corruption, exploitation, and the like that impede a count ry's progress, and mobilising resources to quell anti-social and antinational activities, teachers enable democracy to function.

Above all, a teacher must be a student's friend, philosopher, and guide.He or she must motivate students to do their hardest and support the country.

TEACHER AS A KNOWLEDGE CARRIER:

The function of a teacher in a typical educational setting, where the following are required of them, should be examined in order to comprehend the role of a teacher as a transmitter:

- A lesson is introduced by the teacher.
- A concept is explained by a teacher.
- A teacher answers students' questions by providing an appropriate example.
- An instructor illustrates a point with a diagram.
- An instructor poses inquiries to students.

In each of the aforementioned scenarios, a teacher is an active participant in the teaching-learning process; they are one of the stimuli to which students are exposed in order to facilitate learning. Other inputs include the content that students exchange, the teacher's transactional style, and any additional audio visual tools the teacher uses to support effective learning.

EDUCATOR AS A STRATEGIST:

Compared to other roles, the planning position of a teacher is highly visible. You'll concur that a teacher organises a lot of materials for instruction and learning. As a teacher, you have probably made a lot of plans for your students, your subject, or your institution. You are engaged in planning for each of these situations. Have you ever thought back on the fundamental planning processes you've used for instruction, evaluation, extracurricular activities, events, etc.?

Fundamental procedures those are included in all forms of planning for the teaching-learning process:

- ***Goal:***

  All planning has a specific goal in mind.

  It could involve elucidating any idea, contemplating any action, observing any occurrence, or acquiring new life skills, among other things.

- ***For whom:***

  The learner is at the core of every teaching-learning planning.

  Planning anything for a learner should take their abilities, strengths, weaknesses, etc. into consideration.

- ***while:***

  As a planner, you should consider the time while creating lesson plans, reviewing assessments, or organis ing any kind of event. What time will it happen?

- ***Where:***

  When arranging the location and space, it is important to consider the event's location, whether it is within a classroom, on school property, or outside.

- ***How:***

  An appropriate execution strategy is a crucial part of planning as well.

  The method, media, procedure, sequence, etc. that will enable you to carry out your plan as intended must be planned as a planner.

- ***Result:***

  A skilled planner always has plans regarding anticipated results.

  Constructivist theory, however, prioritises learning over results.

In order to execute the plan in a way that would facilitate learne rs, teachers must also plan for the desired learning.

AS A CO-CREATOR, THE TEACHER:

The 2005 National Curriculum Framework envisioned educator s as coauthors of knowledge.

Teachers are occasionally referred to as "learners' knowledge partners. "Educators are collaborators when they:

- Encourage students to formulate original questions on different observations.
- Have students use scaffolding from teachers to find a problem's likely solution and interpret a scenario in thei r own way.
- Motivate students to collaborate in groups and take an a ctive role in the group.
- Maintain students' engagement and inspire them to continuously watch, respond, and reflect.
- Assist students in developing new information through experiments, conversations, debates, and inquiry while utilising their prior knowledge.

AS A FACILITATOR, TEACHER:

- ✓ "Instructing is Beneficial."
- ✓ A facilitator, not a content provider, is what the teacher must become.
- ✓ An individual can never be taught anything.

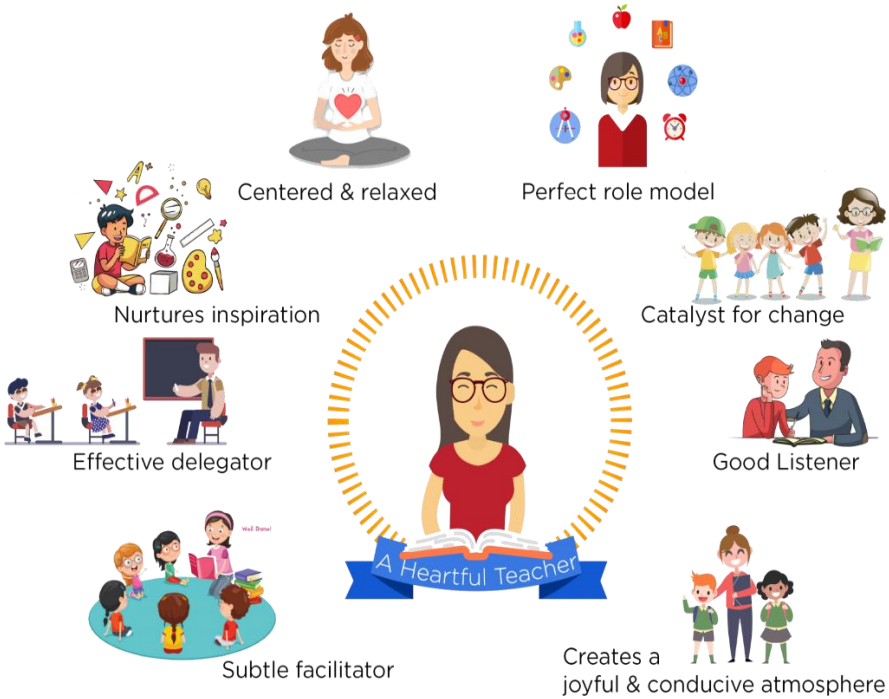
- ✓ He must find it inside himself if you are to assist him.
- ✓ Try to create an environment where learning can occur, but never instruct students.
- ✓ A facilitator is someone who, without providing any personal assistance, helps a group of individuals reaches their shared goals.
- ✓ Speaking of the teacher as a facilitator in the classroom ,we indicate that the instructor is not the one in charge of all the students' activities.
- ✓ The instructor ought to provide the students room to express their inventive and creative energies.
- ✓ Put another way, in order for the learning process to be comprehensive, the students must actively participate in debates that incorporate disagreement and teamwork
- ✓ Teachers are evolving into facilitators of learning.
- ✓ They are no longer tasked with teaching students how to "construct their own learning."
- ✓ Teachers have historically been the ones having indepth knowledge and experience in a given subject.
- ✓ They provide their students with the knowledge in a number of ways.

- A proficient facilitator incorporates empathy for others and a vigilant understanding of the multifaceted nature of reality within a human group.

- In meetings or conversations, a facilitator assists a group of people in understanding their shared goals, planning how to get there, and improving their ability to collaborate.
- By doing this, the facilitator doesn't adopt a stance in the conver sation and instead stays impartial.

  As a facilitator, the teacher's role is to encourage each student to think and practise as much as they can.
- In their role as facilitators, teachers foster mutual understanding, full participation from students, and shared responsibility.
- A facilitator helps all students in a group to look for inclusive an swers and create long-

  lasting agreements by encouraging each student to think to the fullest extent possible.
- Teachers who wish to facilitate group decisionmaking must also have a solid understanding of processes, how to set up agendas that produce the desired outcomes, how to solve problems, etc.
- Effective listening, sincerity, understanding, respect, intelligence, and interpersonal communication skills are traits of teachers who are high facilitators of human progress.



CLASSROOM MANAGEMENT:

To establish a highachieving learning environment, teachers can employ a range of skills and strategies under the umbrella of classroom management.Fundamentally; it seeks to guarantee that lessons go well, that students don't cause too much disruption in the classroom, and that instructional resources and activities encourage learning.

Ensuring that the teacher and students benefit as much as possible from the classroom experience is the ultimate goal.

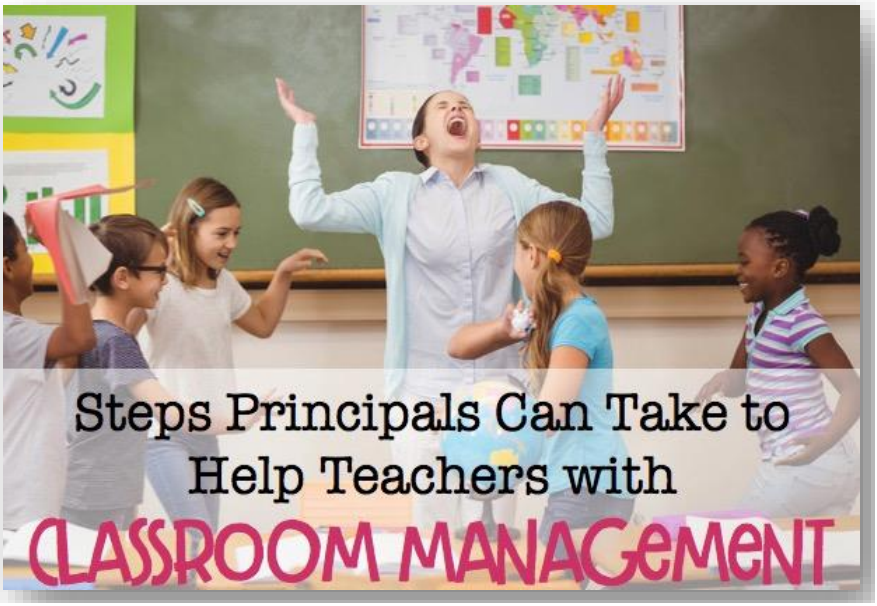
Aiming for: Effective classroom management should Establish a well-structured and efficient learning environment for both educators and pupils. Provide scholastic and personal development opportunities Minus disruptive behaviour and other negative classroom attitudes. Make sure to prioritise learning time and use your time wisely. Verify the concentration, drive, and productivity of your students. Encourage a welcoming atmosphere that accommodates everyone

NEED FOR EFFECTIVE CLASSROOM MANAGEMENT:

- Without effective classroom management, it is impossible to establish a healthy classroom culture and foster a learning environment.

- Achieving efficient classroom management also lessens the chance of experiencing tension and anxiety at work, and you'll probably discover that it increases your level of job satisfaction.
- It's a fact that everyone wants to be able to arrive to work every day smiling.
- It will help your pupils grow, but it will also help you as a teacher.
- Both of these things will be beneficial for your professional development and advancement.To put it simply, good classroom management is crucial.
- It will not only enable you to carry out your duties effectively, but it will also guarantee that your pupils reach their greatest potential.

VARIOUS APPROACHES TO CLASSROOM MANAGEMENT:



The implementation of classroom management tactics can vary grea tly based on a number of circumstances, including:

1. ***Course topic***
2. ***Students' ages***
3. ***The classroom's size***
4. ***The way you are as an instructor***
5. ***The way your students act.***

❖ ***MAKE A WELL-THOUGHT-OUT LESSON PLAN:***

- ✓ Effective classroom management begins with a well-crafted lesson plan.
- ✓ Students will benefit from a secure and effective learning environment if expectations are made clear.
- ✓ Preparing the lesson plan in advance of the semester will all ow you to implement any necessary rules and guidelines right away.
- ✓ But, you should be able to modify your plan as needed because unanticipated events can force you to reconsider some of its components.
- ✓ ***ESTABLISH A GOOD RAPPORT WITH YOUR STUDENTS***:

  Developing a rapport with your students is essential.
- ✓ Effective classroom management entails determining each student's interests and goals in addition to learning about the ir skills and shortcomings.

- ✓ In addition to improving their academic achievement, this will foster a sense of trust and may have a significant impact on their personal growth.
- ✓ Everybody has been a student at some point, and we all know from experience that the teacher and your working connection with them are often the reason for our favourite lessons.

❖ ***BE PRECISE AND ESTABLISH DEPENDABLE PROCESS***

- ✓ The majority of students frequently want to know expectations so they may plan appropriately and feel at ease in a classroom setting.
- ✓ Using classroom management techniques that help students feel safe and comfortable would probably boost their motivation and output.
- ✓ Therefore, it is your responsibilities as a teacher to make sure that your instructions are understood and that you have dependable procedures in place to minimise disruptions.

❖ ***REMAIN COMPOSED AND CONCENTRATED:***

- ✓ You should constantly make an effort to maintain composure and concentrate since the way you act will directly affect your students.
- ✓ This will put your students at ease and demonstrate to rowdy kids that you are not easily shaken.

- ✓ When classrooms begin acting out, it's usually because someone has identified a vulnerability and they enjoy a chaotic learning environment.
- ✓ Even though teaching can be a very demanding profession, successful classroom management calls for the maturity and composure to handle difficult situations.

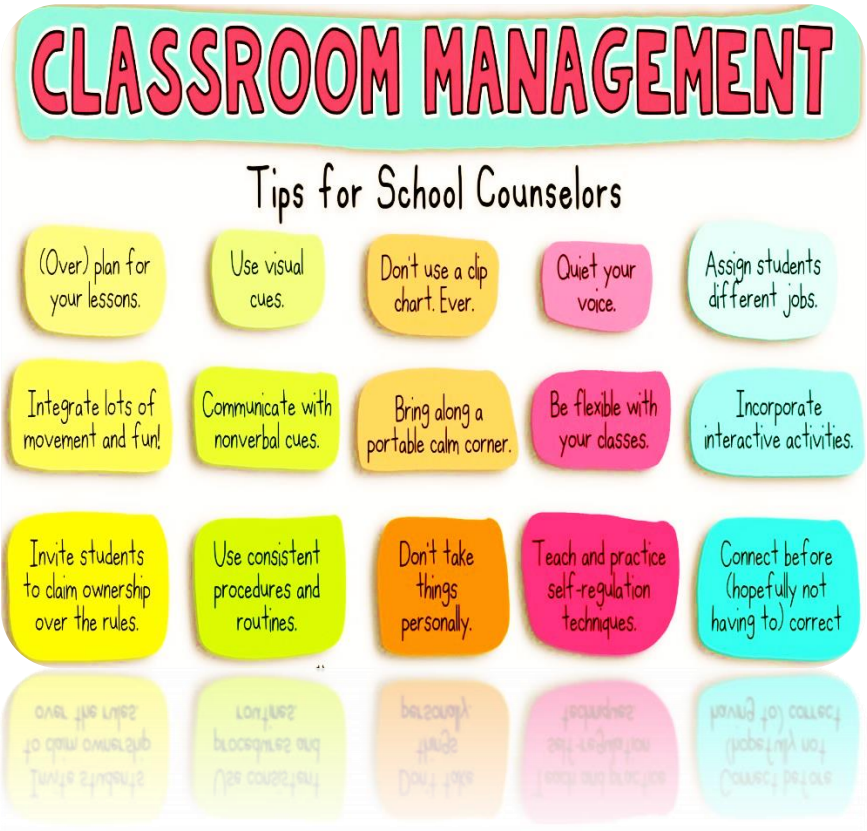
❖ ***MAINTAIN A CONSISTENT APPROACH TO TEACHING:***

- ✓ To ensure that pupils understand your expectations and the boundaries you establish, you should constantly make an effort to maintain consistency in your teaching style.
- ✓ In addition to being disturbing for the students, teaching in a completely different style every other week can make the classroom more difficult to manage.
- ✓ Even though you should always be flexible and adaptable in your approach, everyone's life is made much easier when there is a defined way of doing things and addressing circumstances.
- ✓ A mixed learning strategy is a tried-and-true technique.

❖ ***RECOGNISE WHEN TO LAUGH:***

- ✓ Keeping your sense of humour and having fun is the last tip on our list of classroom management techniques.

- ✓ Since students might be difficult at times, try to keep your sense of humour and be more approachable instead of losing your cool and losing your hair in certain instances.
- ✓ It never hurts to laugh and tell funny jokes with your pupils ; it's also a great method to establish rapport with them.
- ✓ Keeping things in balance is always the best course of action because, obviously, you don't want to go too far in the other direction and make your classroom into a stand-up performance.


CLASSROOM MANAGEMENT
Tips for School Counselors
(Over) plan for your lessons.
Use visual cues.
Don't use a clip chart. Ever.
Quiet your voice.
Assign students different jobs.
Integrate lots of movement and fun!
Communicate with nonverbal cues.
Bring along a portable calm corner.
Be flexible with your classes.
Incorporate interactive activities.
Invite students to claim ownership over the rules.
Use consistent procedures and routines.
Don't take things personally.
Teach and practice self-regulation techniques.
Connect before (hopefully not having to) correct

TEACHER LEADERSHIP:

- The practice of working and collaborating with professors and staff at the school to enhance existing teaching strategies and create new ones in order to support students' academic progress is known as teacher leadership.
- Aside from implementing new curriculum and new hire mentors hip programmes, teacher leaders can take on a wide range of leadership responsibilities, including as promoting practices and

projects that are implemented schoolwide (and occasionally district-wide).

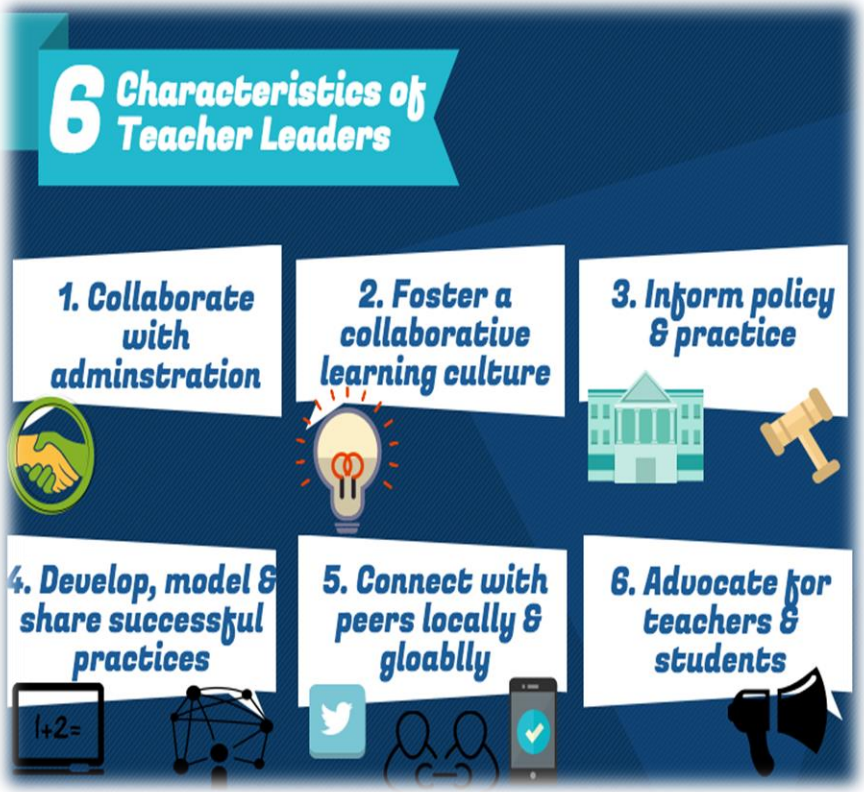
- While many teacher leaders continue to progress in their careers to higher leadership positions wherethey may make decisions to enhance curriculum development, student achievement programmes, and instruction, they are still great educators in the classroom.

IMPORTANT LEADERSHIP ABILITIES FOR TEACHERS:

- ***Ability To Solve Problems***
- ***Technical Proficiency***
- ***Collaboration Abilities***
- ***Aptitude For Organisation***

<u>ENHANCE TEACHERS' CAPACITY FOR LEADERSHIP</u>:

- ✓ There are multiple techniques that can assist you in enhancing your leadership abilities as a teacher.
- ✓ Take into account the following advice to help you enhance your overall leadership abilities and create a variety of skill sets:
  - ***Provide avenues for input.***
  - ***Improve your ability to listen intently.***
  - ***Recognise when to modify your tactics.***
  - ***Offer to assist new instructors as a mentor.***
  - ***Organise yourself better.***
  - ***Conduct assessments and make use of them for development***
  - ***Establish objectives for your teams.***


6 Characteristics of Teacher Leaders
1. Collaborate with adminstration
2. Foster a collaborative learning culture
3. Inform policy & practice
4. Develop, model & share successful practices
1+2=
5. Connect with peers locally & gloablly
6. Advocate for teachers & students

UNIT 2 Concept and nature of learning

LEARNING:

Learning occupies a very important place in our lives. It provides a key to the structure of our personality and behaviour. Experience, direct or indirect, plays a very important and dominating role in moulding and shaping the behaviour of the individual from the very beginning.

When a child touches a hot pan and gets burnt, she immediately withdraws her/his hand and learns to touch such vessels carefully. S/he concludes that if one touches a hot vessel, one gets burnt. In the same way from other experiences, in his/her day to day life, she drives different conclusions, commonly known as learning conclusions and modifies his/her behaviour. These changes in behaviours brought about by experience are commonly known as learning and this process of gaining experiences, drawing conclusions and changing behaviours goes on from womb to tomb.

NATURE OF LEARNING:

1. ***LEARNING IS A PROCESS AND NOT A PRODUCT:***
   - ✓ Learning is a fundamental and lifelong process: attitudes, fears, gestures, motor skills, language skills, etc... are the products of learning.
   - ✓ They are not learning themselves, in the classroom, when learning is viewed as a product then it is viewed as something external.

- ✓ Something like shopping people go out and buy knowledge and then it becomes their possession.
- ✓ Paulo Freire in his book 'Pedagogy of the Oppressed' criticises this and says that education thus becomes an act of depositing, in which the students are the depositories and the teacher is the depositor.
- ✓ In this 'banking' concept of education, is the subject of the learning process, while the pupils are mere objects, whereas, when learning is viewed as a process, it is viewed as something internal and personal.
- ✓ It is something that a child does in order to understand the real world and uses it as a tool for survival.

2. ***LEARNING IS PURPOSIVE OR GOAL DIRECTED:***
   - ✓ Learning is not an aimless activity.
   - ✓ All true learning is based on purpose.
   - ✓ We do not learn anything and everything that comes in our way in a haphazard manner.
   - ✓ However, some experts argue that sometimes learning is unintended.
3. ***LEARNING GENERALLY INVOLVES SOME DEGREE OF PERMANENCE:***
   - ✓ Activities bringing temporary change in behaviour and not lasting do not come under learning.

- ✓ For example, cramming. The content matters by a learner for examination and forgetting it after sometime does not bring any change (to some extent to permanence) in the total behaviour pattern of the learner and thus his type of learning cannot be said as true learning.

4. ***LEARNING IS UNIVERSAL AND CONTINUOUS:***

- ✓ Every creature till it lives, learns.
- ✓ In human beings it is not restricted to any particular age, sex, race or culture.
- ✓ It is a continuous never-ending process which starts from birth and continues till death.

5. ***LEARNING PREPARES FOR ADJUSTMENT:***

- ✓ Learning helps the individual to adjust herself/himself adequately and adapt to the changes that may be necessary to the new situations.
- ✓ We meet with new situations which demand solutions.
- ✓ Repeated efforts are required to react to them effectively.
- ✓ These experiences leave behind some effects in the mental structure and modify our behaviour.

6. ***LEARNING IS COMPREHENSIVE:***

- ✓ The scope of learning is spread over each and every dimension of life.

- ✓ It is a very comprehensive process which covers all domains Cognitive, Affective and Psychomotor- of human behaviour.

7. ***LEARNING IS CHANGE IN RESPONSE OR BEHAVIOUR MAY BE FAVOURABLE OR UNFAVOURABLE:***
   - ✓ Learning leads to changes in behaviour but this does not necessarily mean that these changes always bring about improvement of positive development.
   - ✓ There are chances to drift to the negative side too.
8. ***LEARNING IS ORGANISING EXPERIENCE:***
   - ✓ Learning involves all those experiences and training of an individual (right from birth) which help him/her to produce changes in behaviour.
   - ✓ It is not mere addition to knowledge or mere acquisition of facts.
   - ✓ It is the reorganisation of experience which may also include unlearning.
9. ***INSTINCTS AND REFLEXES ARE NOT LEARNING:***
   - ✓ Changes in behaviour on the bass of native response tendencies like instincts and reflexes (e.g. infant's sucking behaviour, blinking at bright lights) cannot be attributed to learning.

LEARNING AND RELATED CONCEPTS:

In lesson one and two of this unit, you have been facilitated to develop your conceptual understanding of learning. When one thinks about learning, many related terms and concepts also come to mind, with which, one case get confused. This lesson is highlighting such common concepts related to learning like maturation, imprinting and teaching. Along with this, the lesson will discuss about dimensions of learning and also learning as a psychological and social construct.

1. LEARNING AND MATURATION:

- According to Hurlock (1942), maturation is the unfolding of characteristics potentially present in the individual that comes from the individual's genetic endowment, while, learning is development that comes from exercise and effort.
- Biggie and Hunt (1968) defined maturation as a developmental process within which a person, from time to time, manifests different traits, 'the blue-prints' of which have been carried in his cells from the time of his conception.
- Thus, maturation is a natural process and it involves changes that are associated with normal growth. These changes are independent of activity, practice or experience. The resultant behaviour, thus, or account of the process of maturation does not fall in the category of acquired or learned behaviour. However, maturation is closely linked with results of learning and with the process of development.

- Before certain kinds of learning may take place, one has to have achieved a certain level of maturation. Infact, learning and maturation are so closely interrelated that sometimes it becomes difficult to say definitely, particularly in human beings, as to which of the behavioural changes the results of learning are and which the consequences of maturation are. Aggarwal (2008) has discussed it as follows,
- "The swimming of tadpoles and the flying of birds can be attributed primarily to maturation. But in the case of human beings it is not easy to decide whether the activities result from maturation or learning. The simplest example is that of a child. The child learns to talk only when he reaches a certain stage or age of maturation. It is also equally true that he does not learn the language just because he attains that age. The language ls taught to him. The language which he learns is that which he hears. It is very clear that the two processes- maturation and Understanding Learning learning are closely related to each other. Maturation assists in the process of learning. Learning takes place only if the stage for that type of learning has been achieved through a process of maturation. A teacher would be effective if he understands the complexity of the changes that take place as a result of both processes and the interaction between the two. The reverse would be harmful.
- For instance, the normal development of speech in the child would be disrupted if a child is forced to learn certain speech

patterns before a certain maturation has occurred. On the other hand, failure to provide specific training in speech at the appropriate time may be a great educational error."

2. Learning and Teaching

- Teaching is a system of actions which induce learning through interpersonal relationships. It is a purposeful social and professional activity. The ultimate goal of teaching is to bring about the development of a child. Teaching is a complex phenomenon as its nature is scientific as well as artistic.
- Gage (1979) has discussed teaching as a science to describe 'the elements of predictability' in teaching and as an art to describe ' what constitutes good teaching'. When we consider teaching as an art, we consider it loaded with emotions, feelings, values, beliefs and excitement and difficult to derive rules, principles or generalisations. When we consider teaching as science, then pedagogy is predictable to the extent that it can be observed and measured with some accuracy and research can be applied to the practice of teaching. The total task of teaching is to provide a conductive environment to the child for learning and helping him in exploring his potential. That is why; Joyce, Weil and Calhoun (2009) say that models of teaching are really models of learning. As we help learners in acquiring information, ideas, skills values, ways of thinking, and means of expressing themselves, we are also teaching them how to learn. In fact, the most important long-term

outcome of teaching may be the learners ' increased capabilities to learn more easily and effectively in the future.

- "Any valid conception of teaching must be integrally related to a conception of learning. How human beings learn should provide much of the basis for our derivations of how teachers should teach' (Gage, 1967).

3. Learning and Imprinting

- 'Imprinting' as a term was first used in the 1930s by the Austrian Ethologist Konrad Lorenz for describing the attachment behaviour of new-born-birds to the first large moving objects in their environment. He conducted a series of experiments for studying such attachment behaviour. Like, in his initial experiments he demonstrated that ducklings and goslings follow the mother soon after hatching
- Afterwards, Lorenz replaced the mother by a big object like football and found the new-borns following the new object. In one of his later experiments, he himself worked as a substitute for the object and the mother. He first hatched a group of goslings in an incubator and then presented himself as the first moving object they saw. He found that the new born birds began to follow him wherever he went. Thus, he concluded that imprinting represents an inborn perceptual process independent of any training or experience. It is a sense of strong connection or attachment that is made between the new-born organism and

the first object it may have initially responded to. This attachment behaviour is a species-specific behaviour and is not exhibited by all species.

- Imprinting is quite dissimilar and distinct from the actual process of learning. It depends on an instinctive and inborn species-specific behaviour mechanism rather than the experience and training carried out during specific critical periods of the species life time soon after birth.

TYPES OF TRANSFER OF LEARNING:

Transfer of learning may take place in three ways,

I. ***POSITIVE TRANSFER:***

- ✓ Positive transfer occurs when the acquisition of one type of performance facilitates another type.
- ✓ In the positive transfer, learning of one activity makes learning of another activity easier.
- ✓ For instance, school children, who memorise poems, mathematical tables and other verbal material, show better learning of the similar new material as compared to the children who did not get previous training in memorization.
- ✓ It is also a common experience that learning to pedal tricycles makes the pedalling of bicycles easier.

- ✓ In all these examples, we have noticed that previous learning of a related skill benefits the learner in subsequent learning.

II. ***NEGATIVE TRANSFER:***

- ✓ Negative transfer occurs when the previous puts hindrances in the performance of the subsequent task.
- ✓ The content, techniques or principles which make for negative transfer are opposed to those required by the new situation.
- ✓ For instance, after the end of a year, most of us continue to write the previous year on our cheques for some time.
- ✓ If the telephone number of our friend changes, we often continue dialling their former number.
- ✓ When we switch over from riding a bicycle to driving a scooter, we often put the clutch lever for stopping the vehicle instead of using the foot brake.
- ✓ These types of habits' interference are examples of negative transfer of learning.

III. **Zero transfer:**

- ✓ The zero transfer refers to the fact that previous learning has no effect on the subsequent learning.

- ✓ e.g.: A cricketer who improves his bowling skills is not expected to transfer this skill to improve his batting skill.

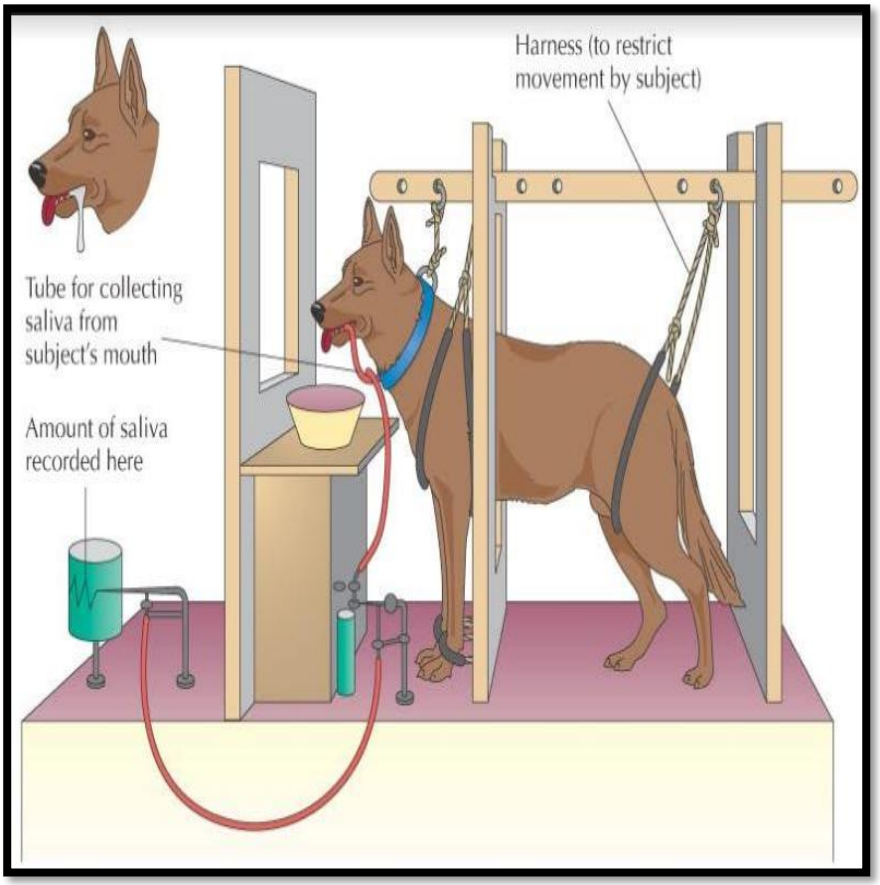
CHARACTERISTICS OF A BEHAVIOURISTIC APPROACH TO LEARNING:

The behaviourist approach has the following important characteristics:

1. Behaviourists believe in the objective study of behaviour - animal and human being both (objectively observable behaviour).
2. Its chief emphasis is on the environment. This approach considers the environment more important than heredity in the determination of behaviour.
3. Conditioning is the key to the understanding of behaviour, which is composed of stimulus and response links and can be successfully analysed by the objective scientific method.
4. The chief method of learning is condition.
5. Behaviourists believe that one unit of knowledge gets associated with a new unit of knowledge by virtue of similarity, contrast or contiguity (closeness of occurrence in time or situation).

PAVLOV'S CLASSICAL CONDITIONING:

- Pavlov was basically a physiologist. While working on the digestive system, he proposed a theory of learning which propagates stimulus-response conditioning. This theory is known as 'classical' as it was the first theory of conditioning; later Watson and Skinner worked on its different dimensions.



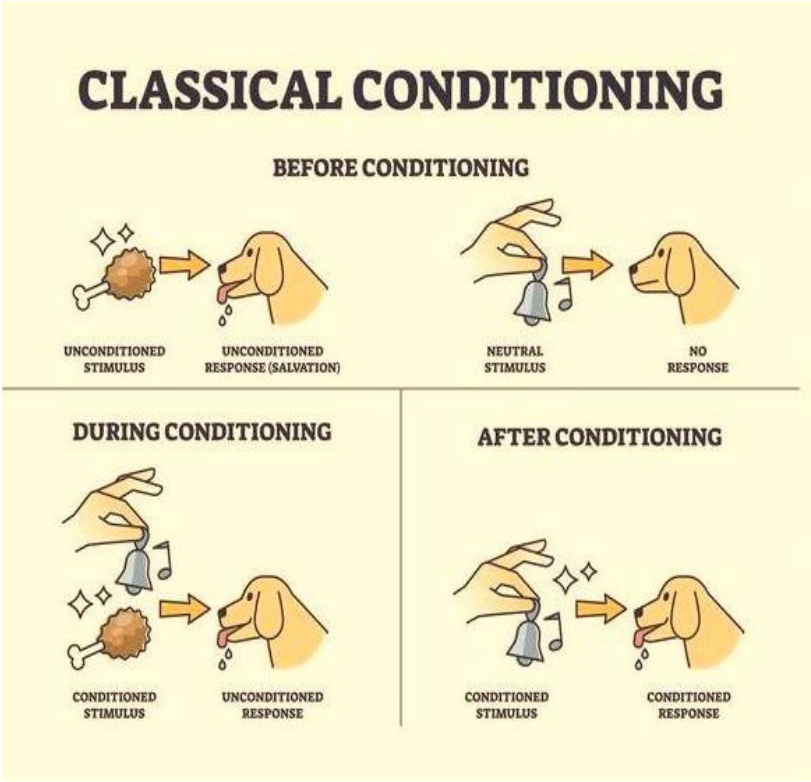
- This learning theory of Pavlov is based on his famous experiment on dogs. This theory explains learning by associations and focuses on learning of involuntary emotions or psychological responses such as fear, increased muscle tension, salivation or sweating. (Woolfolk, 2013, p. 235) During the salivation experiment, Pavlov proposed a few concepts, which

are very important to know, if one wants to understand classical conditioning.

1. ***NEUTRAL STIMULUS:*** It is a stimulus which is not directly responsible for desired response in neutral condition, e.g.: a tuning fork or a bell has nothing to do with salivation, if it is being used without association with food.
2. ***UNCONDITIONED STIMULUS*****:** It is a stimulus which does not require any conditioning for desired behaviour. Sometimes It is known as natural stimulus also, e.g. Food is an unconditioned stimulus for salivation.
3. ***CONDITIONED STIMULUS:*** When a neutral stimulus is conditioned with an unconditioned stimulus for bringing desired behaviour change, it becomes a conditioned stimulus. A bell or a tuning fork, when presented as a stimulus along with food, and gets conditioned for salivation, is a conditioned stimulus.
4. ***UNCONDITIONED RESPONSE:*** The behaviour which does not require any training or conditioning for association with an unconditioned stimulus, e.g. salivation is unconditioned response for food as unconditioned stimulus.
5. ***CONDITIONED RESPONSE:*** The behaviour or response occurred due to conditioned stimulus, is known as conditioned response, e.g. salivation after ringing the bell or tuning fork is a conditioned response.
6. ***GENERALISATION:*** If behaviour occurs in presence of other stimulus similar to the conditioned one, this is called

generalisation, e.g. salivation after hearing the sounds similar to bell (sometimes may be in higher or lower tone also), is called process of generalisation.

7. ***DISCRIMINATION:*** Pavlov proved that at higher levels of conditioning, dogs learnt to distinguish the sounds and stopped salivation on sounds other than the bell. This is called discrimination.
8. ***EXTINCTION:*** lf only conditioned stimulus is being presented repeatedly without associating with the unconditioned one, the desired behaviour (salivation in this context) faded and stopped to occur.
9. ***SPONTANEOUS RECOVERY:*** Pavlov observed, if after extinction, the unconditioned stimulus is being associated again with conditioned stimulus, the behaviour reoccurs immediately.



- These are few concepts as outcome of Pavlov's experiment.
- Classical conditioning helps a teacher to associate positive events with learning.
- It helps in avoiding undesired behaviour also and helps learners in recognizing the situations to discriminate and generalise properly.

LIMITATIONS OF BEHAVIOURISTIC APPROACH:

The behaviourist approach to learning has certain limitations. Important among them are as follows:

1. The approach considers human beings as machines which may not be true.
2. This approach explains emotions, thoughts and actions entirely with reference to only. This over behaviour.
3. It is doubtful if the results derived from controlled experimental studies on animals would yield the same results on human beings in social learning situations.
4. It is argued that the behaviourists have ignored the structural and hereditary factors which are very important in the development of the psychological process of language.
5. The operant reinforcement system does not adequately take into account the elements of creativity, curiosity and spontaneity in human beings.
6. Behaviourists argue that all human behaviour is acquired during the lifetime of the individual. Thus this theory gives no place to the importance of genetic inheritance.
7. Skinner's theory of learning dehumanises the learning process on account of its emphasis on the mechanisation of the mental process.
8. Operant theory of learning does not deal with the depth of mind and thus it is artificial in nature.

IMPORTANT CHARACTERISTICS OF THE FORMULA OPERATION PERIODS/STAGES:

The important characteristics of the formal operation period/stage are listed below:

1. Learner at this stage survey many possibilities
2. They design a system of what is hypothetically possible, is structured and followed by empirical verification.
3. They can conceive of an imaginary world.
4. They become critical of their own standards and look objectively at the assumptions in hand.
5. They accept assumptions for the sake of argument.
6. They generate hypotheses, discuss and proceed them to test
7. They try to generalise things
8. They become conscious of their own thinking and provide rational/ justification for their thinking, judgement and actions.
9. The older adolescents or adults are sufficiently detached from their ego and from their inner world to be objective. They are also detached enough from external things to be objective observers and to be able to reason about the assumptions and the hypotheses and as such they can establish general laws.
10. They go even to the extent of finding empirical and mathematical proofs for their observations.

11. At this stage, thinking goes beyond the immediate present and attempts are made by them to establish as many vertical relationships as possible.
12. Notions, ideas and concepts are formal which belong to the present and future.

SKINNER'S OPERANT CONDITIONING APPROACHES TO LEARNING:

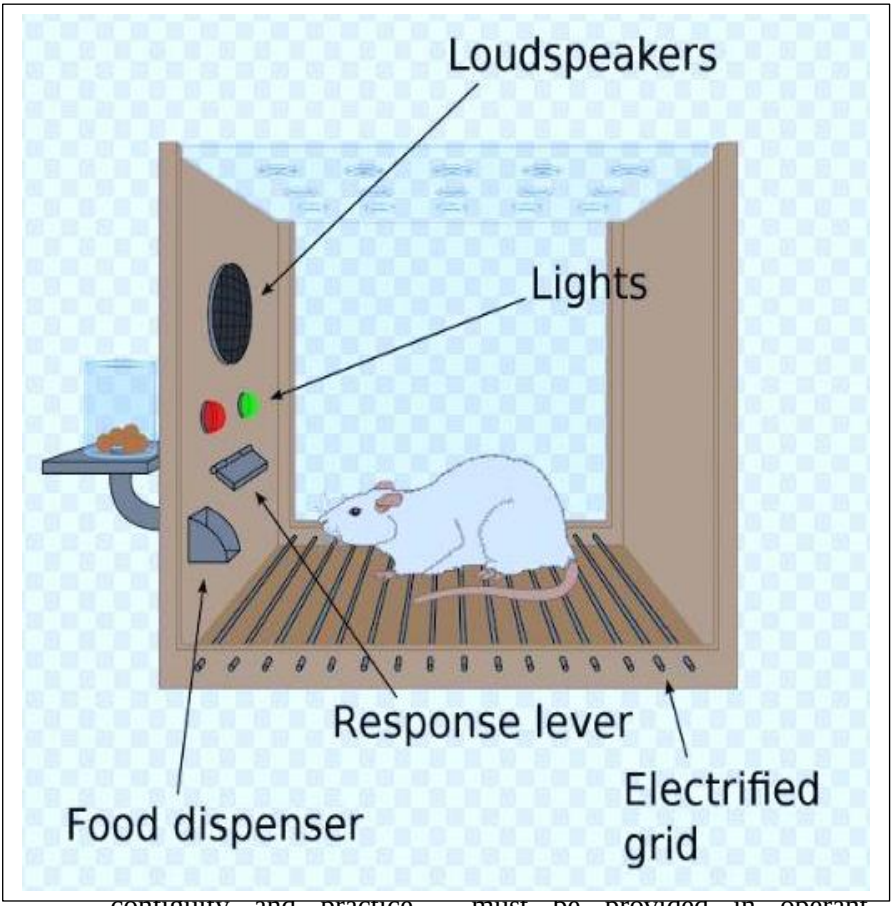
- Behaviour refers to an activity of an organism that can be observed and measured by another person/organism or by experimenter.
- It includes activities like pressing a key or a lever, or a button, uttering a word, answering a question correctly, solving problems, and so on. Skinner, as distinct from
- Pavlov and other behaviourists, used the operant conditioning approach to the study of learning (operant is the response made by an organism to the surrounding environment).
- When a dog, for example, is taught a trick, it is usually rewarded by food or by patting after it makes the appropriate behaviour.
- Operant behaviour can be evoked by a wide range of stimuli. This can be brought under stimulus control through the process of discrimination.

- The basic operation in a Skinnerian experiment is to determine the rate at which a given operant (e.g. pulling a level or pecking a key) is emitted under a given set of conditions.

OPERANT CONDITIONING IS ALSO KNOWN AS REINFORCEMENT CONDITIONING.

- Here, the reinforcement is correlated with the response rather than with the stimuli. In this type of conditioning, reward or reinforcement is not possible unless the response is emitted. In other words, reinforcement becomes contingent upon the stimulus. ·
- According to Skinner, the basic law underlying this type of conditioning is that if the occurrence of an operant is followed by a reinforcing stimulus then the conditioning is strengthened. In other words, what gets strengthened is the response, or operant and not an S-R connection as in Thorndike's law of effect.
- Skinner demonstrated his theory of learning by the simple experiment of putting a hungry rat in a box (known as Skinner Box).
- When the rat, after fretting about, presses a lever accidentally, food is released. Every time Rat does this, it gets food.
- After several repetitions, the rat learns that if he is hungry, he can get food after pressing the lever and he goes straight to the lever, presses it and gets good.

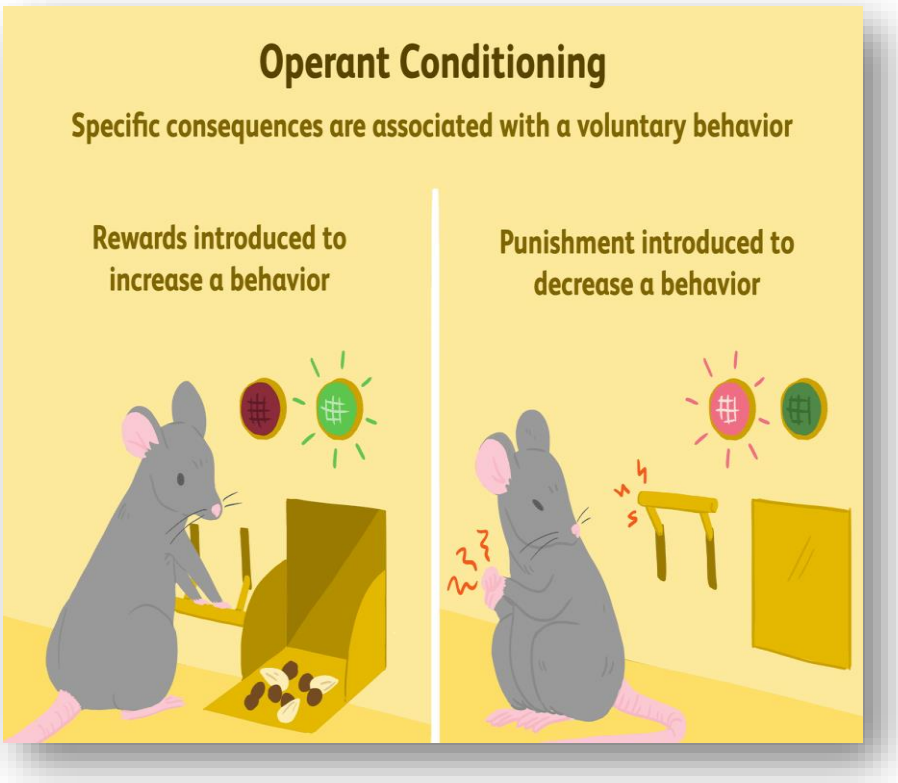
- In other words, food reinforces that rat's activity of pressing lever.
- Here behaviour and appropriate response are important factors.
- If reward is withheld repeatedly, the behaviour extinguishes.



contiguity and practice - must be provided in operant conditioning.

3. ***REINFORCEMENT:*** The most important aspect of Skinner's theory of learning relates to the role of reinforcement. An organism is presented with-a particular stimulus - reinforce after it makes a response. In a given situation, the organism will tend to repeat responses for which is reinforced.

- Skinner distinguished between positive and negative reinforcements.
- ***POSITIVE REINFORCEMENT*** is a stimulus which increases the probability of desired response. The positive reinforcement is a positive reward. Praise, smiles, prize, money, a funny television programme, etc. are the example · of positive reinforcement.
- In ***NEGATIVE REINFORCEMENT***, the desired behaviour is more likely to occur if such stimulus reinforcement is removed. For example, we can close windows and doors to avoid hearing loud noise; we can avoid wrong answers by giving right answers. Here noise and wrong answers are negative reinforces. Thus a negative reinforce is negative reward - the avoidance of which gives us relief from unpleasant status of affairs. Skinner did not equate negative reinforcement with punishment.



EDUCATIONAL IMPLICATIONS:

- The behaviouristic approach is one of the most important contributions to learning which throws light on habit formation, habit breaking and the role of incentives in learning.
- This approach is helpful in shaping the behaviour of students in the desired direction. Skinner has demonstrated in a number of ways how operant behaviour is shaped.

- ❖ The approach also helps the teacher in increasing the vocabulary of his students.
- ❖ The most significant contribution to this theory in educational practice is the concept of programmed learning and introduction of teaching machines in teaching-learning.

1. ***PROGRAMMED INSTRUCTION:***

- ✓ It is a system of teaching-learning within which pre-established subject matter is broken down into small discrete steps which are carefully organised into a logical sequence and which can be rapidly learned by the students.
- ✓ Each step builds upon the previous one.
- ✓ Reinforcement is given after each step.
- ✓ There is a provision for checking the progress.
- ✓ If the response is correct, the student can go ahead, if not then he can proceed to the next step after registering the correct, response.
- ✓ Programmed Instruction is a highly individualised instructional strategy and is an effective innovation in the teaching process. It is found quite useful for classroom as well as self-learning.

2. ***TEACHING MACHINE:***

- ✓ It is another application of the behavioural approach to learning.

- ✓ Teaching machines present items in an essentially predetermined sequence, permit the students to respond and give them immediate feedback.
- ✓ Teaching machines are automatic devices which present a question or other stimulus to a stimulus, provide a means of response, and then inform him/her of the correctness of his/her response immediately after he had responded.
- ✓ They are of two types (i) constructed-response and (ii) multiple-choice machines.

❖ Skinner's theory suggests the great potentiality of the shaping procedure for behaviour modification.

❖ According to this theory the following procedure is applied to ensure effective learning in students:

➢ Learning objectives should be defined very specifically in terms of behaviour

➢ Objectives should be arranged in order of simple to complex.

➢ For developing motivation among the students, the classroom reinforces like praise, blames, grades, etc., should be used. Proper use of positive and negative gestures also serves as reinforces to Approaches to Learning work.

➢ Reinforces should be used periodically so that the possibility of extinction of the desired behaviour is resisted.

- In the classroom, the principle of immediacy of reinforcement is very important. Praise for a job done well given immediately can be a stronger reinforce or motivator than a grade given much later.
  - Skinner's principles of learning focus attention on the individual's pace of learning.

COGNITIVE APPROACH TO LEARNING BY PIAGET:

- In recent times. The work of Piaget has received a lot of attention. Piaget's work has influenced a lot of thinking.
- Piaget studied the growth and development of the child.
- The main objective of Piaget has been to describe the process of human thinking from infancy to adulthood. Jean Piaget's theory of cognitive development redefines intelligence, knowledge and the relationship of the learner to the environment. Intelligence, like a biological system is a continuing process that creates structures.
- In continuing interactions with the environment, s/he needs intelligence.
- Similarly, knowledge is an interactive process between the learner and the environment. Knowledge is highly subjective in infancy and early childhood and becomes more objective in early adulthood.
- He believes that learning is a function of certain processes.
- They are: ***assimilation, accommodation, adaptation and equilibration***.

❖ Let us discuss each process in detail so that Piaget's cognitive approach to learning is understood properly.

1. ***ASSIMILATION:***

- ✓ It is a process of incorporating new objects and experiences into the existing schema (here, schema refers to well-defined sequences of actions).
- ✓ As soon as the schema of action is developed, it is applied to every new object and in every new situation.
- ✓ Assimilation of experiences into a succession of cognitive scheme takes place.
- ✓ Later, representation of words and actions using symbols takes place resulting in representational schema.
- ✓ The observation of surroundings and process leads to assimilation in the early stages of learning.
- ✓ This assimilation accounts for the children's ability to act on and understand something new in terms of what is already familiar.
- ✓ Assimilation is followed by accommodation.

2. ***ACCOMMODATION:***

- ✓ In the individual's encounters with the environment, accommodation accompanies assimilation.
- ✓ Accommodation is the adjustment of internal structures to the particular characteristics of specific situations.

- ✓ For example, biological structures accommodate the type and quantity of food at the same time so that the food is being assimilated.
- ✓ Similarly, in cognitive functioning, internal structures adjust to the particular characteristics of new objects.
- ✓ Accommodation also refers to the modification of the individual's internal cognitive structures.
- ✓ When the learner realises that his or her ways of thinking are contradicted by events in the environment, the previous ways of thinking are reorganised.
- ✓ This reorganisation, which results in a higher level of thinking, is accommodation.
- ✓ As the child continues to confront experiences in the environment, the schema is so formed so as to not remain permanent. S/he has either to combine her/his previous schemata or to modify them as per new experiences.
- ✓ The process of combining/modifying existing schemata and the arrival at new schemata is known as accommodation.
- ✓ Here, the child remains active and explores questions, experiments, etc.

3. ***EQUILIBRATION:***

- ✓ In cognitive development, equilibration is the continuing self-regulation that permits the individual to grow, develop and change while maintaining stability.

- ✓ Equilibration, however, is not a balance of forces but it is a dynamic process that continuously regulates behaviour.
- ✓ It indicates the balance between assimilation and accommodation.
- ✓ Equilibration is the factor that maintains stability during the process of continuous interaction and continuous change.
- ✓ Without equilibration, cognitive development would lack continuity and cohesiveness but instead would become fragmented and disorganised.
- ✓ Equilibrium is the balancing act between the old and the new, between perceptions and experiences.
- ✓ It is a dynamic process that attempts to reduce dissonance.

4. ***ADAPTATION:***

- ✓ Assimilation helps in getting new experiences into existing schema, while accommodation helps in combining/expanding/changing the new schema based on new experiences.
- ✓ Thus, the individual is helped in adjusting to a new environment.
- ✓ This adjustment to a new environment is known as adaption.
- ✓ This adaptation is also not the permanent one. S/he develops many new or modified schemata as s/he alters or extends her/his range of action.

- ✓ Adaption results from the interactionist process between the organism and environment-.-which helps the individual to organise her/his life experiences from the environment.
- ✓ In adapting to events in life the person tries to assimilate all experiences and information into existing cognitive structures.
- ✓ If this is possible, s/he accommodates by changing the cognitive structure.
- ✓ By assimilating the new.to the old and by accommodating the old to the new, the person learns.
- ✓ The process of adaptation continues throughout life.
- ❖ Based on his characterization of cognitive functioning as consisting of organisation and adaptation, Piaget has presented a definition of intelligence. He believes that intelligence is not a fixed trait set or life but rather a process of adapting to the environment. The environment makes demands from the person.
- ❖ These demands are reacted to when the person assimilates aspects of the environment into existing cognitive structures and accommodates the cognitive structures to environmental demands.
- ❖ In the first case, the person's behaviour is determined by existing cognitive structures. In the second case, the person's Approaches to Learning cognitive structures are modified by the environment.

- The result is adaptive behaviour or intelligence. Adaptation is a process through which a person seeks an equilibration or balance between what s/he presently perceives, knows and understands and what s/he sees in any new phenomena, experiences or problems. Adaptation is the human tendency to survive for equilibrium or balance between self and environment.
- The equilibrium is conceptualised by Piaget as a dynamic and growth-producing process which would be achieved at each intellectual stage, before a person reaches the next level of cognitive functioning.
- Therefore, the adaptation and the growth of organisms provide an explanation of the problems and processes involved in the adaptation of intelligence or knowledge (Piaget 1980). ,
- Piaget has mapped out in detail the stages by which cognitive functions develop and the times at which given concepts may be expected to appear Piaget has propounded the four stages thus - probably the clearest version of his classification ***SENSORY-MOTOR, PREOPERATIONAL, CONCRETE OPERATIONS AND FORMAL OPERATIONS.*** Each stage represents an increase over the previous one in the child's ability to think abstractly, predict the world correctly, explain reasons for things accurately, and generally deal intellectually with the world.

1. ***SENSORY-MOTOR STAGE:***

- ✓ This is known as the first stage. It extends roughly from birth to the age two.
- ✓ As the names implies, the schema that develops during this stage are those involving the child's perception of the world and the coordination by which s/he deals with the world.
- ✓ It is during this period that the child forms his/her most basic conceptions about the nature of the material world.
- ✓ He learns that an object that has disappeared can reappear. S/he learns that it is the same object even though it looks very different when seen from different angles or in different illuminations.
- ✓ S/he relates the appearances, sound and touch of the object to one another. S/he discovers ways in which her/his own actions affect objects, and acquires a primitive sense of causality.
- ✓ Thus, her/his world becomes increasingly an orderly arrangement of more or less permanent objects. Related casually to each other and to her/his own behaviour.

2. ***PROPORTIONAL STAGE:***

- ✓ It is known as the second stage and extends roughly from about age 2 to 7.
- ✓ In this stage, the child begins to exhibit the effect of having learned language. S/he is able to represent objects and

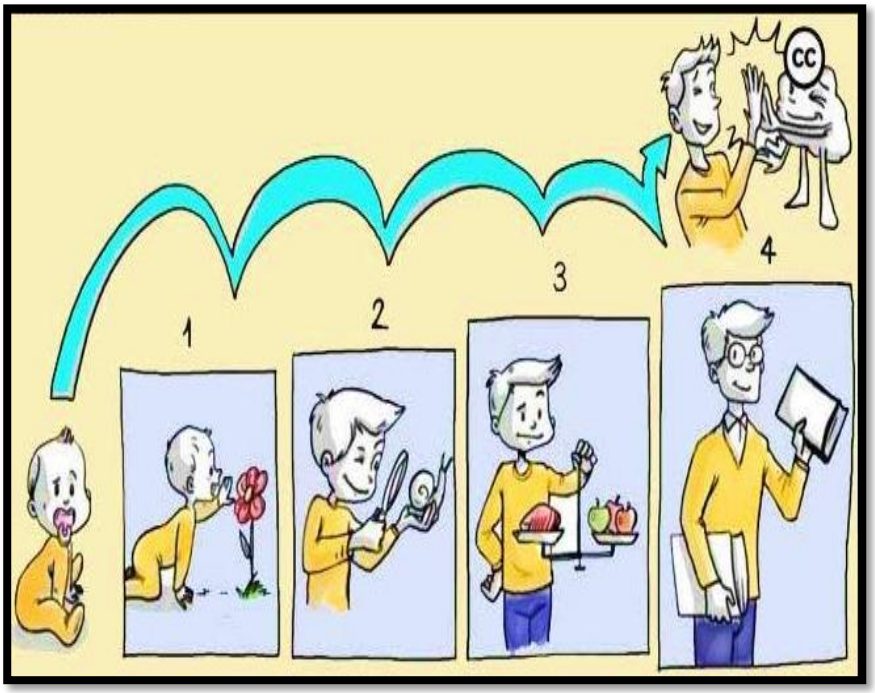
events symbolically: not just to act towards them, but to think about them.

- ✓ The children have internal representations of objects before has words to express them. These internal representations give the child greater flexibility for dealing adaptively with the world, and attaching words to them gives him/her much greater power of communication.
- ✓ However, his/her intellectual abilities are still very limited compared with those of an adult. His/her thinking is still decidedly concrete by an adult standard. S/he tends to focus on one aspect of a situation to the exclusion of others, a process that Piaget calls cantering.
- ✓ His/her reasoning can be a logician's nightmare, and S/he finds it difficult to understand how anyone else can see things from a point of view other than his/her own.
- ✓ S/he is thus, as the name of the stage implies, still early in the process of acquiring a logical, adult intellectual structure.

3. ***CONCRETE OPERATION STAGE:***

- ✓ The third stage extends from age 7 to 11.
- ✓ Again, this represents an increase in flexibility. In this case, over the preoperational.
- ✓ The sort of operations to which the name of the stage refers includes classifying, combining and comparing.

- ✓ The child in the stage of concrete operations can deal with the relationships among hierarchies of terms such as robin, bird and creature. S/he is aware as the preoperational child is not, of the reversibility of operations.
- ✓ What is added can be subtracted, and a substance that has been changed in shape can be restored to its original shape. A girl at this stage will not fall into the fallacy that a preoperational girl may be saying, "I have a sister, but she doesn't have any sister".
- ✓ Again, however, Piaget pointed out this is not the whole story. One child may have learned arithmetical operations by role and fail to supply them when appropriate, while another child may deal effectively with problems withoμt ever having been exposed to arithmetic.
- ✓ Learning of symbolic manipulations may be helpful to the child in going from the wide variety of concrete situations is more important.



4. *FORMAL OPERATIONS STAGE:*

- ✓ The fourth stage and final stage around age 11 years.
- ✓ It involves improvements in abstract thinking, continuing to about age 16.
- ✓ In this stage, the capacity for symbolic manipulation reaches its peak.
- ✓ Though children in the previous stage have been able to perform a number of logical operations, they have one so within the context of a concrete situation.

- ✓ Now, the person's intellectuality, because s/he is no longer a child, can view the issues abstractly.
- ✓ They can judge the validity of logical argument in terms of their formal structure, independent of content. S/he can explore different ways of formulating a problem and see what their logical Approaches to learning consequences are.
- ✓ S/he is at least ready to think in terms of a realm of abstract propositions that fit in varying degrees in the real world that s/he observes. S/he may not demonstrate all the tendencies in every possible situation, but S/he has reached the stage at which he is capable of doing so.
- ✓ The intellectual apparatus of formal reasoning that provides the basis for so much human achievement is at least potentiality at his/her disposal.
- ✓ Children may not show those stages within the age-ranges specified above, because of differing home and school environments.
- ✓ But what Piaget insists on, is that the sequence of these stages in intellectual development remains the same for all children.

DIRECT/INDIRECT EDUCATIONAL IMPLICATIONS OF PIAGET'S APPROACH TO COGNITIVE DEVELOPMENT:

The following important direct/indirect educational implications of Piaget's approach to cognitive development are given below:

1. Piaget's description of cognition (as a result of interaction of the individual with environment, accompanies by the process of assimilation and (accommodation) includes that cognitive development is a continuous process from birth to adulthood. This theory believes in gradual progression from one stage to another. Therefore, the teacher should try to determine the levels/ stages of development of learners and accordingly s/he should plan his instruction/teaching.
2. The relationship between the educational system and the child will be a unilateral and reciprocal one.
3. Childhood is accepted as a necessary and imp01tant phase in the development of logical thinking.
4. Science and mathematics are taught with actions and operations. Such instructions should begin in nursery school with concrete exercises.
5. Experimental procedures and free activity through training should be introduced for both liberal a1ts and science students.
6. Active methods that require the learners to rediscover or reconstruct the truths to be learned should be used. The teacher also provides counter examples to the learner that lead to reflection of their often hasty solutions.

7. Audio-visual aids can serve only as accessories in the learner's personal investigations of truth.
8. Give-and-take can be developed in the group.
9. Spontaneous activity with a small group of learners brought together by means of their mutual interest in a particular activity should be the major feature of classroom learning. The classroom should be a centre of real activities carried out in common so that logical intelligence may be elaborated through action and social change.
10. Learners must be permitted to make their own mistakes and to correct these errors themselves. Therefore, classroom instruction must be planned t9 facilitate the process of construction, assimilation and accommodation through which physical/empirical abstraction and reflective abstraction can occur.
11. The process of experimentation by learners at all ages is important. Only through experimentation can the learner acquire the skills that are necessary for formal operational thought. More importantly, experimentation often gives birth to new ideas. For young children, their first new ideas may not seem so original to adults. But such a practice in which children are encouraged to develop new ideas can lead to original discoveries. The more we can help children to have their own wonderful ideas and feel good about them for having them, the more likely it is that they will someday happen upon wonderful ideas that no one else happened upon before.

12. The cognitive activity that is generated by experimentation is essential. A child can be mentally active without physical manipulation just ass/he can be mentally passive while actually manipulating objects.
13. Many activities in pre-school curricula can provide opportunities for cognitive development. Block painting, finger painting, musical games, cooking, dramatic plays etc. engage the children in empirical and logical-mathematical abstraction. The classroom should provide situations to children in constructing their Approaches to Learning own knowledge so that the children can comprehend the world in new ways at different cognitive levels.
14. Classroom activities should maximise the child's opportunities to construct and coordinate many relationships that he or she is capable of exercising.
15. At the preschool level, the child is more interested in the observable effects or his or her actions than in relating the result to an organised cognitive structure.
16. The implications of educational practice are important. First, a variety of activities games and experiences should be provided to that the learner can exercise his or her developing subsystems. One suggestion is to use individualised mathematics laboratories that utilise a variety of materials for measurement and experimentation. Examples include blocks, dried peas, matchboxes, drinking straws, pipe cleaners and so on.

17. Games and activities that can provide experience with classification and serration are also needed. Classification games can be developed using blocks or pieces of plastic or felt that very in two properties, such as colour and shape. Circles, squares and triangles in red, blue, yellow and green for example may be used in a variety of ways. Card games in which shapes and/or colours are to be matched is one example.
18. Drill and practice should be given in the classroom to make teaching-learning effective.

LIMITATIONS OF PIAGET'S APPROACH:

Piaget's approach to learning has some limitations also. The important limitations are as follows:

1. Piaget does not seem to make his terminology very clear to his readers.
2. He is too preoccupied with numerous epistemological considerations.
3. Piaget's entire work lacks scientific methodology as conventionally understood.
4. His emphasis is on concepts of relationships and he does not investigate nominal concepts.
5. It's lengthy and time consuming.
6. No direct teaching is involved.
7. Mathematics and Science cannot be applied in early childhood.

8. Tailoring narrow exercises for individual children is both impractical and unnecessary.
9. The child does not notice the contradictions in his or her own explanations.
10. Children may lose confidence in their ability to figure things out. A child cannot engage in abstract thought and cannot perform any useful scientific activity.
11. The preoperational child or even the concrete operational child is not yet ready for reading since his thought structures are as yet primitive.

HUMANISTIC APPROACH TO LEARNING:

- The term 'humanistic' originates from 'humanism' which has been derived from the Latin word 'Homo means ·human being'.
- Thus, literally speaking, humanism is the philosophy in which the human being occupies a central place.
- The humanistic approach makes use of creativity, belongingness, self-development, co-existence, mental health, values, etc.
- It is comparatively a new approach to learning.

CHARACTERISTICS OF HUMANISTIC APPROACH TO LEARNING:

The important characteristics of the humanistic approach are given below:

- ✓ It is concerned with the welfare of all human beings.
- ✓ This approach emphasises on learning in the natural environment o{human love, peace cooperation, freedom, equality rather than of physical values, money, wealth, etc.
- ✓ It believes in co-existence.
- ✓ It considers the best learning as based on truth, good and beautiful.
- ✓ It believes that learning becomes effective when it is need-based.
- ✓ Its emphasis is on learning at the higher level i.e. self-transcendence and self-actualization.
- ✓ Learning is experience-based.
- ✓ It emphasises on self-motivation for better learning.
- ✓ To increase the learner's self-direction and independence.
- ✓ It helps learners take more responsibility for determining what they are learning.
- ✓ It increases the learner's reactivity.
- ✓ It develops an interest in the arts.
- ✓ It fosters curiosity.

EDUCATIONAL IMPLICATIONS AND ADVANTAGES OF HUMANISTIC APPROACH LEARNING:

- ➢ This approach recommends such educational reforms like open schools, ungraded classes, free schools, etc.

- The following are the main implications of the humanistic approach to the learning process.

1. ***PLACE OF THE CHILD IN TEACHING-LEARNING:***
    - This approach believes in **'child centerededucation'**.
    - Therefore, it emphasizes on reach, touch and teaches the child according to his nature, interests, aptitudes, etc.
    - The teacher should assess a student's attitude, aptitude, potentialities, abilities, level of aspiration, his/her social, emotional, intellectual, physical, aesthetic development and mental health and should plan his teaching activities accordingly.
2. ***EMPHASIS ON INDIVIDUALITY:***
    - According to this approach, a human being is a wonderful creation. S/he has his/her own individuality, which should be respected and developed through education.
    - Individual differences should be respected and internal virtues of individuals be developed.
3. ***UNDERSTANDING THE CHILD:***
    - According to the humanistic approach, we should know our learner: their interest, personality, capabilities and background environment and use teaching methods and contents accordingly.

- The important humanistic principle of education given by this approach is 'first, understand the child and then teach'.

4. ***METHOD OF TEACHING:***

- In this approach, the methods of teaching are developed based on psychological principles.
- Active learning is more emphasised.
- Learner's readiness, mental set and motivation are considered as basis for deciding the method of teaching to be used.
- Discipline: This approach emphasises on self-discipline and self-control.

5. ***PLACE AND ROLE OF TEACHER:***

- This humanistic approach recognizes the teacher as a guide, friend and helper of the learners in their learning.
- The teacher is considered as the milestone in the journey of total development of the child.

❖ Humanistic approach is a democratic approach, which recognizes 'child' and advocates the providing of a rich environment with a view to have its all-round development.

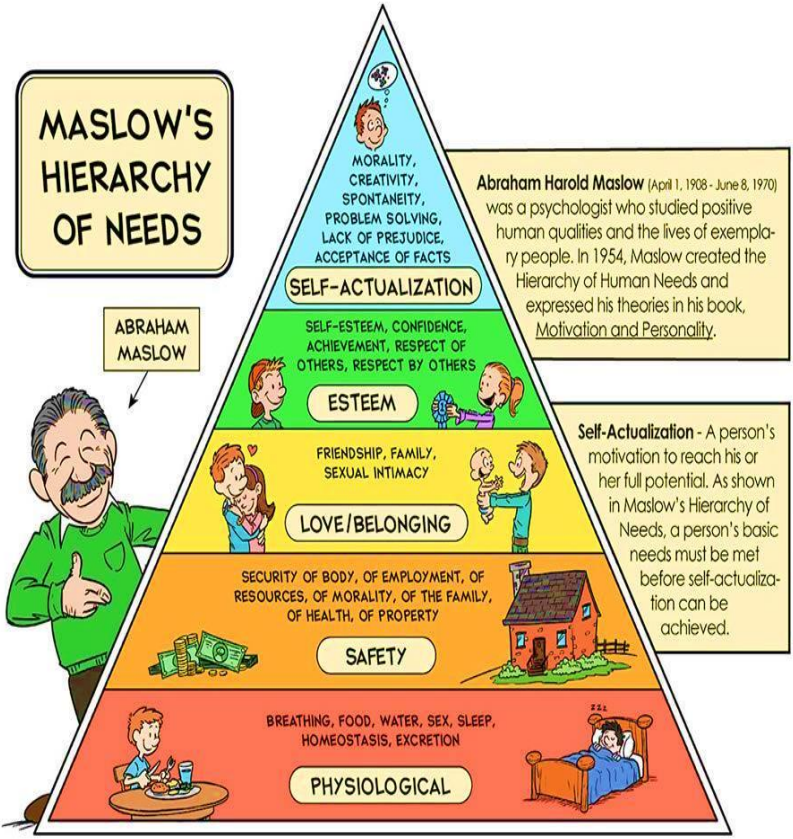
❖ Besides, there are some more strong points in favour of this approach to learning:

- ✓ Teachers should thoroughly understand their subject-matter and make wise use of research-demonstrated principles of motivational learning. They must understand themselves as an important teaching aid.
- ✓ Teachers should keep in mind that learners bring their total selves to class. They bring heads that think, they bring values that help them to filter what they see and hear. This brings unique learning styles among the students.
- ✓ Teachers must know that learners may be different in learning experiences.
- ✓ To encourage the learners to think and get involved in abstract discussion.
- ✓ A series of questions should be brought up and discussions should be started actively or passively in the classroom. So that learners may give suggestions freely and run the classroom democratically.
- ✓ The teachers should help the learners to decide for themselves who they are and what they want to be. The learners can decide for themselves. They have a conscious mind that enables them to make choices. Through their capacity to make choices they can at least have a change at developing the sense of self-necessary for productive lives.
- ✓ Teachers should understand the learner's point of view. The attempt is to see the world as the student sees it, accept it as truth for him/her and not to force him/her into changing.

- ✓ Good teaching is best done through a process of helping learners explore and understand the personal meanings.

MASLOW CONTRIBUTION TOWARDS HUMANISTIC APPROACH TO LEARNING:

- ❖ Maslow has described existentialist psychology, which indicates that the lacunae and shortcomings of an individual succeed in maintaining its existence.
- ❖ He named these lacunae and shortcomings 'needs' and listed different types of needs, on the fulfilment of which the individual exists.
- ❖ Maslow has analysed five types of needs as given below:

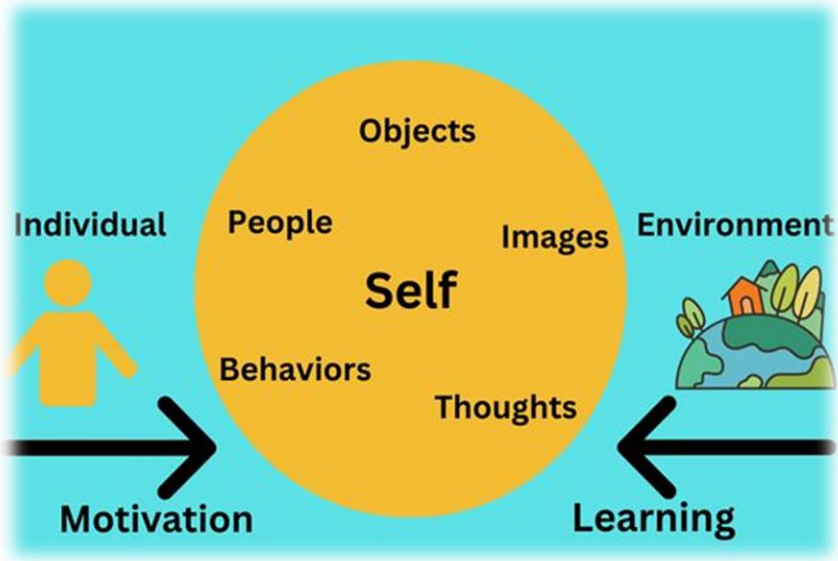


- These needs are presented in a sequential order, known as the hierarchical model of needs. According to Maslow, people learn to satisfy these needs depending upon the individual's experience, exposure, etc.
- according to him; a highly developed person (self-actualized person) develops the following characteristics:

- ✓ S/he understands the relationship between natural and realities. Identifies Approaches to Learning his/her responsibilities and work accordingly.
- ✓ S/he believes in the present and not in the past or future.
- ✓ S/he loves others and has faith in democratic principles.
- ✓ S/he makes use of his/her creativity for the welfare of society.
- ❖ Maslow advocated -three methods of learning - subjective, objective, and interpersonal.
- ❖ *The subjective method* includes self-experiences or internal experiences.
- ❖ *The objective method* includes external experiences based on reasoning and logic.
- ❖ *The interpersonal method* includes the description of other people based on observation.
- ❖ All the three methods are linked to each other. However, humanistic psychology puts more weight on the third approach i.e. interpersonal.

CARL ROGERS'S CONTRIBUTION TOWARDS HUMANISTIC APPROACH TO LEARNING:

- ❖ Carl Rogers was another humanistic psychologist who has described 'self, 'becoming', 'experiencing' and 'concepts of humanistic approach' on the basis of subjective as well as objective factors.



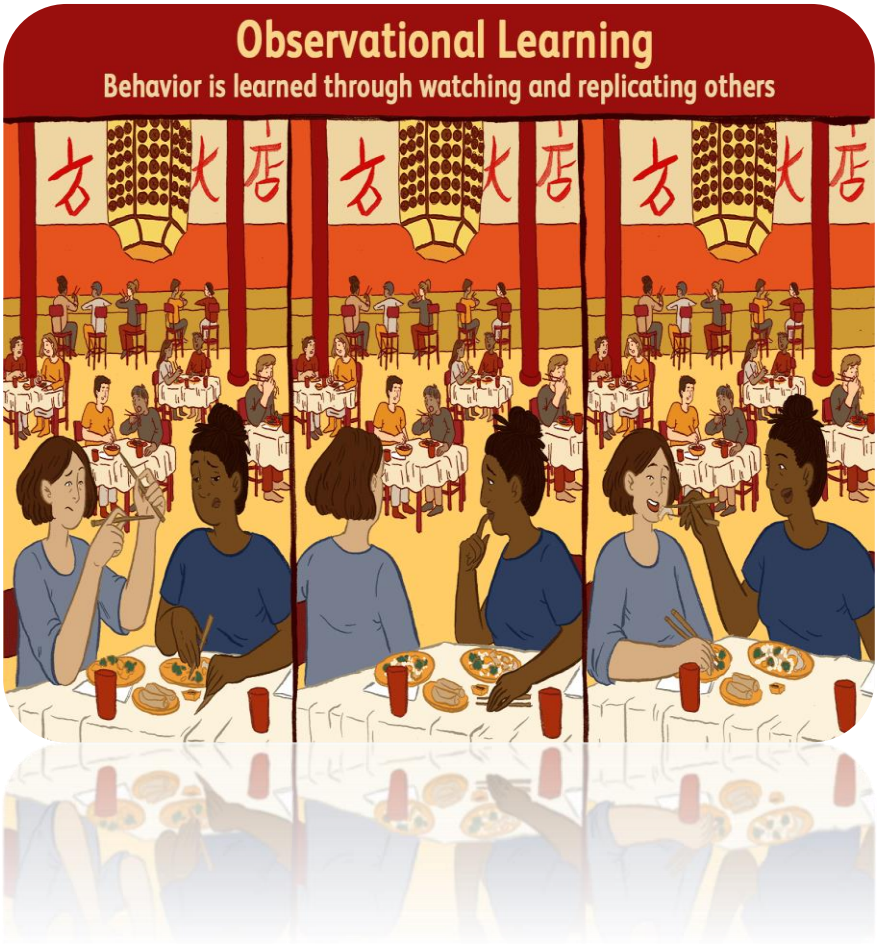
- We can divide his theory into two parts: concept and process.
    1. ***CONCEPT:*** The main concepts in his theory are - experience field, self-ego-ideal, real ego, congruence, incongruence and self-actualization.
    2. ***PROCESS:*** The process includes - barriers in the psychological development, relationship between individual and society, emotions and learning.
- According to Roger's theory, learning in an individual takes place through its interactions with the external environment based on its internal experiences.
- Therefore, different individuals have different types of interactions and learning.

- This type of reaction goes on between activity and it aims at the human being and his/her values, the human being and his/her previous experiences, the human being and his/her self, etc.
- When this reaction remains positive as per his/her internal self, assimilation takes place and relationship exists. S/he becomes a better learner, a better human being and a well-adjusted person.

OBSERVATIONAL LEARNING BY BHANDURO'S EXPERIMENT:

OBSERVATIONAL LEARNING

- Observational learning is one of the outcomes of Bhandura's social cognitive theory of learning.
- In simpler terms, observational learning means "learning by observation or imitation".
- Bhandura was of the view that if a person observes someone doing some act in a particular situation, s/he observes the actions and tries to imitate it when they fall in a similar situation.


Observational Learning
Behavior is learned through watching and replicating others

BHANDURA'S EXPERIMENT

- He observed that children from Group 1 and 3 imitated the behaviour more as compared to the second group.
- He concluded that children imitate that behaviour which they feel is good or being rewarded or praised.

ELEMENTS OF OBSERVATIONAL LEARNING

Observational Learning has four major processes or elements.

1) ***ATTENTION:***

- ✓ Bandura was of the view that attention is the first step of observational learning.
- ✓ To learn anything, learner has to pay attention on what is being said or acted. In this step, a teacher's role is also very important.
- ✓ As a teacher, you have to present the things in such a way that you can attract learners to pay attention.
- ✓ Clear, precise, simple and interesting presentations by teachers help in observational learning.
- ✓ Teacher's behaviour towards learners is also an important factor here as a warm and welcoming gesture attracts learners more as compared to cold or rude one.

2) ***RETENTION:***

- ✓ To imitate any behaviour, it is important that learners should retain it as much as possible.
- ✓ If a teacher is explaining to learners how to handle any apparatus in a chemistry laboratory, the steps demonstrated by the teacher should be clear, step wise and easily visible to the learner so that they can retain it as such in their memory.
- ✓ Verbal instruction along with demonstration helps in better retention.
- ✓ Repetition and practice also helps in retention.

3) ***PRODUCTION:***

- ✓ Attention and retention is not enough to reproduce or imitate any behaviour.
- ✓ Many times, learners observe behaviour but they are not able to imitate it as such due to lack of practice or coaching.
- ✓ Bhandura was of the view that teachers should provide ample Opportunities to learners to practise, or to coach them in improving their performance at desired level.

4) ***MOTIVATION:***

- ✓ A learner may learn something by imitation but it is not necessary that she/he practise it or show it.
- ✓ lf there is motivation or reinforcement for a particular act/skill, the learner will demonstrate it.
- ✓ Role of motivation and rewards is highly appreciated by Bhandura in learning.
- ✓ Desired skill/behaviour needs to be reinforced and learners should be encouraged in the right direction.


The Bobo Doll Experiment
Aim
Procedure
Findings
Conclusions
Evaluation

UNIT - 3

Attention and perception

ATTENTION:

- ✓ Attention is referred to as the behavioural and cognitive process of selectively focusing on a specific piece of information—whether it is regarded as subjective or objective—while disregarding other information that can be perceived. Another way to think of attention is the distribution of scarce cognitive processing resources.
- ✓ Attention is characterized by an attentional bottleneck regarding the quantity of information the brain can absorb per second.
- ✓ Within education, psychology, neuroscience, cognitive neuroscience, and neuropsychology, attention continues to be a key field of inquiry.
- ✓ The origin of the sensory cues and signals that cause attention, how they affect the tuning characteristics of sensory neurons, and how attention interacts with other behavioural and cognitive processes, such as working memory and psychological alertness, are all on-going research areas.
- ✓ The diagnostic signs of traumatic brain damage and their impact on attention are being studied in a relatively recent body that builds on older research in psychopathology.
- ✓ From culture to culture, attention differs.

SPAN OF ATTENTION:

- ✓ Span of attention refers to the number of independent, distinct or separate stimuli that can be attended to by an individual, at a glance viz. in a very brief period of time.
- ✓ Span of attention (also known as *perceptual span*) denotes the number of objects that can exist in the focus at a time.

DETERMINING 'SPAN OF ATTENTION' EXPERIMENTALLY:

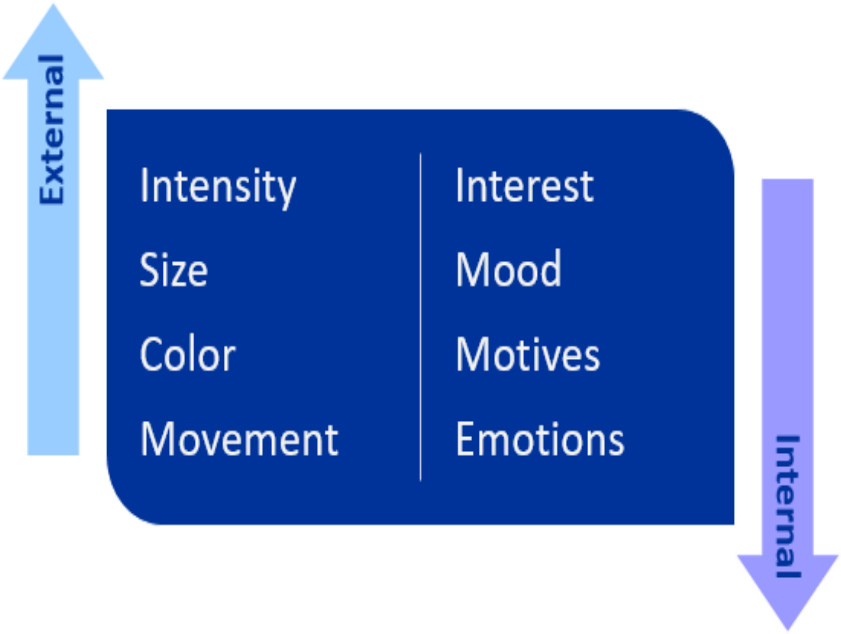
- ➢ Span of visual attention is found out by using a simple apparatus called '***Tachistoscope'*** which exposes visual material to the subject seated in front of it, for a very brief period of time (say one second).
- ➢ Cards using dots of different numbers are used in such experiments, showing one at a time. The maximum number of dots that a person can correctly report three times in the experiment denotes his span of attention.
- ➢ This experiment reveals that the adult span of attention is between 6 to 8, for ungrouped dots.
- ➢ This implies that the number of objects that one could attend at any given moment is limited. In using flash cards for recognition this has to be borne in mind by the teacher.
- ➢ For this reason only, fast moving automobile vehicles are given registration numbers with digits ranging from 4 to 6.

- Similarly telephone numbers and postal pin code numbers are also of 6 or 7 digits, if numbers containing more digits are used, then they may not be attended to by us.

FACTORS INFLUENCING ATTENTION:

If attention is a process of selection, then the question arises on what basis is this selection made? Actually there are many factors which determine the process of attending. Those factors which reside in the object attended to are called objective factors.

As these factors operate on the individual from outside, they are also known as 'external' factors. These factors include size, intensity contrast, novelty, movement, frequency of repetition and systematic form of stimulus. The Psychology of advertising makes good use of these objective factors and the teacher also has to use them profitably in the classroom.



One may attend to objects, even when many or most of the objective factors are absent. This is made possible due to the factors that operate from within the individual. These factors, such as interest, relevance or need, mental set, mood and the physiological condition

operating from within the individual are known as 'subjective or 'internal' factors.

EXTERNAL FACTORS OF ATTENTION:

Even if a person is not interested in any event or object, certain characteristics of the object or event may compel him to attend to it. Such object - related factors are external factors of attention: They are

1. ***SIZE:***

   - Objects of big size, arrest our attention immediately. Full page advertisements in newspapers capture our attention more easily than quarter page advertisements.
   - For the same reason, people compete in putting up large cut outs of political leaders, Advertisement hoarding etc. along the roadside.

2. ***INTENSITY:***

   - As size is to figure, so is the intensity to the quality of the stimulus. Stimulus with high intensity like loud sound, deep striking colours, punchant smell etc. is highly successful in attracting our attention.
   - While taking a class, if the teacher raises his tone he can overcome the disturbing noises coming from outside and retain the attention of his pupils on the on-going lesson in the class.

3. ***CHANGE:***

- Whenever there occurs sudden change in a stimulus, it immediately attracts our attention. For example when the fan suddenly stops, everyone in the class looks up and sees the fan.
- Similarly a student sleeping in the class wakes up immediately when silence suddenly descends on the class.
- On entering our house, we quickly noticed the changed positions of tables and chairs in the hall. This implies that if a teachers talks with proper modulation in his voice, he can easily capture the attention of the students

4. ***CONTRAST:***

- When a stimulus presents itself as a contrast in the midst of other stimuli, it turns out to be an attention winner e.g. A black dot in a white shirt looks predominant, The reason for drawing the median line on the tar road in yellow colour, men wearing a deep coloured trouser and fight coloured shirt, writing on the blackboard with white chalk etc.; is to capture our attention through the contrasting nature of the stimuli involved.
- To arrest the attention of students in the class the teacher should use contrasting activities like lecturing, questioning, using charts and writing on the blackboard while teaching.

5. **NOVELTY:**

- When a stimulus is presented in a novel or unusual way, it attracts the attention of everyone.
- For example, we usually see the notice "No admission" in offices; but in an office when we see the same notice in a different manner like "Admission with permission only" it immediately strikes our attention and is retained in memory for a long.
- Similarly, when we see the writing "Don't kiss me please" on the back of a lorry instead of the usual writing “Please keep sufficient distance", it quickly arrests our attention. In a similar way, while teaching in the class if the teacher instead of using the examples given in the textbook presents illustrations from his personal experiences, and that too relating to pupils' immediate environment, then students' attention will not get out of the class.

6. ***MOVEMENT:***

- As compared to stationary objects moving objects easily attracts our attention. For this reason only, the mother of a crying child, to divert its attention, points out to the child moving objects like a crow, car, aeroplane and the like. Similarly to win the attention of the people, advertisers display hoardings with neon lights that alternately light up and put off so as to give the appearance of movement.

- The classroom teacher should also present stimulus variations like moving to the blackboard to write, moving towards students while questioning, using appropriate gestures while talking etc. and win the attention of the pupils.

7. ***REPETITION:***

- A stimulus, even of low intensity if it appears repeatedly, succeeds in winning our attention. The same business advertisement is repeated many times in mass media like T.V, Radio and newspapers only to attract the attention of consumers.
- Human nature is to notice that stimulus which appears again and again. To focus the attention of the students on any important concept of the lesson the teacher should explain it two or three times with the use of different illustrations and that too through different words.

8. ***SYSTEMATIC FORM:***

- Objects with systematic form are easily attended to and retained long in our memory as compared to objects which are incomplete or irregular in form (e.g. We listen to a faint tune even in noisy surroundings)
- To enlist the attention of the students, the teacher before starting the lesson should give an over- view of the entire lesson so that the students get a proper and complete idea of the lesson.

INTERNAL FACTORS THAT DETERMINE THE ATTENTION:

The following are some of the important factors of attention which operate from 'within' us.

1. ***INTEREST:***
   - This plays an important role in eliciting the attention of the grown up adults. One attends to something when it matters to him intensely even though none of the objective factors are present.
   - One's interest which composes one's dominant motivational system determines what one attends to.
   - The attention of violinists walking along the bazaar is struck at the shop selling musical instruments, particularly violins.
   - Every student during admission to college applies to courses of his interest.
   - Students develop certain skills on the basis of their interest. (E.g. Musical talent, vocational skill, mathematics ability, science, talent etc. get developed on the basis of interest of individual students). Interested students keenly observe the lessons in the class.
   - Teachers should always teach in such a way as to kindle the interest of the students.
2. ***NEED OR VALUE:***
   - Another important subjective factor determining attention is 'Need '.

- For example, the attention of a person waiting for bus of a particular route will always be restricted to buses of that route only. A hungry person easily spots the name board of a the restaurant, though it is small in size, appears dull, but the name board of a nearby bookshop which is big in size may not catch his attention.
- Hence if the teacher before starting a lesson in the class points out the utility of the concepts to be taught, then students will follow the class with much attention

3. ***MENTAL SET :***
   - One's mental set or disposition of readiness to react to a particular stimulus, is another subjective factor of attention, For example the attention of a person who goes to railway station to receive his friend will always be on spotting the friend in the midst of others; he may not even hear if somebody nearby calls him.
   - The reason for this is that his mind is set only to receive his friend. For this reason only, Herbart then stressed the importance of preparing the students for the lesson before actually teaching the lesson.
4. ***PHYSIOLOGICAL CONDITION:***
   - The physiological condition of one's body also determines the level of attention. Students suffering from headache, stomach-ache, fever etc. will be unable to attend the lesson taught in the class.

- It is always better to provide rest for those students who do not feel well, instead of compelling them to attend the class.

STRATEGIES FOR ENHANCING ATTENTION:

The ways and means of securing the attention of students in the class:

- To secure the attention of pupils, the teacher has to first of all remove certain obstacles to attention. Poor physical conditions of pupils, fatigue, sensory defects, etc. interfere with attention. Unhygienic seating, uncomfortable furniture, inadequate lighting etc. also hinder attention.

- The teacher has to make good use of the objective factors of attention in his class. Loud voices, striking diagrams, clear blackboard work, use of coloured chalks, varied activities, novel illustrations, repetition of basic ideas, etc. are all of such nature.

- At the elementary stage the teacher has to appeal to the involuntary attention by using concrete aids, direct experiences, play activities, appealing to the children's curiosity, etc. At the middle school level teachers can use suitable techniques of motivation by stimulating acquired interest of pupils, their hobbies. etc. to evoke voluntary attention and foster sentiments of love for various school subjects and activities. At the adolescent level, voluntary attention has to be evoked by appealing to the long-term interests of students and banking on their self-regard.

- During classroom teaching, the teacher has to tell his pupils what to attend,-to, at the stage of introduction itself by providing the overview of the lesson. While explaining a new concept, the teacher should relate it to the previous knowledge of the students and give examples which are familiar to them (preferably spotting them from day-to-day life situations).

- The teacher should harness the natural interests of pupils to the class lesson and also create new interests of educational value. Children's interests vary with age; but generally all children are interested in creative, productive, free and life-like activities. So

there is a need for play way methods, projects, and discovery approach to teaching, activity based curriculum, etc.

SENSATION:

- ✓ The sensation is a mental process resulting from the prompt stimulation of an external sense organ which is sometimes distinguished from a conscious awareness of the sensory process.
- ✓ It is the physical process through which the sense organs, like the eyes, nose, ear, tongue, and skin, react to external stimuli.
- ✓ Sensations follow a procedure of three steps: sensory stimuli are absorbed, converted into neural impulses, and then transported the neural information to the brain.
- ✓ Shifting one kind of energy to another that the brain can use is called transduction.

PERCEPTION:

- ✓ Perception is mainly defined as the procedure or outcome of acquiring sensory awareness of things, relationships, and occurrences, which involves actions like identifying, observing, and distinguishing.
- ✓ The five senses of touch, sight, hearing, smell, and taste are all part of perception.

- ✓ Proprioception, a set of senses that allow us to recognize changes in body position and movement, is also a part of it. Many stimuli constantly surround us.
- ✓ Our ability to perceive and comprehend the world without being overpowered by the number of stimuli allows us to exist in it and do so.

IMPORTANCE OF PERCEPTION:

1. Perception is the first channel of a child's learning. Without perception, the child cannot imitate others by observing them.

Observation is motivated perception, which forms the basis of all inquiry.

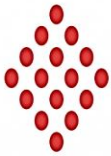
2. Precepts form the first step in our emotional activities as purposeful tasks.
3. Without perception, imagery and imagination are not possible.
4. Perception is reciprocally related to self-concept. Perceptions from the external world are the basic ingredients from which the concept of self is developed and maintained. Once self-concept develops, its nature determines our perceptions (i.e. we perceive only those things that are consistent with our self-concept and our motives and goals).
5. Perception is related to attending and observing. We perceive only those stimuli that we attend to.
6. Perception helps us to understand the different objects and events in our environment and learn to adapt our reactions towards them.

CHARACTERISTIC OF PERCEPTION:

1. Meaningfully interpreted sensation.
2. Process of selection is involved in perception.
3. Perception is largely determined by our past experiences.
4. Process of integration takes place in perception.

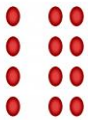
5. Analysis and synthesis, takes place simultaneously while perceiving.

LAW OF PERCEPTUAL ORGANISATION:



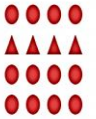
Good Figure

Objects groupped together tend to be perceived as a single figure. Tendency to simplify.



Proximity

Objects tend to be grouped together if they are close to each other.



Similarity

Objects tend to be grouped together if they are similar.

Continuation

When there is an intersection between two or more objects, people tend to perceive each object as a single uninterrupted object.

Closure

Visual connection or continuity between sets of elements which do not actually touch each other in a composition.

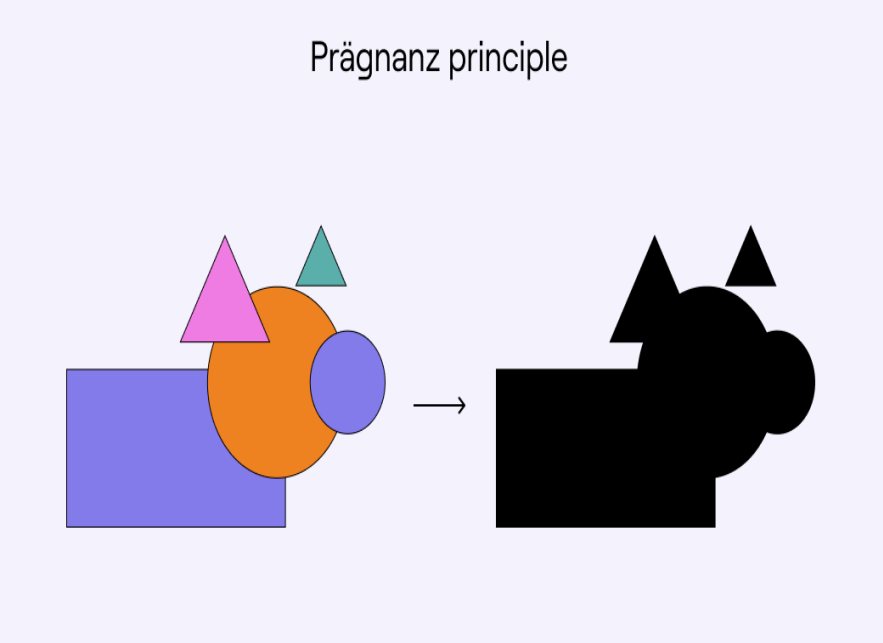
Symmetry

The object tend to be perceived as symmetrical shapes that form around their center.

- ✓ 'Pragnanz' means 'compact but significant' In perceiving, we do not add the different sensations received and edit them so as to get at the meaningful interpretation of the object perceived.
- ✓ We always perceive anything as a whole configuration or pattern so that it is simple, meaningful and stable. For example,

on seeing a man riding a cycle, we do not perceive the cycle and the rider separately; it appears as a whole unit to us.

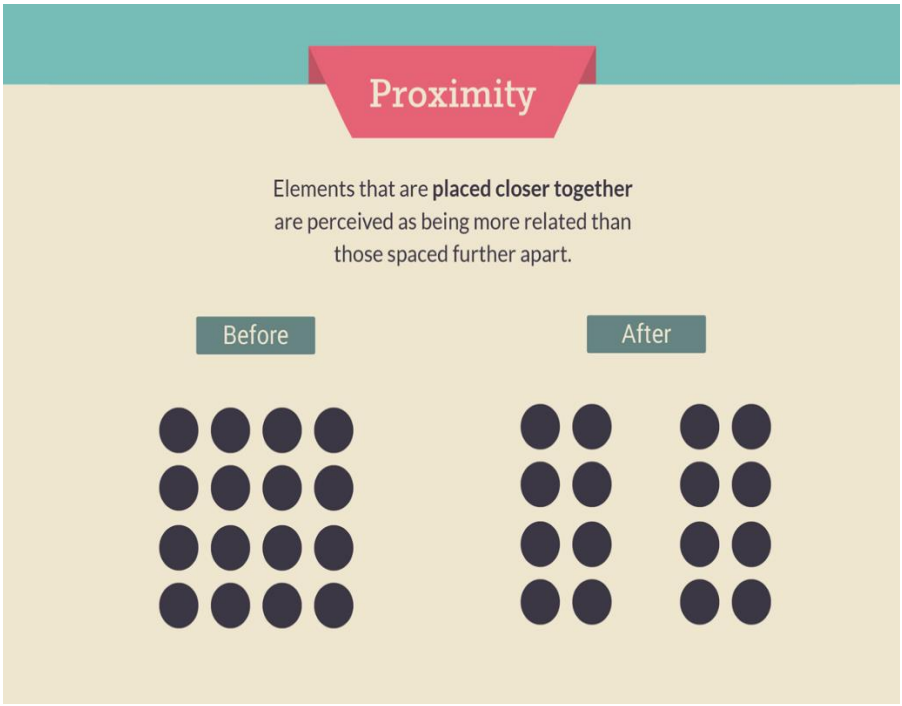
- ✓ The mental act of 'organising' takes place during perception as per the law of pragnanz.
- ✓ Similarly on seeing the following figure



we do not say it as a collection of a circle, triangles, squares, rectangle, arc etc. instead we say it as an animal face. Thus we perceive everything as a whole and not its parts and bits.

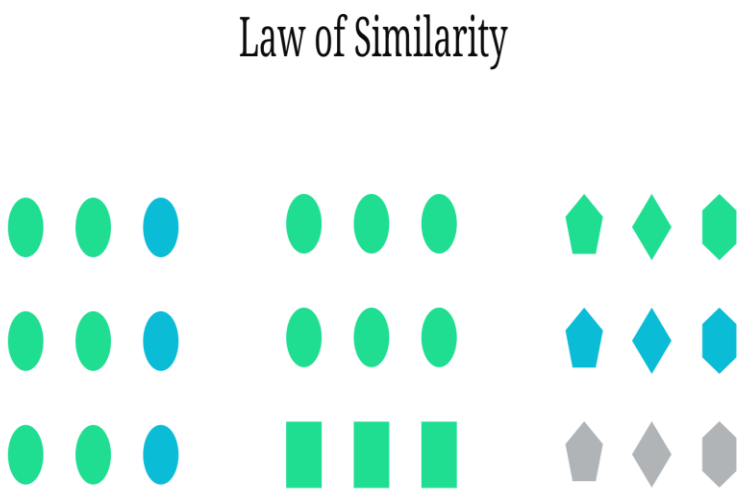
LAW OF PROXIMITY:

- According to this law, perceptual groups are favoured according to the nearness of the parts. This means that we perceive all closely situated or located things as a group.
- Similarly the 12 parallel lines drawn below are perceived by us as four groups of 3 lines each.

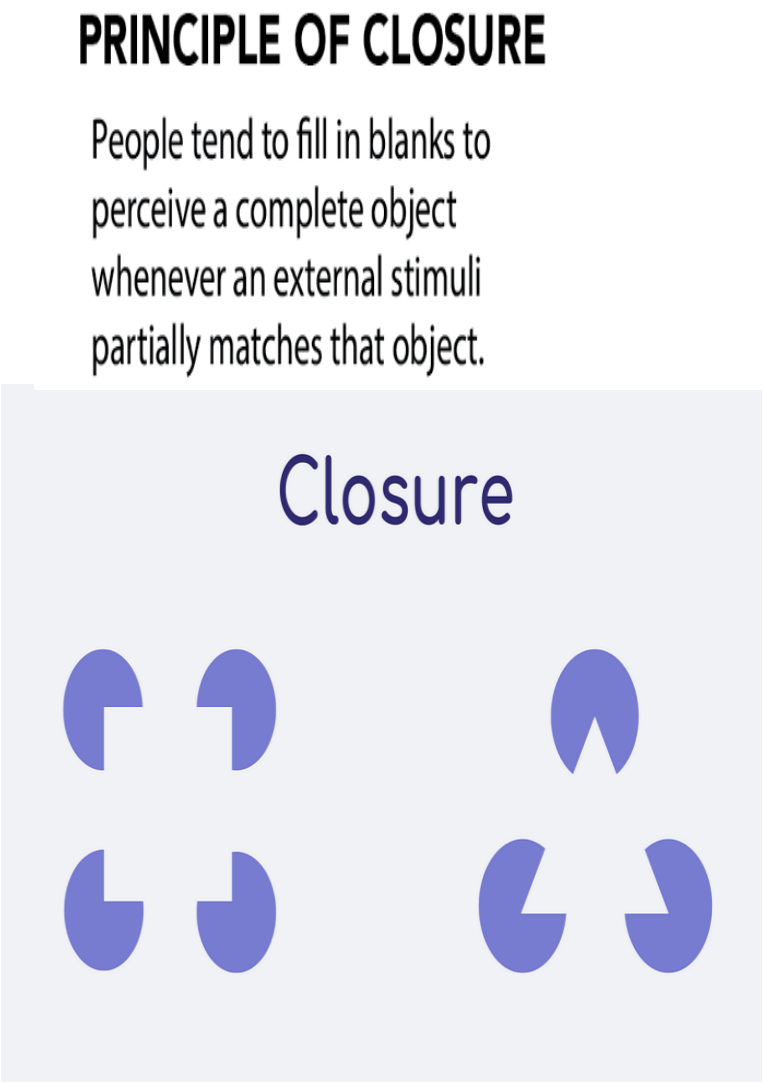


LAW OF SIMILARITY:

- Wertheimer stated this law as "*other things being equal, the stimuli that are similar, will have greater tendency to be grouped as a single unit*".
- For example, in figure (A), we perceive the objects in three horizontal groups (triangles, circles and squares) whereas in figure (B) using the same law of similarity, we perceive the objects in three vertical groups.

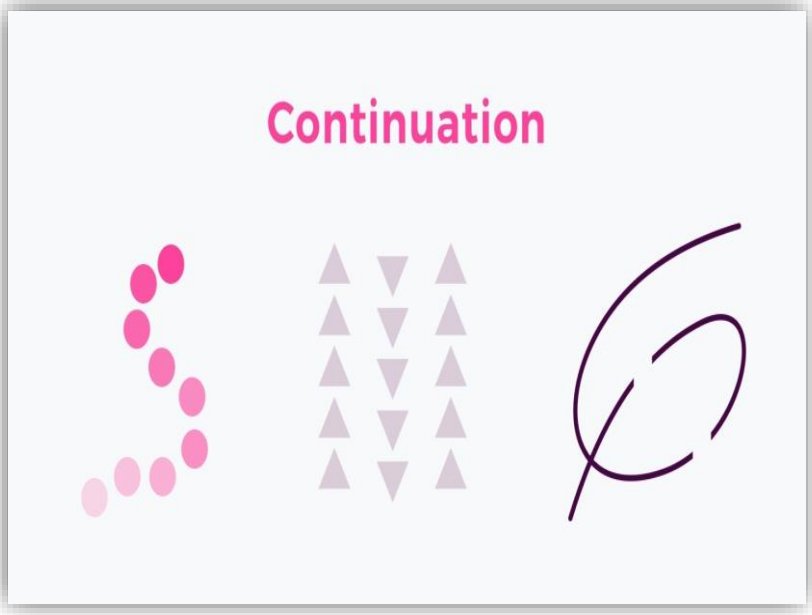


LAW OF CLOSURE:



LAW OF GOOD CONTINUATION:

- It indicates that organisation in perception appears to be going infinitely in the same direction.
- So, there is a tendency for factors to give direction, movement and continuation.
- That is why the following series of dots **……..** appear to be a straight line.
- For this reason only, cinema scenes though shot individually, when they are run in a sequence at the rate of 15 frames per second, they appear to be one and continuous**.**



IMAGINATION:

- ✓ Memory is the exact reproduction of the contents of past experience in the same order in which they were experienced in the past.
- ✓ Imagination consists in reproducing the contents of past experience and arranging them in a new order different from that in which they were originally experienced.

- ✓ Sometimes memory is called reproductive imagination because in it the contents of past experience are reproduced in the same form and order. You perceived a garden with various kinds of plants and flowers arranged in a particular order.
- ✓ You remember it now in the same order in which you perceived it in the past. This is called memory. You perceived gold and a mountain in the past. You remember them and conjoin them and picture the image of a golden mountain. This is called imagination.
- ✓ Therefore imagination is sometimes called productive or constructive imagination. In it the mind constructs a new image out of the contents of past experience.

NATURE OF IMAGINATION:

1. IMAGINATION IS CONSTRUCTIVE OR PRODUCTIVE:

- ✓ It is re-arrangement of the past experiences into a new pattern. It does not create the elements or materials of an image. It reproduces the elements of past experiences and forms them into new combinations.
- ✓ Imagination is not exact reproduction of a past experience. The contents of past experiences are reproduced and combined in a new order.
- ✓ There is conjunction in a new manner. You perceived roses and blue colour in the past, but never blue roses. But you can reproduce the image of a rose and the image of blue colour, and combine them into the image of a blue rose.
- ✓ Similarly, you can picture the image of a ten-headed monster. Sometimes there is dis-function or separation of the elements of past experiences.
- ✓ You always perceived walking men with heads. But you disjoin the heads from walking men in imagination and picture the images of headless walking men. Sometimes there is substitution. Some parts of the objects perceived in the past are replaced by other parts in imagination.

- ✓ You may imagine a person with hands made of gold.Sometimes there is augmentation of the contents of past experiences.
- ✓ When we increase the size of men hundred times and picture the images of giants, monsters, Brobdignags and the like, there is augmentation. Sometimes there is diminution of the contents of past experiences. When we decrease the size of men and picture the images of dwarfs, imps, Liliputs and the like there is diminution.

2. *MENTAL MANIPULATION:*

- ✓ Woodworth calls imagination mental manipulation because an individual rearranges facts previously observed and recalled at present into a new pattern in imagination.
- ✓ A centaur is composed of man and horse, and mermaid of woman and fish.

3. IMAGINATION IS MOTIVATED:

- ✓ It is influenced by our wishes. The child builds 'castles in the air' to satisfy his wishes.
- ✓ Imagination is a process of trial-and-error activity in order to satisfy a want.

- ✓ It is a mode of adaptation to an ideal situation. It is a device for achieving unattainable goals.

TYPES OF IMAGINATION:

(i) PASSIVE IMAGINATION:

- ➢ The mind is not completely passive at any time. It is partly active when it is conscious. In passive imagination the mind is comparatively passive, and does not make any effort of the will to picture the images. The images come of themselves to the mind and are combined automatically by the suggestive forces.

- This is easy play of imagination. When we are in a listless mood and fall into a day dream and build castles in the air, our imagination is passive.

(ii) ***ACTIVE IMAGINATION:***

- In active imagination the mind exerts itself to picture an image; it makes an effort to receive the contents of past experience and combine them into new patterns. The images are not automatically combined by suggestive forces.
- The combination of images is effected by an effort of the will. The mind actively selects certain materials rejects others, and constructs a new image. When we write an essay we put forth effort of the mind to remember the relevant elements of past knowledge and arrange them in a fresh manner. So we have active imagination here.

(iii) ***RECEPTIVE IMAGINATION:***

- In receptive imagination the mind makes an effort to picture a scene described. The materials of imagination and the order of their combination are suggested to the mind from without.
- When we read stories, novels, dramas, poems, history, geography travels etc. we have receptive imagination in which we receive the images from without.

(iv) ***CREATIVE IMAGINATION:***

- In creative imagination the mind constructs an imaginary situation; it creates a new image out of the materials which it receives from within itself and arranges them in a fresh order.
- When an engineer constructs the plan of a building he has creative imagination. When a novelist arranges the incidents of his story into a plot he exercises creative imagination.

(v) ***INTELLECTIVE IMAGINATION:***

- Intellective imagination serves the purpose of knowledge. So it is also called cognitive imagination. Imagination engaged in intellectual construction is called intellective imagination. When Newton hit upon the hypothesis of gravitation to explain the fall of bodies to the earth by a stroke of imagination he had intellective imagination.
- These are examples of creative imagination. But there may be also receptive imagination which serves the purpose of knowledge. When we read history, geography, novels, etc., we have receptive imagination which adds to our knowledge. Thus intellectual imagination may be either creative or receptive⁻.

(vi) ***PRACTICAL IMAGINATION:***

- Practical imagination serves some practical purpose. It is also called pragmatic imagination. It is involved in a practical construction. It is controlled by objective conditions. In order to

realize a particular end, it must satisfy the real conditions of the external world.

- Pragmatic imagination must conform to objective conditions. It must be subject to objective control. When we devise a plan of a building or a machine, we have practical imagination. When we devise plans for a picnic, a railway journey, etc., we have practical imagination. It fulfils the practical needs of our life.

(vii) ***AESTHETIC IMAGINATION:***

- Aesthetic imagination satisfies our aesthetic impulse. It is directed towards the gratification of sentiments. It does not satisfy any practical need; nor does it add to our knowledge. It is neither practical construction nor intellective imagination.
- It satisfies our craving for beauty. Aesthetic imagination is the imagination which is involved in the creation and appreciation of beauty. Here the constructive activity is essentially free. It has not to satisfy external conditions.
- The constructive activity has for its end emotional satisfaction. In aesthetic imagination the constructive activity itself gives pleasure. Its value lies in itself and is independent of objective values. When a painter paints a picture, he has aesthetic imagination.
- When a musician composes a song, he exercises aesthetic imagination. When a poet composes a poem, he has aesthetic imagination. Aesthetic imagination may be artistic or

phantastic. Phantastic imagination is mere play of imagination as in daydreaming. The imagination which forms ideals of truth, beauty, and the like, is artistic.

(viii) *IMAGE IMAGINATION*:

- Memory is reproduction imagination. It is exact reproduction of past experiences. Imagination is productive imagination. It consists in reproducing the elements of past experiences and rear ranging them into a new pattern.
- A memory image is a faithful reproduction of the original percept. You remember the Taj Mahal that you perceived, and you have its memory image. You remember a woman and a fish, conjoin them in imagination, and have the image of a mer-maid. You have an image of imagination.

REASONING:

- ✓ It is one of the best forms of controlled thinking consciously towards the solution of a problem.
- ✓ It is realistic in the sense that the solution is sought always in reference to the reality of the situation.
- ✓ We can solve many problems in our day-dreams, dreams and imaginations but they are unrealistic solutions.

- ✓ As Sherman defined, **"*reasoning is a process of thinking during which the individual is aware of a problem identifies, evaluates, and decides upon a solution*".**
- ✓ Reasoning is used not only when we want to solve an immediate problem but also when we anticipate future problems.
- ✓ Reasoning plays a significant role in one's adjustment to the environment. It not only determines one's cognitive activities but also influences the behaviour and personality.

DEFINITIONS OF REASONING:

- ❖ "*Reasoning is a stepwise thinking with a purpose or goal in mind*" —Garrett.
- ❖ "*Reasoning is the term applied to highly purposeful, controlled and selective thinking*"—Gates.
- ❖ "*Reasoning is the word used to describe the mental recognition of cause and effect relationships, it may be the prediction of an event from an observed cause or the inference of a cause from an observed event*"—Skinner.

Thus reasoning is a highly specialized thinking which helps an individual to explore mentally the cause and effect relationship of an event or solution of a problem by adopting some well-organized systematic steps based on previous experience combined with present observation.

TYPES OF REASONING:

Reasoning may be classified into two types.

1. ***INDUCTIVE REASONING:***

- It is a specialized thinking aimed at the discovery or construction of a generalized principle by making use of particular cases, special examples and identifying of elements or relations.
- For example, Mohan is mortal, Radha is mortal, Karim is mortal; therefore, all human beings are mortal.

2. ***DEDUCTIVE REASONING:***

- It is the ability to draw some logical conclusions from known statement or evidences. Here one starts with already known or established generalized statement or principle and applies it to specific cases.
- For example, all human beings are mortal you are a human being, therefore, you are mortal.
- Henry has categorized three types of deductive reasoning:

i. ***CONDITIONED REASONING:***

- It is the reasoning tied down by some specific condition such as the following.

- For example, if there is a solar eclipse, the street will be dork. There is a solar eclipse. Therefore "The streets are dark".

ii. ***CATEGORICAL REASONING:***

- This type of reasoning is based on some categorical statements.
- For example, all Robins are birds. All birds lay eggs. Therefore "All Robins lay eggs".

iii. ***LINEAR REASONING:***

- This type of reasoning involves straight forward relationships among elements.
- For example, If Ram is taller than Mohan and Mohan is taller than Sohan, then Ram is the tallest.

PROBLEM-SOLVING METHOD:

1. ***ENCOURAGES ACTIVE LEARNING*:**

   - The problem-solving method encourages students to actively participate in their own learning by engaging them in real-world problems that require critical thinking and collaboration

2. ***PROMOTES COLLABORATION:***

- Problem-solving requires students to work together to find solutions.
- This promotes teamwork, communication, and cooperation.

3. ***BUILDS CRITICAL THINKING SKILLS:***

- The problem-solving method helps students develop critical thinking skills by providing them with opportunities to analyze and evaluate problems

4. ***INCREASES MOTIVATION:***

- When students are engaged in solving real-world problems, they are more motivated to learn and apply their knowledge.

5. ***ENHANCES CREATIVITY:***

- The problem-solving method encourages students to be creative in finding solutions to problems.

JOHN DEWEY THE STEPS INVOLVED IN REASONING AS PROBLEM SOLVING:

John Dewey has put forward 5 steps in problem solving. These include

1. *SENSING THE PROBLEM*
2. *COLLECTING AND ORGANISING DATA*
3. *FORMULATING HYPOTHESES*
4. *EVALUATION AND VERIFICATION AND*
5. *FORMULATION OF A GENERALISATION LEADING TO*

SENSING THE PROBLEM:

- Cognising the problem is the first step in reasoning or problem solving. There are myriads of problems in the world. These do not spark reasoning so long as we are not interested in them. Only those problems which affect us make us reason.

- Even before the time of Newton (and also after his period) apples used to fall down from the trees. But no one was bothered about it. It was Newton who only thought why apples are falling down and not moving up? and immediately it became a problem for him.
- Pupils in our schools often refuse to think as they feel the problems posed during instruction or in their textbooks are unreal or unrelated to their needs and interests.
- Sensitivity to problems depends on one's felt needs, level of knowledge and experience.
- That is why during the introductory phase of the lesson we motivate or prepare the students to the concerned lesson by linking it with pupils' background experience.
- Any problem should not only be related to the level of maturity, knowledge and experience of pupils but should also be stated in clear and well defined terms so that the exact nature could be understood by them.

COLLECTING AND ORGANISING DATA:

- Accumulation of data needed to formulate a solution to the problem on hand is the next step in problem solving.
- Some of the data needed for solving a problem may already be known to us and we simply recall them.
- Often we may need new facts, concepts or principles to effectively deal with the problem and we seek them out and organise and classify them in an orderly way.

FORMULATION OF HYPOTHESIS:

- Hypotheses are possible or tentative solutions to a problem and these depend on our ability to infer relations among the facts in our possession.
- Insight greatly helps in formulating verifiable hypotheses.
- However, possession of relevant facts, persistent analysis and involvement in the problem, continued mental effort, a scientific outlook free from prejudices etc. will facilitate formulation of hypotheses.

VERIFICATION AND EVALUATION OF HYPOTHESES:

- For a problem, there may be many hypotheses. Only one of them could possibly be a valid solution to the problem. So hypotheses are put into verification, one after another. The outcome of testing helps us to accept that hypothesis found to be true and discard others which are not satisfactory solutions to the problems.
- A hypothesis proved to be true will be consistent with facts already accepted as valid and will also be in conformity with new facts spotted.

APPLICATION AND GENERALISATION:

- In the last step, the verified hypothesis is applied to problems in a few related situations to confirm its validity further. It is then generalised to the extent it serves as a solution to similar problems.

- An analysis of these steps makes clear that it involves both inductive and deductive inferences.
- Induction is used in the formulation of hypotheses from discrete facts and in the stage of generalisation of the verified hypothesis whereas deduction is the basis for verification of hypothesis.

ILLUSTRATION:

- Galileo observed that air pumps could lift water only up to a height of 33 ft. He bestowed his critical thinking on the fact that it is not possible to lift water through air pumps to heights of more than 33 feet.
- This is the first step of 'sensing the problem' This problem was further analysed and on the basis of the data collected, Pascal came to the conclusion that air pumps work on the principle of 'atmospheric pressure' and it can balance a water column of only 33 ft.
- From the hypothesis of Pascal, Torricelli deduced that if atmospheric pressure was the reason for air pumps lifting water up to a height of 33 ft. only, then atmospheric pressure can balance a mercury column of 30 inches alone as mercury is 13.6 times heavier than water.
- Torricelli's laboratory experiments proved his contention right. This finding has been extended and mercury barometers were discovered.

- In this illustration though three persons investigated the problem, the steps involved in their study conform to the five steps in problem solving.

MEMORY:

- ✓ A layman may define memory simply as the capacity to reproduce what is learnt; psychologically it is much more complex.
- ✓ Psychologists prefer the word remembering' to 'memory'.
- ✓ Remembering is an active process of mental search. Remembering refers to retention of what is learnt and retrieving it when it is required for subsequent use.
- ✓ Remembering consists of three stages or phases. They are:

1. *Learning or memorising (known as assimilation)*
2. *Retention or storing*
3. *Retrieving or gaining access to it (Recall or recognition)*

THE TECHNIQUES OF PROMOTING BETTER 'MEMORY':

- ✓ The capacity to retain cannot be improved by any intrinsic manner.
- ✓ All that can be done is to improve the methods of memorising.
- ✓ A good memory depends upon a good brain.
- ✓ We should try to keep the metabolism of the brain in a good condition.

- ✓ Our diet should contain calcium and phosphorus-rich products.
- ✓ Some tips to improve memory through better memorising techniques are given below:

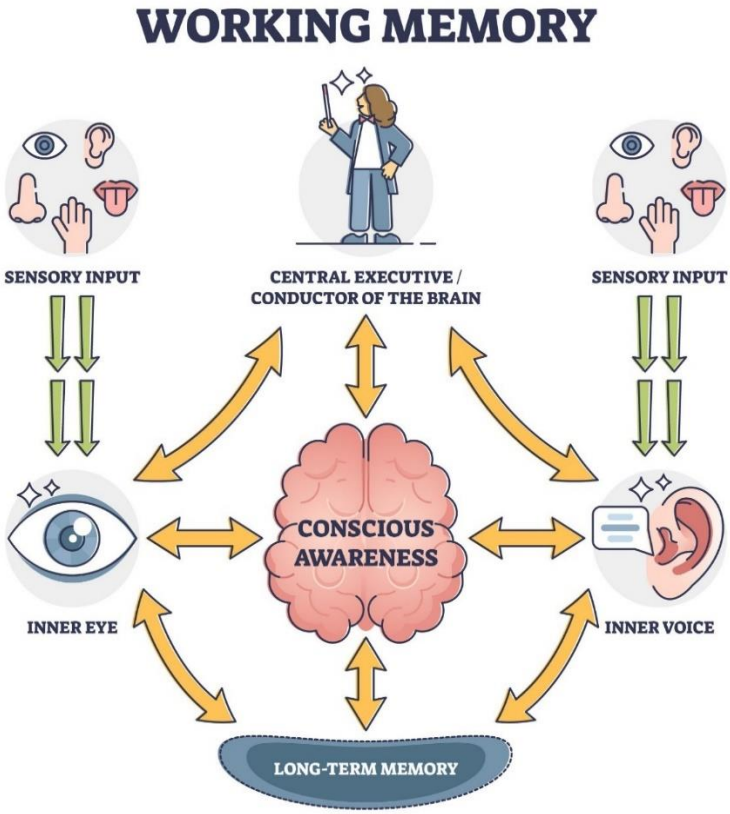
- Have the desire or motivation to learn, whatever is learnt.
- Meaningful material is learnt quickly and retained longer.
- Follow SQ3R method while learning (survey, questioning, recite, repeat and review)
- Spacing the learning periods appropriately will help effective learning
- Recitation during the course of learning helps self-evaluation. This is very useful in memorising, particularly in children.
- Over-learning (learning beyond the point of forgetting) aids retention.
- Rhymes and logical associations between different parts of the material help remembering.
- Mnemonic devices (artificial associations like abbreviations) are useful in learning when no inherent organisation or association could be seen in the material. For example to remember the colours in a rainbow in the order, we use the artificial word VIBGYOR.

- Multisensory learning is more effectively remembered (T.V. advertisements are remembered better than those of Radio).
- Periodical rest and sleep immediately after learning improve retention by helping consolidation of memory traces. Subjects which interfere with each other should not be learnt in succession.
- Subjects of study should be so arranged to avoid interferences like Proactive and Retro-active inhibitions (e.g. after learning mathematics study a language like Tamil or English; followed by the study of science, then learn social studies or any other light subject.
- As suggested by Mandler and Herbart, teachers should plan the instruction such that information is provided in organised manner (i.e. grouping them in suitable clusters or categories). In this connection Ausubel also talks about 'advanced organisers'. Learning through concept maps is an attempt under this principle of organisation.

SHORT AND LONG TERM MEMORIES:

- ✓ Short term memory, also called primary or working memory lasts for 15 to 30 seconds.
- ✓ We remember a telephone number t we get the connection to that number. We have to look at the telephone directory, if we are to phone after a few hours Experimental evidence shows that only 7+2 separate items can be held in short term memory at one time (referred to as Memory span).
- ✓ Primary memory is not the terminal point. Information being transformed to long term memory for more permanent storage.

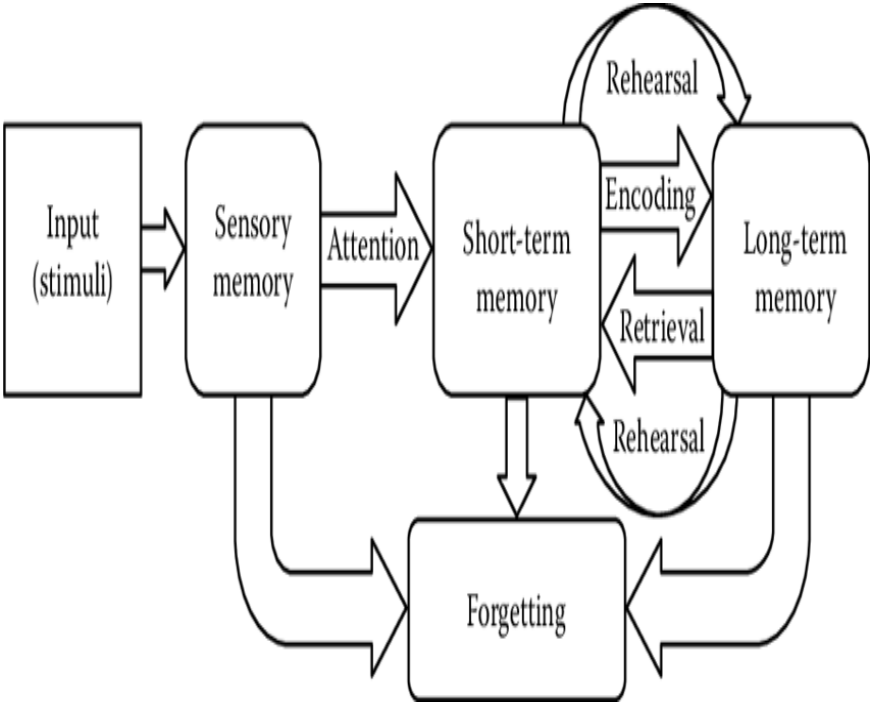
- ✓ The multiplication tables we have learnt, the poems we have memorised, our date of birth, wedding day, our telephone number, residential address etc. are permanently remembered because of our long term memory.



- ✓ More time and effort are essential for moving information into long term storage.

- ✓ While the capacity for STM is limited, the capacity for LTM is unlimited.
- ✓ The information passed on to LTM is placed into organised categories, where it resides, almost permanently. There appear to be different brain processes for STM and LTM.
- ✓ The transfer from STM to LTM takes place not only because it rehearsal and repetition but because of coding which is the process of analysing information and compressing it into abbreviated form.
- ✓ The operations and control process affected by the brain in dealing with the input information passed on to it by the receptors of our sensory organs with respect to STM and LTM seem to be different as illustrated by the following diagram.

MEMORY MODEL BASED ON INFORMATION PROCESSING SYSTEM



- ✓ Just as most of the visitors to our house are allowed up to the reception hall and then sent back, the incoming information Passed on to the brain by the sense receptors are filtered and only those information of significance requiring our immediate attention are fed to STM; others are momentarily forgotten.
- ✓ Those information entering into STM are immediately put into use and after that forgotten or if considered useful and to be retained permanently, it is processed further so as to be put

into organised categories and codified and stored permanently (over one minute up to many years) in the LTM.

- ✓ A certain amount of time (about 30 minutes) appears to be needed in transferring information from STM to LTM. (For example, one who has received a jolt of the brain often does not remember the events that just preceded the accident but will remember those that happened 30 minutes earlier)
- ✓ When we remember anything, information is retrieved from L.T.M and put back into S.T.M. for further processing (rehearsal and repetition), after which the information may be again put back in L.T.M. or it may result in a response or output.
- ✓ Therefore it could be inferred that information, depending on their degree of utility, is stored either in S.T.M. or L.T.M. by different brain processes.
- ✓ That is why telephone numbers of other people are registered in our S.T.M. but telephone numbers of our residence and office are stored in our L.T.M.

SIGNS OF GOOD MEMORY:

Psychologists point out the following five characteristics as hall marks of good memory.

1. ***RAPIDITY*:**

   - ➢ One is said to have a good memory, if he could recollect his past experiences very quickly.

2. ***ACCURACY*:**

- If one could bring back the learned materials without any distortion, he is said to have good memory.

3. ***LENGTH OF TIME*:**

- How long one could retain the learned materials in memory before retrieving them is also taken as a measure of good memory.

4. ***PROMPTNESS OF RETRIEVAL:***

- If one is able to bring back the learned materials instantly with ease without requiring any help, he is said to have a good memory.

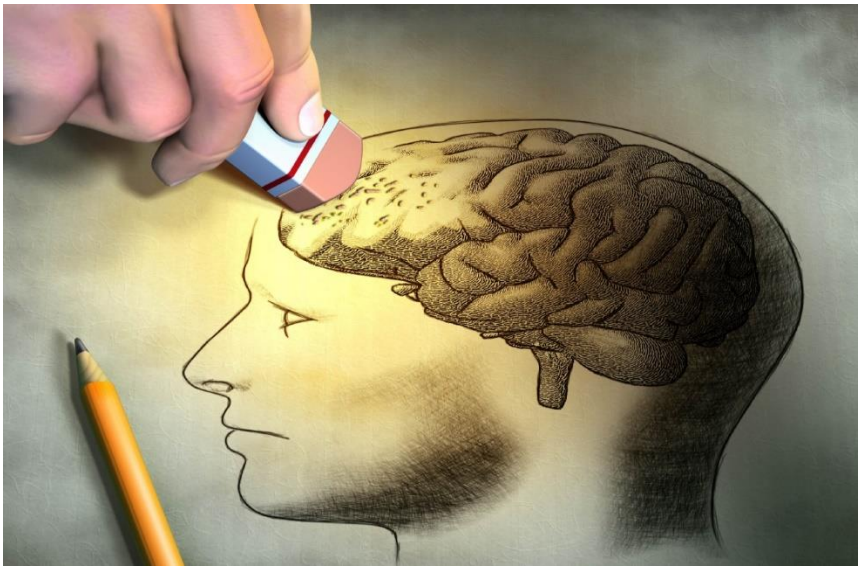
5. ***SERVICEABLENESS:***

- This refers to the recall of the right thing at the right place.
- If a candidate is not able to tell the correct answer at the time of interview, what will be of use if he could recollect the correct answer after coming out of the interview?

FORGETTING:

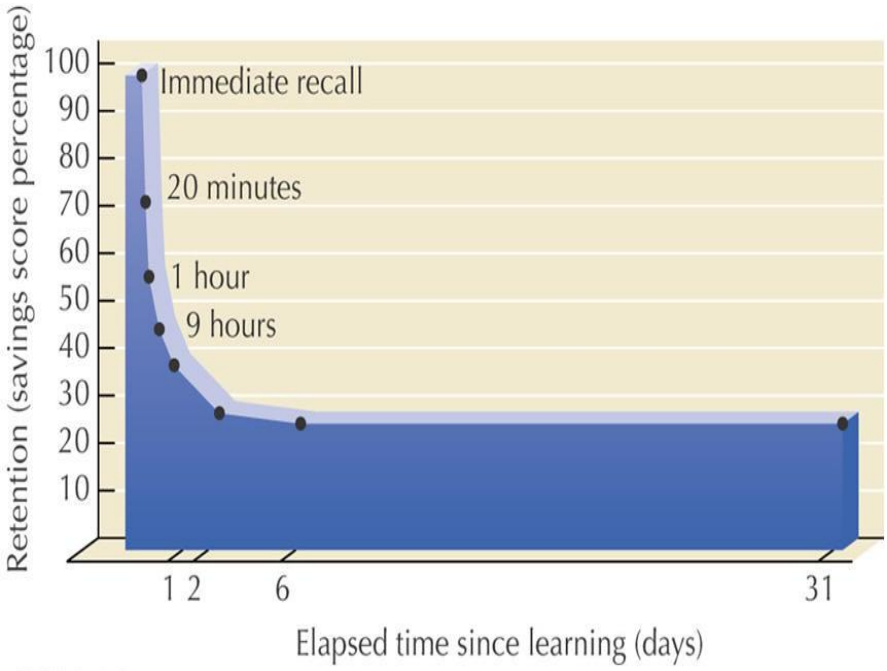
- ✓ Forgetting is an all too common part of daily life. Sometimes these memory slips are simple and fairly innocuous, such as forgetting to return a phone call.

- ✓ Other times, forgetting can be much more dire and even have serious consequences, such as an eyewitness forgetting important details about a crime.
- ✓ Memory failures are an almost daily occurrence.
- ✓ Forgetting is so common that you probably rely on numerous methods to help you remember important information, such as jotting down notes in a daily planner or scheduling important events on your phone's calendar.
- ✓ As you are frantically searching for your missing car keys, it may seem that the information about where you left them is permanently gone from your memory.
- ✓ However, forgetting is generally not about actually losing or erasing this information from your long-term memory.



CURVE OF FORGETTING:

- ✓ The Curve of Forgetting graph below shows how easily we humans forget new information we encounter only once.

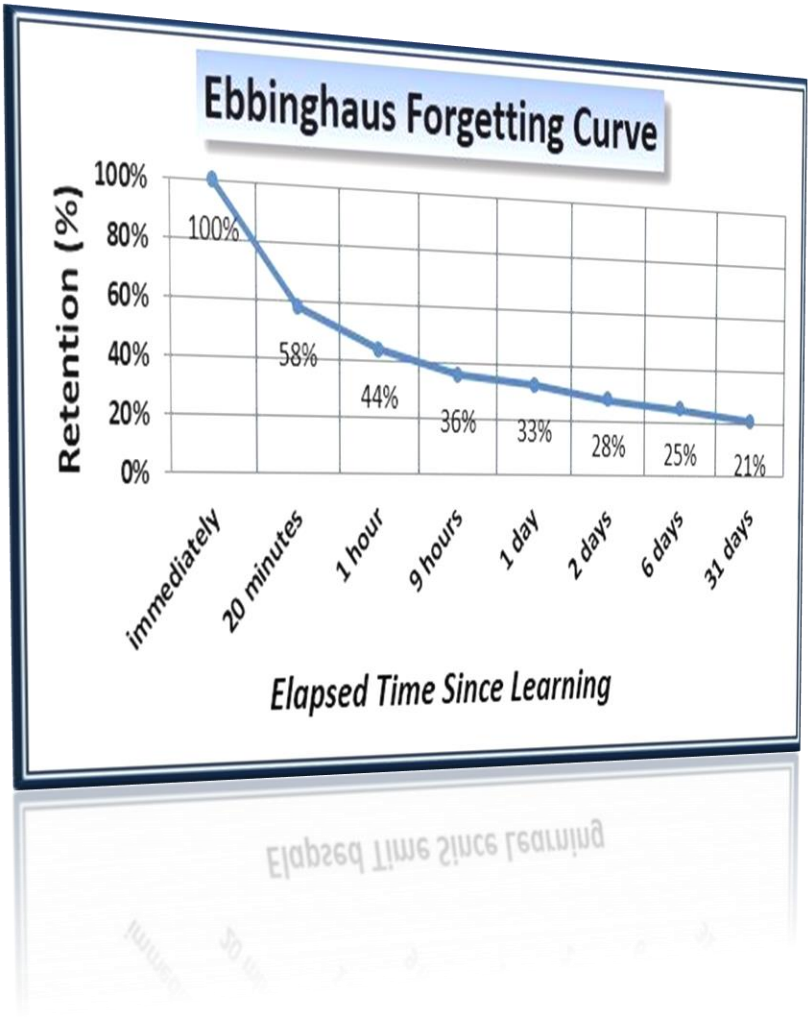


- ✓ For example, consider new information we might hear in a class on Monday. If we don't reinforce or "touch" this new information often after we first hear it, notice what happens: After 24 hours without reinforcement, we will forget about 40% of it. After two days without practice, we will forget 60%. Forgetting 40 to 60% of new information results in a D or F on a test over it.

- ✓ So we can see that forgetting information we hear only once or twice is not the result of a poor mind; in fact, it is the result of an efficient mind that remembers what's important and forgets what isn't.
- ✓ How do we tell our minds that something is important enough to remember? By turning our attention to (reviewing) the information several times after we have heard or read it.
- ✓ Unfortunately, we do not feel we need to review this new information because when we are in class hearing it or reading it in a book, it seems fresh and locked in our memories.
- ✓ However, without reinforcement and review, we will likely forget a large portion of it within hours.
- ✓ Studies done by the psychologist Ebbinghaus (1885) represents the earliest systematic work in studying the phenomenon of forgetting.
- ✓ He himself worked as a subject for these studies and described his results by plotting a curve for forgetting.
- ✓ He memorized a list of non-sense syllabus and then tested himself at intervals varying from 20 minutes to a month to see how much of the list he remembered.
- ✓ The results in terms of the percentage of material forgotten with the lapse of time were as follows:

TIME ELAPSED	*AMOUNT FORGOTTEN*
20 minutes	***47%***
One day	***66%***
Two days	***72%***
Six days	***75%***
Thirty one days	***79%***

- ✓ He plotted the data as a graph as shown below


Ebbinghaus Forgetting Curve
Retention (%)
100%
80%
60%
40%
20%
0%
100%
58%
44%
36%
33%
28%
25%
21%
immediately
20 minutes
1 hour
9 hours
1 day
2 days
6 days
31 days
Elapsed Time Since Learning

UNIT - 4

Models OF TEACHING

MODELS OF TEACHING:

The aim of teaching is to raise the level of learning. After the development of education psychology, many learning theories were propounded for this. Accordingly, the knowledge of the curriculum was made available to the students, but these learning theories failed to find solutions to the practical problems of classroom teaching. Therefore, now special attention is being given to teaching instead of learning to solve the practical problems of classroom teaching and psychologists and educationists are trying to develop teaching principles instead of learning principles. For this, new teaching models have been presented.

Just as an architect / engineer makes a dam, bridge / building etc. according to a plan design, Similarly, the teacher also uses teaching models to make his teaching effective. The educational dictionary defines a model as, "A model is a representation of an object or principle or idea on a graphical or three dimensional scale., In this way, the word model is used for a miniature form / statue of an object / person / building / theory / idea etc. so that any person can imagine or understand its true form by observing the model. When a big project or dam or building etc. has to be constructed, first of all its design is prepared. After that, its model is prepared in a certain size and proportion, after proper checking, the actual work is done. If any

discrepancy is visible in the model, then the model is made again by modifying it.

In view of this concept, for the successful operation of the educational system in the field of education, an attempt is made to make a teaching design or paradigm of any theory/ idea, according to which the teaching work can be done in an effective and systematic manner. These are called Teaching Models.

FUNCTIONS OF TEACHING MODELS IN LEARNING:

- Teaching models are useful in developing social efficiency, personal abilities, cognitive abilities and behavioural aspects of the students. It helps in selecting and stimulating situations which causes the desirable changes in students.
- Teaching models help in guiding the teacher to select appropriate teaching techniques, strategies and methods for the effective utilization of the teaching situation and material for realizing the objectives.
- Teaching models help to establish teaching and learning relationships empirically. It helps in making the teaching more effective.
- Teaching models help in bringing about desirable changes in the behavior of the learners.

- Teaching models help in providing a theoretical rationale to the teaching, which will provide changes and rectifications in teaching.
- Teaching models stimulate the development of new educational innovations in teaching strategies and tactics, which may replace the existing ones in schools of today.
- Teaching models assist makers of materials to create more interesting and effective instructional materials and learning sources.
- Teaching models help in finding out ways and means of creating favourable environmental situations for carrying out the teaching process.
- Teaching models assist teachers to develop their capacities to create a conductive environment for teaching, as its nature is practical.
- Teaching models help in achieving desirable teacher-pupil interaction during teaching.
- It helps in construction of a curriculum or contents of a course.
- It helps in the proper selection of instructional material for teaching the prepared course or the curriculum.

- Teaching models help curriculum planners to plan learning activities and content material which provide a variety of educational experiences to learners.
- It helps in the formation of theory of teaching.
- It helps to establish teaching and learning relationships empirically.
- Teaching model evaluates the behaviour of the students. For this important task, it presents such a criterion with the help of which the changes in the students' behaviours can be easily evaluate

CHARACTERISTICS OF A TEACHING MODEL:

1. ***Encourage Art of Teaching***:
    - Teaching is considered as an art.
    - Teaching models encourages this art by providing a learning environment.
2. ***Development of Inherent Abilities*:**
    - Teaching models bring about the qualitative development of personality as it helps in developing human abilities.
    - It also increases the teacher's social competency.

3. ***Based on Individual Differences***:

- Teaching model uses the student's interest, as it is constructed on the basis of individual differences.

4. ***Influenced by Philosophy***:

- Every teaching model is influenced by the philosophy of education.
- Hence, teachers formulate different models of teaching under the influence of the philosophy they believe.

5. ***Answers Fundamental Questions***:

- In every teaching model answers to all the fundamental questions pertaining to the behaviour of students and teachers are included.

6. ***Providing Appropriate Experiences***:

- Teaching models provide proper experiences to both teacher and student.
- Selecting the content and presenting it for learning before

the students is the main essentiality of teaching.

- This difficulty is solved when a teacher presents appropriate experience before the students.

7. ***Maxims of Teaching***:

- The basis of the teaching model is the maxims of teaching.
- They are the foundation of each teaching model.

8. ***Practice and Concentration***:

- The development of a teaching model is based on regular and continuous practice and concentration.
- The proper development of a teaching model is only possible when the assumptions are made clear by related thinking.

EFFECTS OF TEACHING BY MODELLING:

Models of Teaching are really ***models of learning***. As we help students acquire information, ideas, skills, values, ways of thinking, and means of expressing themselves, we are also teaching them how to learn. In fact the most important long term outcome of instruction may be the students 'increased capabilities to learn more easily and

effectively in the future, both because of the knowledge and skills they have acquired and because they have mastered learning processes.

- ❖ According to Joyce and Weil, Each model results in two types of effects:
  1. ***Instructional effects*** are the direct effects of the model which result from the content and skills on which the activities are based.
  2. ***Nurturant effects*** are those which are implicit in the learning environment. They are the indirect effects of the model.
- ❖ Bandura and Walters have formulated three kind of effect in teaching by modelling:
  1. ***Modelling effect***: The learner acquires a new kind of response pattern.
  2. ***Inhibitory and disinhibitory effect***: The learner increases or decreases the frequent, latency or intensity or previously required responses.
  3. ***Eliciting effect***: The learner receives from a model merely a cue for realizing a response.
- ✓ Modelling effect can be seen when a teacher demonstrates to a student how to hold a pencil or write capital A and thus shows a new behaviour.
- ✓ Through modelling the teacher lets the student know that it is not permissible of obscene nature in an art book.

- ✓ The eliciting effect takes place through modelling; a teacher tries to teach students to get up when he enters the room.
- ✓ Thus it provides a cue eliciting a response neither new nor inhibited.
- ✓ Gagne feels that learning through imitation seems to be more appropriate for tasks which are a little cognitive in nature.

FUNDAMENTAL ELEMENTS OF A TEACHING MODEL:

Normally majority of teaching models are based on the following six elements:

1. Focus:

Focus is the central aspect of a teaching model. Objectives of teaching and aspects of the environment generally constitute the focus of the model. Every teaching model is based on one or the other objective as its focal point. Any teaching model is developed by keeping this focal point in mind. Every teaching model differs from another in terms of its objectives. It is the nucleus of a teaching model. Every model is developed by keeping in view its focal point or objective. Every model has various phases; some particular types of competencies are developed by it.

2. *Syntax:*

Syntax of the model describes the model in action. Syntax includes the sequences of steps involved in the organization of the complete program of teaching. It is the systematic sequence of the activities in the model. Each model has a distinct flow of phases. It means the detailed description of the model in action. In it, the teaching activities and interactions between a pupil and the teacher are determined. The syntax of any teaching model means those points which produce activities focused on educational objectives at various phases. Under syntax, the teaching tactics, teaching activities and interaction between a student and the teacher are determined in such a pattern of sequence that the teaching objectives are achieved conveniently by providing desirable environmental situations.

3. *Principles of Reaction:*

Principles of Reaction tell the teacher how to regard the learner and to respond to what the learner does. This element is concerned with the way a teacher should regard and aspects respond to the activities of the students. These responses should be appropriate and selective. They provide the teacher with rules of thumb by which to select model, appropriate responses to what the student does.

This element is concerned with the teacher's reaction to the student's responses. In it, he comes to know how he has to react to the responses of the students and has to see whether the learners have been actively involved in the process, or not.

4. The Social System:

This element is concerned with the activities of pupil and the teacher and their mutual relationships. Every teaching model has separate objectives and will therefore have separate social systems. It is related with the interactive roles and relationship between the teacher and the student, and the kinds of norms that are observed and student behaviour which is rewarded. The Social System describes the role of and relationships between the teacher and the pupils. In some models the teacher has a dominant role to play. In some the activity is centred on the pupils, and in some other models the activity is equally distributed. This element is based on the assumption that every class is a miniature society. It also discussed the selection of motivating strategies and tactics for the students. Naturally the social system occupies a central position in making the teaching impressive and successful in relation to the previously selected objectives.

5. *Support system:*

The Support System describes the supporting conditions required to implement the model. 'Support' refers to additional requirements beyond the usual human skills, capacities and technical facilities. The support system relates to the additional requirements other than the usual human skills or capacities of the teacher and the facilities usually available in the ordinary classroom. Teacher requirements refer to special skills, special knowledge of the teacher and special audio-visual material like films, self-instructional material, visit to special places etc. This includes books, films, laboratory kits, reference materials etc. It means the additional requirements beyond the usual human skill, capacities and technical facilities. In it, the evaluation is done by oral or written examination, whether the teaching objectives have been achieved or not. On the basis of this success or failure, clear idea is achieved regarding the effectiveness of strategies, tactics and techniques used during teaching.

6. *Application:*

It is an important element of a teaching model. It means the utility or usage of the learnt material in other situations. Several types of teaching modes are available. Each model attempts to desirable the feasibility of its use in varying

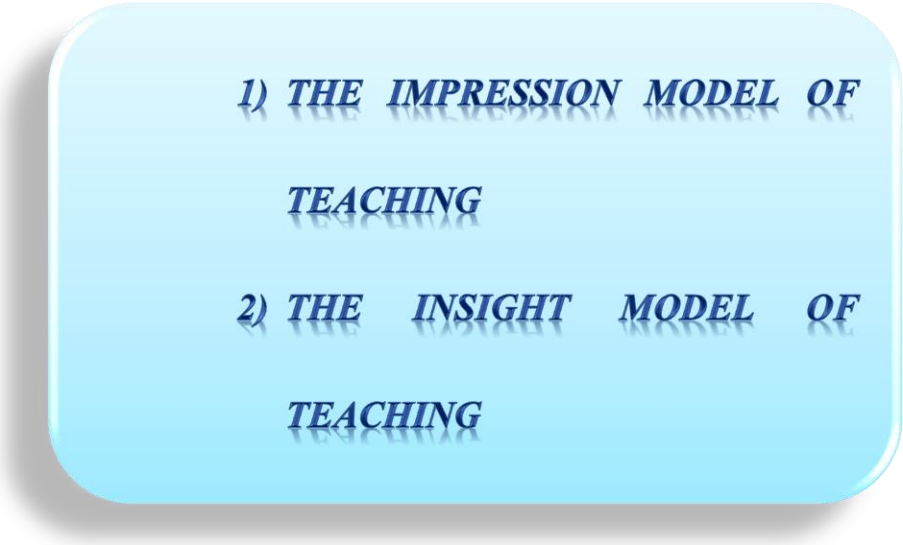
contexts related with goal achievements in terms of cognitive, and affective behaviour modification.

TYPES OF TEACHING MODELS:

The process of teaching model is still in the laboratory. That is why various scholars have classified teaching models on the basis of their research results, the details of which are as follows:

1. *PHILOSOPHICAL TEACHING MODELS:*

- ✓ Israel Scheffler presented three models of teaching based on his research in 1964, which he called *Philosophical Models of Teaching*, which are as follows



1) ***THE INSIGHT MODEL (PLATO)***:

- ✓ This model is an answer to the impression model.
- ✓ The insight model discards the assumption that the meaning of a teaching model is merely delivering the knowledge or ideas through teaching to the mental domain of the students.
- ✓ According to this model the knowledge cannot be provided merely through the expression of sense organs, but the knowledge principles of language are most important, the edge of the content is also a necessity.
- ✓ The developer of this model was Plato.
- ✓ His belief was that the knowledge cannot be provided merely by speaking the words or listening to them. Mental processes and language both work together.

2) ***THE IMPRESSION MODEL OF TEACHING (JOHN LOCKE):***

- ✓ It is based on a general assumption the child's brain is like a clean slate at the time of birth.
- ✓ Whatever experiences are provided through teaching creates an impression on a child's brain.
- ✓ These impressions are termed as learning. In the learning process the sense organs and principles of language and given more importance.

- ✓ The success and effectiveness of the entire teaching process depends upon the teacher's ability and his capability to communicate.

3) ***THE RULE MODEL (KANT):***

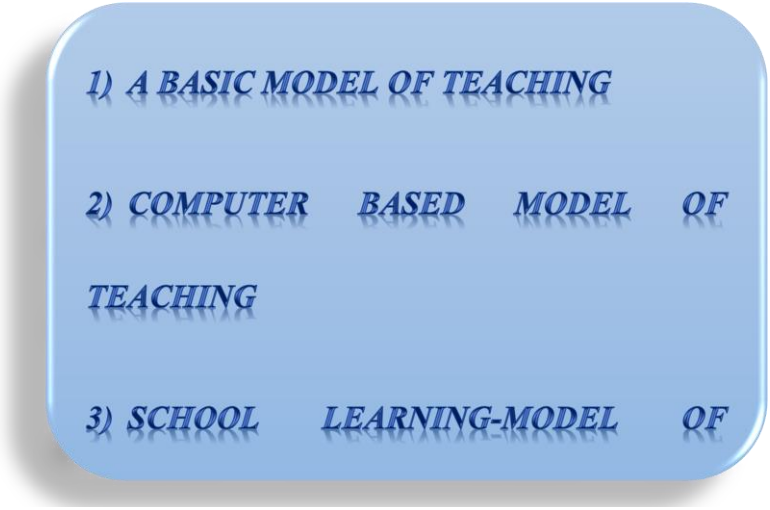
- ✓ The impression model and insight model have their own limitations. Their drawbacks have been removed by the rule model.
- ✓ In this model much importance is given to the logic power.
- ✓ Kant gives importance to logic, because following certain rules is essential.
- ✓ The main function of education is to develop character.
- ✓ The objective of the rule model is to develop the logical reasoning capacities of the student. Some particular rules are followed. Planning, organization and interaction of teaching is performed under specific rules.
- ✓ Cultural and moral values are developed with this model.

2. PSYCHOLOGICAL TEACHING MODELS:

- ✓ In 1964, John P. Dececco divided teaching models into four categories and termed them as psychological teaching models, which are as follows:

***BASIC TEACHING MODEL (ROBERT GLASER)*:**

- ✓ Robert Glaser (1962) has developed a stripped-down teaching model which, with modifications, is the basic teaching model.
- ✓ He has used psychological laws and principles in this model.
- ✓ The basic teaching model divides the teaching process into four components or parts. It will be useful in several ways.
- ✓ The four parts of the model represent the basic divisions, they are; Instructional objectives, Entering behaviour, instructional procedure, and performance assessment.



I. INSTRUCTIONAL OBJECTIVES-

These objectives mean those activities which a teacher is to do before teaching. In other words, the objectives of teachers and pupils are called instructional objectives. From this element of the mode, we come to know about how the instructional objectives are written in behavioural statements. This process is also known as task description. By this element, we can differentiate the objectives of schools, teachers and pupils.

II. ENTERING BEHAVIOUR-

Entering behaviours means those abilities or behaviours of the pupils which are necessary for the understanding of contents. In simple words, in order to acquire the levels according to the teacher's expectations, in future, the present level of pupils' knowledge and skills is the entering behaviour. Entering behaviour exists where the instructions start.

III. ***INSTRUCTIONAL PROCEDURE-***

This element means those teaching activities which are used for the presentation of the contents. Instructional process is known as the practical aspect of teaching. In this aspect, various methods, techniques, strategies etc., are used. In short, this element or step includes those activities which are used to present the contents.

IV. PERFORMANCE ASSESSMENT-

This step means those tests on the basis of which a teacher makes decisions. He decides the limits up to which a pupil has

acquired the efficiency in the contents. In this step, performance may be measured by any method, by it should be valid, reliable, objective and efficient. Hence, the tests which are used in this step should be objective and efficient.

1) FLANDERS' INTERACTION ANALYSIS SYSTEM:

- ✓ Flanders' system is an observational tool used to classify the verbal behaviour of teachers, and pupils as they interact in the classroom.
- ✓ Flanders' instrument was designed for observing only the verbal communication in the classroom and nonverbal gestures are not taken into account.

BASIC THEORETICAL ASSUMPTIONS OF INTERACTION ANALYSIS:

The various theoretical assumptions, which are basic to very idea of interaction analysis, are as follows:

1. In a normal classroom situation, it is verbal communication, which is predominant. (Flanders1965)
2. Even though the use of spoken language might resort to non-verbal gestures in the classroom, verbal behaviour can be observed with higher reliability than most non-verbal behaviour and also it can reasonably serve as an adequate sample of the total behaviour in the classroom.

3. Normally assume that verbal statements of a teacher are consistent with his non-verbal gestures and, in fact, his total behaviour. This assumption was sustained in terms of experience in Minnesota Studies (Flanders, 1966).

4. The teacher exerts a great deal of influence on the pupils. Pupil's behaviour is affected to great extent by this type of teacher behaviour exhibited (Anderson and others, 1946).

5. The relation between students and teacher is a crucial factor in the teaching process and must be considered an important aspect of methodology (Haggerty, 1932).

6. It has been established that social climate is related to productivity and to the quality of interpersonal relations. It has been proven that democratic atmosphere tends to keep work at a relatively high level even in the absence of the teacher. (Lewin and other, 1939)

7. Children tend to be conscious of a warm acceptance of the teacher and to express greatest fondness for the democratic teacher. (H.V. Perkins, 1950)

8. The role of classroom climate is crucial for the learning process. (Perkins 1956)

9. The teacher-classroom verbal behaviour can be observed objectively by the use of observational techniques designed to 'catch' the natural modes of behaviour, which will also permit the process of measurement with a minimum disturbance of

normal activities of the group of individuals. (Wright stone J. Wayne, 1958)

10. Modification of teacher classroom behaviour through feedback is possible (Flanders 1963), though how much change can occur and more knowledge relating to the permanence of these changes will require further research. (Flanders, 1963, 1966)

11. Teacher influence is expressed primarily through verbal statements. Non- verbal acts of influence do occur, but are not recorded through interaction analysis. The reasonableness of this assumption rests upon the assertion that the quality of the non-verbal acts is similar to the verbal acts; to assess verbal influence, therefore it is adequately a simple of all influences.

These assumptions focus our attention on the verbal participation of teachers and students in teaching-process.

FLANDERS'S TEN CATEGORY SYSTEM:

- ✓ The Flanders's System attempts to categorize all the verbal behaviour to be found in the classroom.
- ✓ It has two main categories: teacher talk and pupil talk. A third category covers other verbal behaviour, i.e., silence or confusion.

		Category number	Activity
Teacher talk	response	1	***Accept feeling***: accepts and clarifies an attitude or the feeling tone of a pupil in a non-threatening manner. Feeling may be positive or negative.
		2	***Praises or encourages***: praises or encourages pupil action or behaviour. Jokes that release tension, but not at the expense of another individual. Nodding head, or saying 'UMHM?'
		3	***Accepts or uses ideas of pupils:*** clarifying or building or developing ideas suggested by a pupil. Teacher extensions of pupil ideas are included but as the teacher brings more of his own ideas into play, shift to category five.
		4	***Ask questions:*** asking a question about content or procedure with the intent that a student may answer.
	initiation	5	***Lecturing:*** giving facts or opinions about content or procedures; expressing his own ideas; asking rhetorical questions.
		6	***Giving direction:*** directions, commands or orders to which a pupil is expected to comply.
		7	***Criticizing or justifying***

			authority: statements intended to change pupil behaviour from non-acceptable to acceptable pattern; stating why the teacher is doing what he is doing
Pupil talk	Response	8	***Pupil talk in response to teacher:*** talk by students in response to teacher. Teacher initiates the contact or solicits student statement.
	Initiation	9	***Pupil talk initiated by the pupil***; talk by students which they initiate. It 'calling on 'student is only to indicate who may talk next, observer must decide whether student wanted to talk. It he did, use this category
Silence		10	***Silence or confusion:*** pauses, short periods of confusion in which communication cannot be understood by the observer.

2) COMPUTER BASED TEACHING MODEL BY DANIEL DAVIS:

- ✓ The teaching model was developed by Lawrence Stuloro and Daniel Davis in 1965.
- ✓ It is the most complicated model having, entering behaviour, determination of objectives and teaching aspects as fundamental elements.
- ✓ In this element the computer teaching plan is selected according to the entering behaviour and instructional objectives.
- ✓ The performances of the students are evaluated.
- ✓ Accordingly, an alternative teaching plan is presented. In this model, the diagnosis and teaching go side by side.
- ✓ Remedial teaching is provided on the basis of diagnosis. Individual differences are also given importance**.**

3. MODERN TEACHING MODELS:

- ✓ Joyce and Weil presented more than 20 teaching models in 1972 AD, which they termed as Families of Models of Teaching and presented them by classifying them into four main families were as follows :-

FAMILIES OF TEACHING MODELS

On the basis of the above families, Joyce and Weil have classified teaching models, which are called Modern Models of Teaching. Their details are as follows

1) SOCIAL INTERACTION TEACHING MODEL:

- ✓ In the social interaction teaching model, special attention is paid to social development in view of the social side of man.
- ✓ Man lays more emphasis on his social relations. Hence it is studied in this teaching model to prepare citizens to generate relevant democratic behaviour, enhance both personal and social life and ensure productive democratic social order.
- ✓ The social development models are associated with the social interaction which is focused on developing the concepts and skills needed to work in groups. Cooperative learning has demonstrated the ability to impact standard achievement measures as well as group interaction.

  i- Cooperative learning focus is one working in groups based on the methods of Slavin and Johnson and Johnson.

  ii- Role playing focus is on the study and development of social behaviour and values.

There are four types of teaching model included in this teaching model

1. ***Social Inquiry Teaching Model***
2. ***Group Investigation Teaching Model***
3. ***Juris Prudential Teaching Model***
4. ***Laboratory Teaching Model***

2) INFORMATION PROCESSING TEACHING MODELS:

- ✓ The information processing teaching model emphasizes ways to enhance the innate resonance of human beings and seeks to acquire and organize data, make sense of problems, and find solutions.
- ✓ Some models emphasize or concept formation and hypothesis testing and some models generate creative thinking.
- ✓ The Information Processing Model is a cognitive theory that describes how information is perceived, processed, and stored by the human mind. In the context of teaching, this model is often applied to understand how students learn and retain information.
- ✓ The key stages of the Information Processing Model include:

1. ***INPUT:*** Information is received through the senses (sight, hearing, touch, etc.), often in the form of stimuli like lectures, readings, or multimedia.
2. ***PROCESSING:*** The mind actively engages with the information, organizing and interpreting it based on existing knowledge and cognitive structures.
3. ***STORAGE***: Processed information is stored in the short-term or long-term memory, depending on its significance and the learner's level of attention.

4. ***OUTPUT:*** Students demonstrate what they have learned through various forms of output, such as discussions, assignments, or assessments.

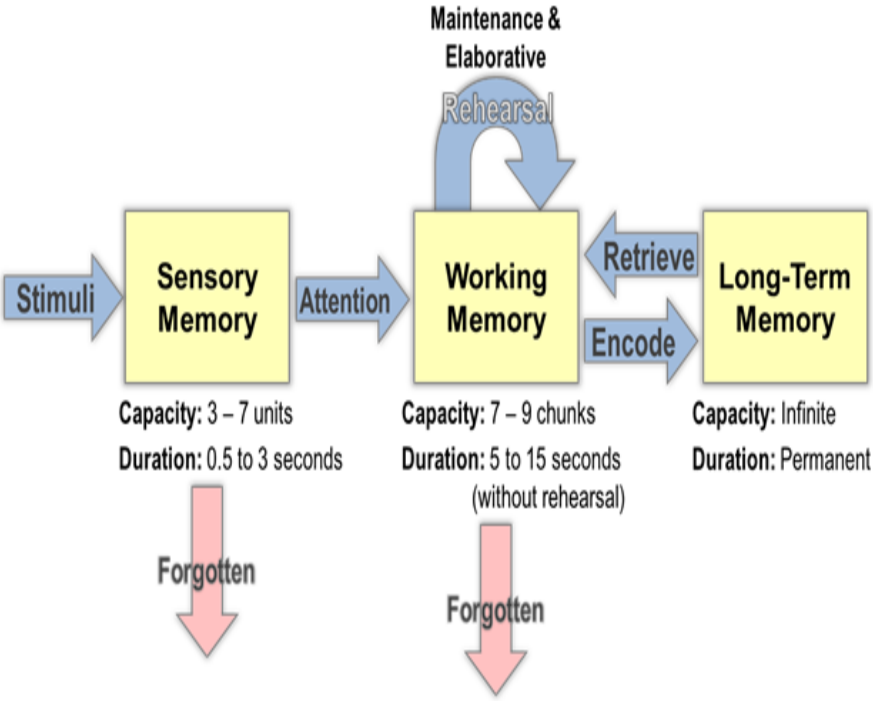
5. ***FEEDBACK:*** Learners receive feedback on their output, helping to reinforce correct understanding or guiding them toward improved comprehension.

- ✓ The focus of the model is on how information is selectively perceived, stored in memory, and retrieved. The information processing models are more linked to concepts and principles developed in cognitive psychology.
- ✓ Interest in mental processes had been gradually restored through the work of Piaget and Tolman. But it was the arrival of the computer that gave cognitive psychology the terminology and metaphor it needed to investigate the human mind.
- ✓ The start of the use of computers allowed psychologists to try to understand the complexities of human cognition by comparing it with something simpler and better understood i.e. an artificial system such as a computer.
- ✓ The use of the computer as a tool for thinking how the human mind handles information is known as the computer analogy.

- ✓ Information is received through the senses and then is perceived by the mind. It enters short-term memory either from the process of sensation or from long-term memory.
- ✓ Concepts are stored through schemata. Essentially, computer codes (i.e. changes) information, stores information, uses information, and produces an output (retrieves info).
- ✓ The idea of information processing was adopted by cognitive psychologists as a model of how human thought works.
- ✓ The information processing approach is based on a number of assumptions, including:
  - i. Information made available from the environment is processed by a series of processing systems (e.g. attention, perception, short-term memory).
  - ii. These processing systems transform, or alter the information in systematic ways.
  - iii. The aim of research is to specify the processes and structures that underlie cognitive performance.
  - iv. Information processing in humans resembles that in computers.
- ✓ Many of the tests used to measure school learning are being modified so that they consider important mental

processing skills that these models are designed to address.

- ✓ Inquiry training / Inductive thinking methods focus on concept formation, interpretation of data and formation of principles and theories.
- ✓ Concept attainment focuses on categorizing, concept formation and concept implementation.



Six types of teaching models are included in this teaching model

1. ***Inquiry Training Model***
2. ***Concept Attainment Teaching Model***

3. ***Advance Organizer Teaching Model***
4. ***Induction Teaching Model***
5. ***Biological Science Inquiry Teaching Model***
6. ***Developmental***

3) BEHAVIOUR MODIFICATION MODELS OF TEACHING:

- ✓ Behaviour change teaching models emphasize on changing the external behaviour of the learner, for which special attention is focused on desired behaviours, actions and methods.
- ✓ It emphasis on changing the observable behaviour of the learner
- ✓ The specific goals are;

6. To develop competency to adopt behaviour styles appropriate to given situations
7. To learn strategies for self-control through operant methods
8. To master techniques for stress reduction
9. To foster leadership quality

This learning model includes the following learning models

1. ***Programmed Learning Model***
2. ***Operant Conditioning***

4) PERSONAL MODELS OF TEACHING:

- ✓ The individualized learning model places special emphasis on individual development so that they can understand more about

themselves take responsibility for their own learning and learn to grow beyond their current development and become more productive in their quest for a higher standard of living. Become stronger, more sensitive and more creative.

- ✓ The emphasis of these models is on developing an individual into an integrated, confident and competent personality.
- ✓ They attempt to help students understand themselves and their goals, and to develop the means for educating themselves.
- ✓ Many of the personal models of teaching have been developed by counsellors, therapists and other persons interested in stimulating individual's creativity and self-expression.
- ✓ The primary goals are:
  - ➢ To increase the student's self-worth,
  - ➢ To help students understand themselves more fully.
  - ➢ To help students recognise their emotions and become more aware of the way emotions affect other aspects of their behaviour,
  - ➢ To help them develop goals for learning,
  - ➢ To help students develop plans for increasing their competence,
  - ➢ To increase the students' creativity and playfulness,
  - ➢ To increase the students' openness to new experiences.

There are four types of teaching model included in this teaching model

1. ***Synectics Teaching Model***
2. ***Non-Directive Teaching Model***
3. ***Class room Meeting Teaching Model***
4. ***Awareness Teaching Model***

SOURCE	TEACHING MODEL	INNOVATORS	AIMS AND APPLICATION
The Personal Source	**Non-Directive Teaching Model**	**Carl Rogers**	**To develop self-learning by auto instructions, self-research and self-understanding**
	Synectics Teaching Model	**William Gordon**	**To develop creative competencies for problem solving.**

	Awareness Training Model	**W.S. Fietz**	**To develop individual competencies and mutual relations.**
	Classroom Meeting Model	**William Glasser**	**To develop skills of self–understanding and capacities of dutifulness.**
	Conceptual System Model	**David.Hunt**	**To adjust with the environment with flexibility in the personality.**

- ✓ Hence these models are shaped by the methods used in the classroom to create an ideal learning environment and enhance teachers' teaching skills and effectiveness. They contribute to improving students' academic performance.

UNIT 5

Teacher and TEACHING as a profession

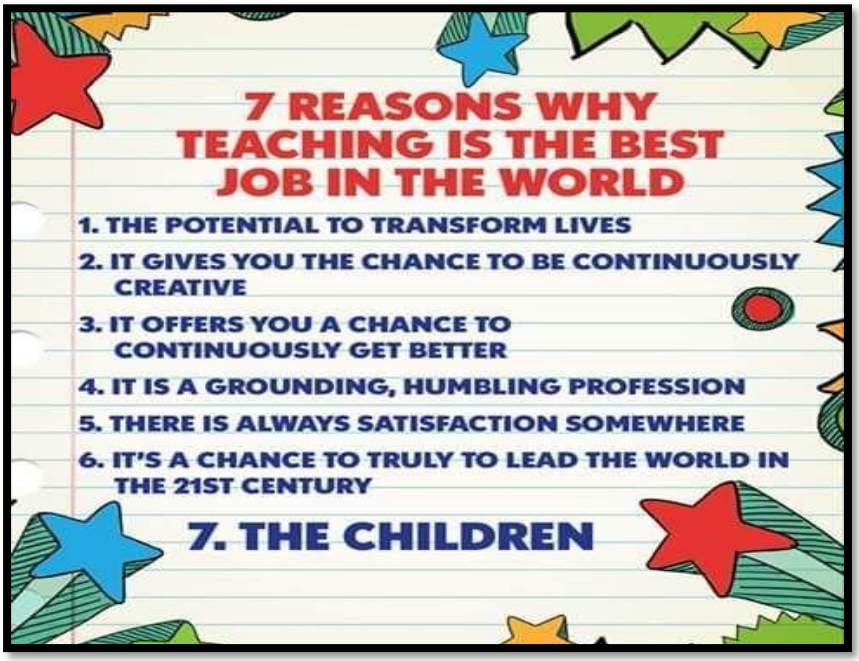
TEACHING AS A PROFESSION:

Teaching is a profession that carries immense responsibility and a duty towards students. Not only do teachers impart knowledge, but they also inspire and motivate students, guiding them towards a successful life. They continuously work to boost students' confidence and provide them with the right guidance. Many teachers dedicate their entire lives to empowering their students, molding them into better individuals who can thrive in life.

Teaching is a profession that aims to unlock students' potential and teach

- them important life lessons such as respect, sharing, ethical values, and cultural understanding.
- Teachers play a crucial role in shaping students' minds and lives, helping them acquire the necessary knowledge, skills, and values for personal and intellectual growth.
- Being a teacher is both rewarding and challenging, requiring a strong commitment to students' well-being and success. It demands excellent communication skills, patience, adaptability, empathy, and a passion for inspiring and empowering students.

SEVERAL REASONS WHY TEACHING IS CONSIDERED A PROFESSION:



- In an environment that encourages questions and curiosity, teachers can develop and improve every day.

3. Work Satisfaction:

- Teaching provides a level of job satisfaction that is unparalleled.
- The joy of making a difference and steering students in the right direction is incredibly fulfilling.

4. Respect:

- Teaching is a highly respected profession, and teachers are looked up to for their work.
- They have the ability to positively influence all students.

5. Potential for Growth:

- Teaching offers a high level of stability and job security, with ample potential for growth.
- It provides a clear career path with numerous opportunities.
- With the rise of online teaching apps and virtual classrooms, you can even teach from the comfort of your own home, without any geographical restrictions.

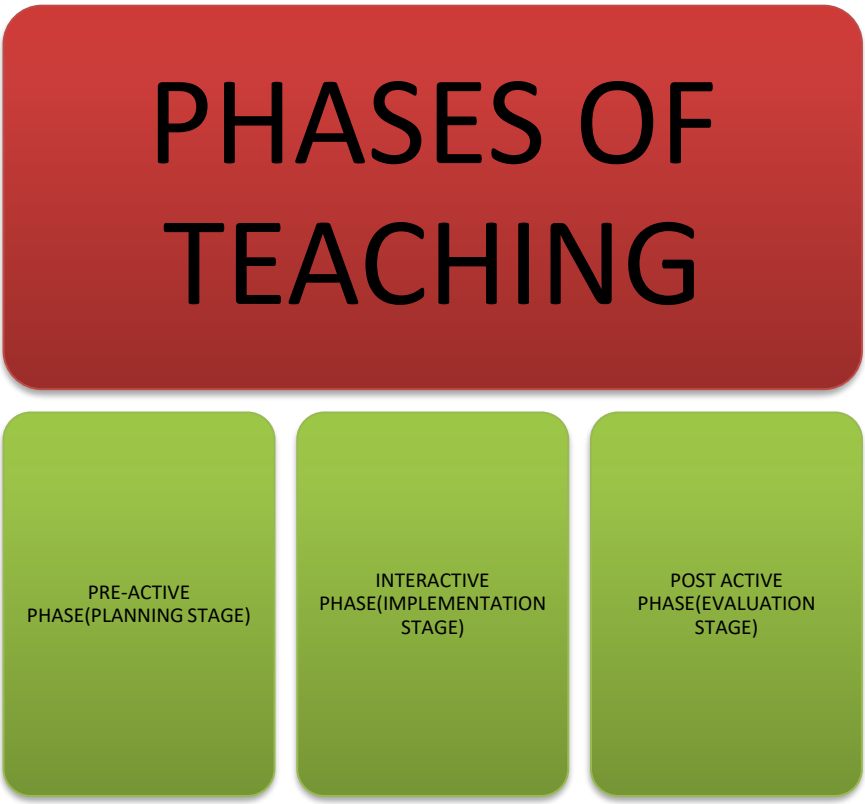
ROLE OF A TEACHER:

- ✓ When writing an essay on teaching as a profession, it is essential to include the role of a teacher.

- ✓ The primary and fundamental role of a teacher is to impart knowledge to their students.
- ✓ Additionally, they must motivate and boost their students' confidence, encouraging them to pursue endeavors that will benefit their lives.
- ✓ Teachers should explore various teaching methods and incorporate them into their lessons to ensure that students receive the maximum amount of information and knowledge.
- ✓ Teachers should strive to explain complex and challenging topics through engaging activities, making them more accessible for students to comprehend.
- ✓ Teachers are not just educators; they also serve as mentors and guides.
- ✓ They are responsible for not only teaching the curriculum but also inspiring students through meaningful exchanges, fostering a strong bond, and supporting them through both triumphs and challenges.
- ✓ If you can fulfil all these roles for your students, then teaching is the perfect profession for you.
- ✓ Teaching skills, subject matter expertise, personality traits, and effective instructional techniques are all factors that influence students' learning patterns. These factors contribute to teachers becoming successful educators and mentors for their students.

PHASES OF TEACHING:

- Teaching is a complex task. For performing this task, systematic planning is needed, Teaching is to be considered in terms of various steps and the different steps constituting the process are called the phases of teaching.
- Jackson thinks that if we are to obtain a complete description of the teaching activity, we must consider what the teacher does before and after his regular teaching in the class. Jackson divides the teaching act into three phases of teaching as shown below:



PRE-ACTIVE STAGE:

- ✓ The pre-active stage of teaching refers to the phase in which a teacher engages in planning and preparation before entering the classroom to instruct students.
- ✓ Prior to actual classroom instruction, teachers must complete various tasks to ensure a successful teaching session.
- ✓ These tasks include activities such as developing lesson plans, organizing the classroom layout and equipment, managing

paperwork, reviewing test reports, reading relevant sections of textbooks, and considering how to address any disruptive behavior from specific students.

- ✓ These activities are crucial in determining the teacher's performance during regular teaching sessions.
- ✓ During the pre-active stage, teachers engage in deliberate actions and hypothesize about the potential outcomes of their decisions.
- ✓ Whether it is selecting appropriate textbooks, grouping students for reading activities, or deciding whether to inform parents about their child's poor performance, the teacher's behavior is subject to analysis.

OPERATIONS IN THE PRE-ACTIVE STAGE OF TEACHING:

The pre-active stage of teaching involves several operations or sub-stages, which are as follows:

1. ESTABLISHING GOALS:

- ➢ The teacher begins by identifying the desired teaching objectives, which are defined as specific behavioral changes. By determining these objectives, the teacher establishes what changes they aim to bring about in the students.

2. DECISION-MAKING ON SUBJECT MATTER:

- ➢ Once the teaching objectives are set, the teacher makes decisions regarding the content that will be presented to the

students. This content is chosen with the intention of facilitating the desired behavioral changes.

3. SEQUENCING AND ORGANIZING CONTENT ELEMENTS:

- After deciding on the content, the teacher arranges the elements in a logical and psychological sequence. This ensures that the order of the content elements aids in the transfer of learning.

4. SELECTING TEACHING STRATEGIES:

- Once the content elements are sequenced, the teacher makes decisions regarding the most effective methods and strategies to employ. These decisions are made with the goal of enhancing the students' retention and understanding of the content.
- Distribution of teaching strategies refers to the process in which the teacher determines how and when to utilize different methods and approaches during classroom instruction. This includes deciding what types of questions to ask students, when and where to use visual aids such as charts and maps, when to deliver lectures, and how to effectively use the blackboard. All of these activities should be planned and organized by the teacher during the pre-active stage.

INTERACTIVE STAGE:

- ✓ During the interactive stage, the actual classroom teaching takes place.
- ✓ At this stage, the teacher employs various strategies to achieve the predetermined goals.
- ✓ The teacher's behavior in the interactive setting is often spontaneous, as research suggests that teaching sessions can be fast-paced.
- ✓ For instance, an elementary teacher may change their focus of concern up to 1,000 times in a single day. Amidst this busy environment, teachers often have limited time for reflection.
- ✓ While some teachers try to spend individual time with students, the teacher-student dialogue typically occurs in a public setting rather than in private.
- ✓ When a teacher interacts one-on-one with a student, they do not face the same control and management challenges that arise in a group setting.
- ✓ There is a greater sense of physical and psychological closeness between the teacher and student during individual sessions compared to when the teacher is addressing the entire class.
- ✓ Keeping students engaged during the interactive stage may involve various activities such as explanation, demonstration, definition, and other logical operations that are considered essential components of teaching.

OPERATIONS INVOLVED IN THE INTERACTIVE STAGE OF TEACHING:

1. PERCEPTION:

- Both teachers and students need to have appropriate perceptions of the classroom climate in order to facilitate effective interaction.

2. DIAGNOSIS:

- A proper diagnosis of students' abilities and behaviors is crucial for creating meaningful interactions.

3. REACTION PROCESS:

- In order to effectively facilitate the learning process, the teacher must make informed decisions regarding the selection and utilization of appropriate stimuli, reinforcement and feedback mechanisms, as well as the development of strategies that align with the specific needs of the students and the teaching environment.

POST-ACTIVE STAGE:

- ✓ The post-active stage, which involves evaluation, plays a crucial role in providing valuable feedback to both the teacher and the students, thereby enabling them to make necessary improvements in their performance.
- ✓ This stage is closely linked to both teaching and learning.

- ✓ During this stage, the teacher assesses the extent to which the students have comprehended the material that has been presented to them.
- ✓ Essentially, it serves as an evaluation of the interactive process.
- ✓ This evaluation not only helps the teacher enhance their teaching methods in the future, but also aids the students in improving their learning abilities.
- ✓ It allows the teacher to determine whether to proceed with new content or revisit previously taught concepts.

OPERATIONS AT THE POST-ACTIVE STAGE:

The post-active stage of teaching involves several key operations:

1. DEFINING THE SPECIFIC BEHAVIORAL CHANGES:

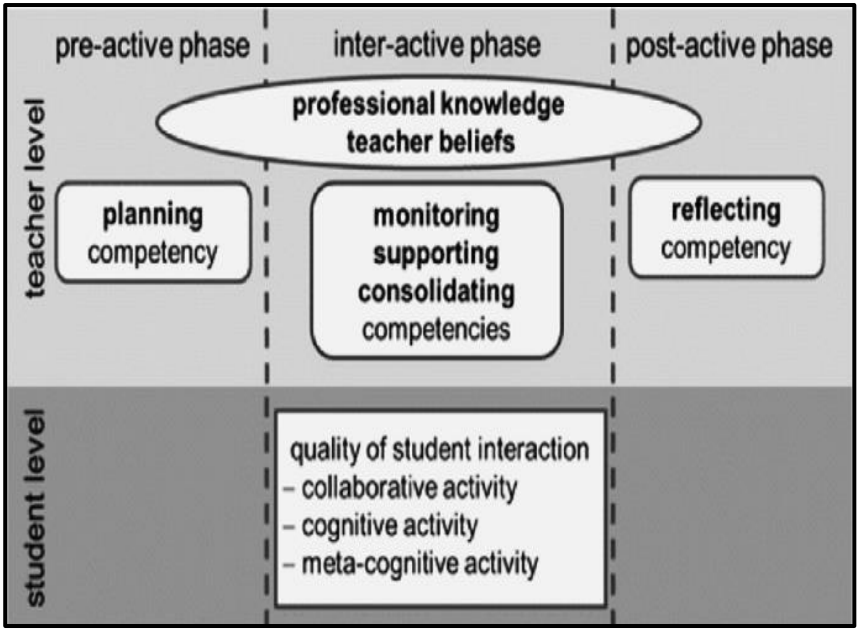
- ➢ The teacher evaluates the expected behavioral changes in relation to the actual changes observed during the teaching process.

2. SELECTION OF APPROPRIATE TESTING METHODS:

- ➢ The teacher selects suitable testing techniques and tools to measure the desired dimensions of behavior. These testing devices should be reliable, valid, and objective in nature. Different types of testing devices are required for assessing both cognitive and non-cognitive outcomes.

3. MODIFYING AND ENHANCING TEACHING STRATEGIES:

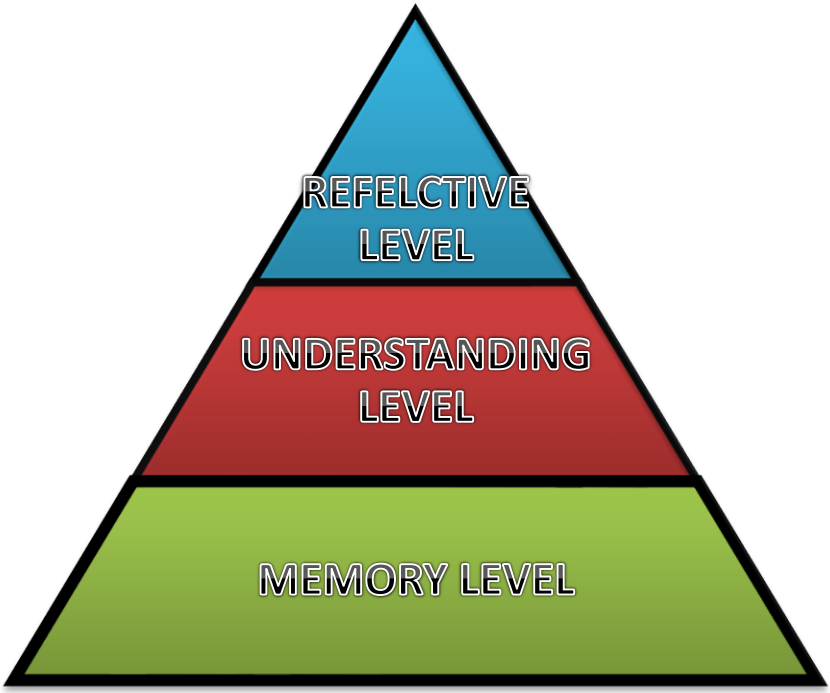
- The results obtained from student testing are also utilized to evaluate the effectiveness of instruction and teaching strategies. This evaluation serves as a basis for improving teaching methods by reorienting and modifying the strategies employed.



LEVELS OF TEACHING:

- ✓ Teaching jobs demand different kinds of strategies, techniques, and methods as compared to other professions.
- ✓ There are three levels of teaching teach by Teachers.

- ✓ To achieve the desired educational objectives, the teachers have to keep in mind about the developmental stage of the learners.
- ✓ These are the levels of teaching:



1. ***Memory level – Thoughtless Teaching***
2. ***Understanding level – Thoughtful Teaching***
3. ***Reflective level – Upper Thoughtful Teaching***

MEMORY LEVEL OF TEACHING:

- ✓ It is a memory level of teaching in which the teaching is done to provide textbook knowledge to students and the emphasis is more given to memorization rather than learning.
- ✓ It is not said to be the best level of teaching as memorizing anything is not good and importance should be given to understanding the concept.
- ✓ Well, this level helps in increasing the memory power.

ADVANTAGES OF MEMORY LEVEL:

- It is beneficial for young students
- Useful for slow learners
- Helpful to children for learning a new concept
- The basis for understanding the reflective level of teaching

DISADVANTAGES OF MEMORY LEVEL:

- Not beneficial for higher classes
- Dominance of teacher
- Loss of recall and retention
- Interaction level is low in the classroom
- The problem of classroom management
- Students don't get a chance of self-learning

UNDERSTANDING LEVEL OF TEACHING:

- ✓ Understanding level teaching is a more deliberate teaching method in which students interacts with concepts and, as the name implies, comprehend the content.
- ✓ They evaluate the concepts and bring together the facts and other notions associated with them based on the students' prior awareness and comprehension level.
- ✓ Teachers and students are also equally interested in this phase, and in this teaching stage, teachers use debates, seminars, explanations, and other similar methods.
- ✓ The classroom atmosphere is welcoming and stimulating.

ADVANTAGES OF UNDERSTANDING LEVEL:

- Effective learning
- Development of different cognition leanings
- Sets stages for entering into the reflective level of teaching
- The interaction level is good

DISADVANTAGES OF UNDERSTANDING LEVEL:

- Ignore higher cognitive abilities
- Less emphasis on intrinsic motivation
- No individual learning

- Teacher centered

REFLECTIVE LEVEL OF TEACHING:

- ✓ The introspective level of teaching is also known as the reflective level.
- ✓ This is the most advanced level of the teaching-learning method.
- ✓ This is because teaching does not end until the students have grasped the idea.
- ✓ It goes beyond comprehension and requires students to focus on what they have heard or understood.
- ✓ This is a more advanced stage in which the learner advances one step further through the concept to comprehend the concept's multiple dimensions.
- ✓ This is the level of instruction in which the instructor encourages and stimulates students to think about and reflect on the content and concepts they have learned.

MAIN OBJECTIVES OF REFLECTIVE LEVEL OF TEACHING:

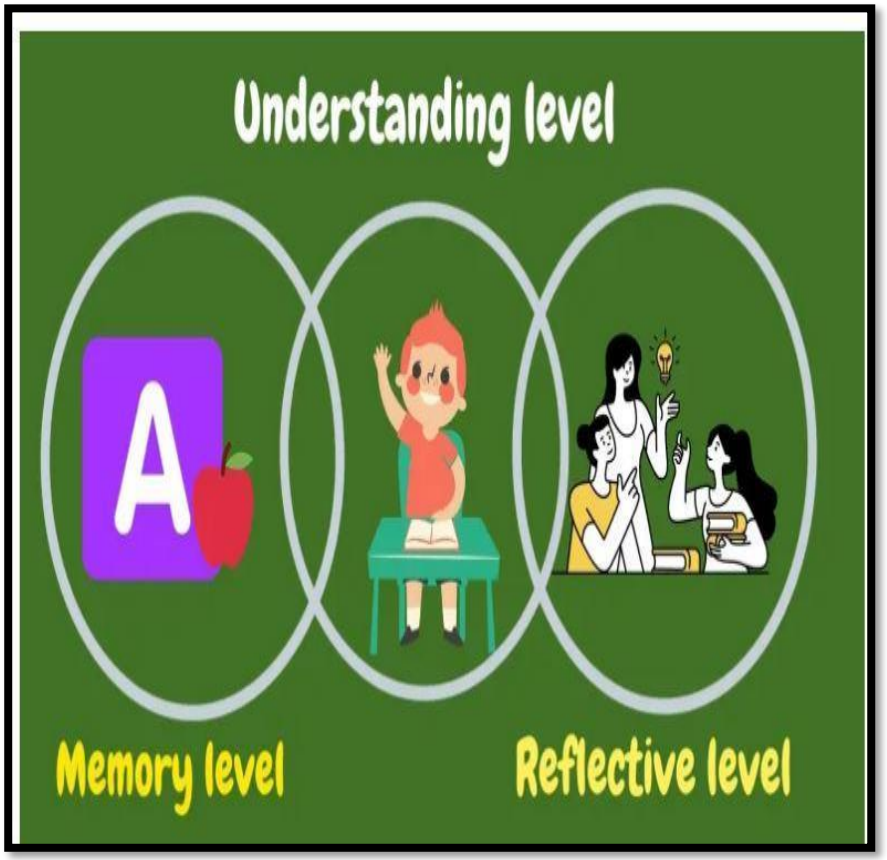
- To develop creative and critical thinking in students
- To develop the ability of decision making and independent thinking in students
- To develop the ability of problem solving in students

ADVANTAGES OF REFLECTIVE LEVEL:

- Thoughtful mode of operation
- Learner-centred
- Development of problem-solving skill
- Maximum flexibility
- Development of creativity
- Self-motivation

DISADVANTAGES OF REFLECTIVE LEVEL:

- Not suitable for lower classes
- Time-consuming process
- Not suitable for Indian classroom
- Not applicable for dull students
- The burden on the teachers


Understanding level
A
Memory level
Reflective level

NEED AND IMPORTANCE OF CLASSROOM TEACHING-LEARNING:

1. ENHANCES STUDENTS' SOCIAL DEVELOPMENT:

- Classroom teaching-learning plays a crucial role in fostering students' social development.
- Within the school environment, students have the opportunity to engage in social interactions and learn how to manage their emotions effectively.

- Moreover, they can enhance their self-assurance, self-esteem, and empathy through their interactions with teachers and peers.
- Classroom settings also facilitate the development of essential skills such as responsive care, practical assistance, conflict resolution, and cooperation, which may be challenging to acquire through online teaching methods.

2. CULTIVATES CRITICAL THINKING:

- Classroom teaching-learning actively promotes critical thinking among students.
- By engaging in various projects and collaborative activities, students acquire new knowledge, ideas, and concepts.
- They are exposed to different perspectives and are encouraged to think critically, analyze information, solve problems, communicate effectively, and demonstrate leadership abilities.
- These skills gradually develop as students navigate through different subjects and concepts in the classroom.

3. EMPHASIZES THE ENJOYMENT OF LEARNING:

- The classroom environment offers a unique opportunity to make learning a fun and enjoyable experience.
- Physical games and activities can be incorporated into the teaching-learning process, both indoors and outdoors.

- These interactive methods not only make learning engaging but also enhance retention and understanding.
- While online teaching can attempt to replicate these methods, the absence of physical presence and human experience may limit their effectiveness.

4. FOSTERS COLLABORATIVE LEARNING:

- Collaborative learning is strongly encouraged in classroom settings, as it prepares students for future endeavors in higher education, professional work environments, and entrepreneurship.
- By working in groups, students learn valuable skills such as effective communication, teamwork, and adaptability.
- Classroom projects provide a platform for students to share knowledge, exchange ideas, and collectively produce final outcomes.
- This collaborative approach nurtures a sense of cooperation and prepares students for real-world scenarios where working together is essential.

5. ADAPTABLE TEACHING STYLE/APPROACHES:

- In contrast to online learning, within a classroom environment, a teacher has the flexibility to modify or adjust their teaching methods based on the students' comprehension of ideas or subjects.

- Some educators may even incorporate gamification into their lesson plans to make the learning process more engaging and effective.

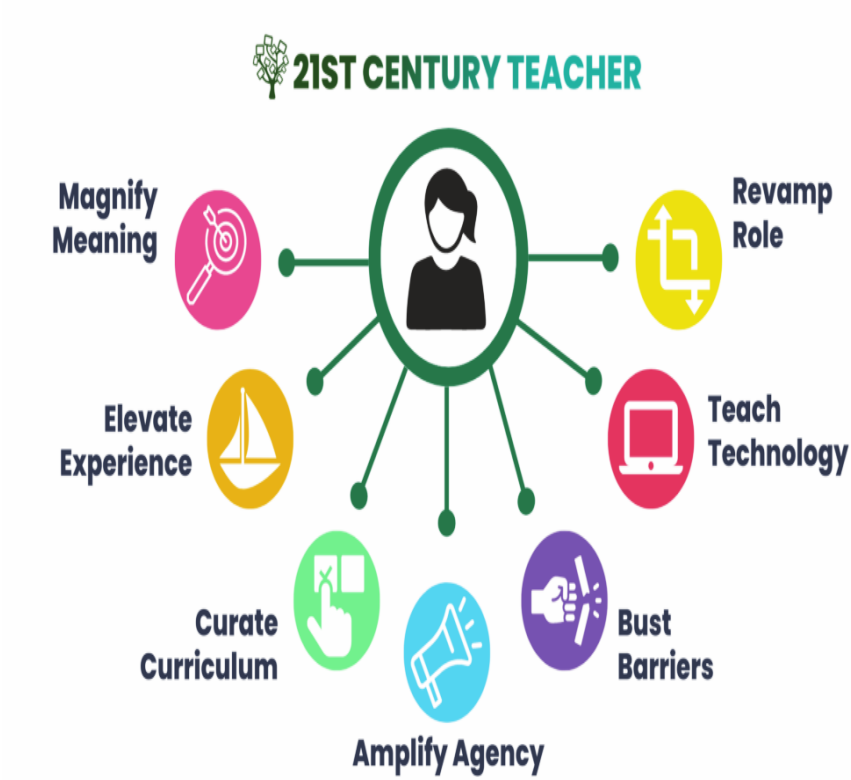
6. CULTIVATES A STRONGER CHARACTER:

- Classroom settings provide students with opportunities to develop virtues such as diligence, self-control, courtesy, generosity, teamwork, and unity.
- They are expected to adhere to academic standards that encompass their roles and responsibilities, including being disciplined and respectful towards teachers, maintaining order in the classroom, greeting and smiling at teachers, peers, and staff members, as well as offering and seeking assistance when needed.

7. BOOSTS STUDENT MOTIVATION:

- One of the challenges of online learning is the lack of student motivation. It is undeniable that face-to-face interactions among students, peers, and teachers serve as a driving force for learning.
- Classroom discussions enable students to express their ideas and opinions during debates.
- Students are inspired to produce better work when their teachers and peers provide them with honest feedback and constructive criticism.

SKILLS AND COMPETENCIES OF 21ST CENTURY EDUCATORS:



1. TECHNOLOGICAL EXPERTS

- When educators possess advanced digital skills, they can effectively implement blended learning strategies in the classroom.

- This enhances the delivery of educational content and creates a more immersive learning environment for students.
- To achieve this, teachers themselves must be proficient in technology and be open to learning and exploring innovative ways of incorporating technology into their teaching methods.
- By utilizing technology in the classroom, teachers implicitly inspire and motivate students to develop their information technology skills, thereby making a positive impact on society as a whole.

2. ADAPTIVE PROFESSIONALS

- A proficient 21st century educator should be able to recognize the unique qualities of each student and tailor their teaching strategies accordingly. This ensures that no student is left behind and that all students receive an education that suits their individual needs.
- Additionally, teachers must be adaptable to their surroundings and foster a positive learning environment. They should be capable of adopting and adapting various teaching methods to provide students with a high-quality education.
- Furthermore, educators must also possess the ability to adapt to the demands of the workplace and devise solutions that benefit all stakeholders.

3. COLLABORATIVE CHAMPIONS

- Teachers should not only collaborate with their students on a daily basis but also actively engage with other educators who share similar goals and values.
- Collaborative efforts can involve working together on presentations, blogs, YouTube channels, and more
- . Through collaboration, ideas, information, knowledge, and skills are enhanced.
- Materials and resources can be utilized more effectively, leading to the creation of numerous opportunities for growth and development.

4. INNOVATIVE THINKER

- Being an innovative thinker is crucial when it comes to teaching a classroom full of students. In the 21st century, teachers are required to be creative in their teaching methods.
- Lessons are now delivered through various forms of learning such as song, dance, art, and more.
- Teachers are even utilizing apps like Tik Tok and YouTube to engage with their students and make learning more interactive.
- Additionally, when it comes to classroom management, teachers must think outside the box to find effective solutions for student discipline.

5. LIFELONG LEARNERS

- Being a lifelong learner is another essential skill and attitude that teachers must possess.
- Each day presents new challenges, and in order to effectively address them, teachers must continuously update their knowledge and be open to new learning experiences.
- The responsibility of preparing the next generation to navigate a globalized society falls on the shoulders of teachers worldwide.
- This challenge is never-ending, and teachers must embrace it with great responsibility and dedication.

6. INFLUENCERS

- Teachers have become the new influencers in the lives of their students.
- The way we interact and behave in the classroom has a significant impact on our students.
- It is our duty to be exemplary role models, inspiring kindness, generosity, and sustainability among our students. In the 21st century, teachers face new challenges, but they are also more accountable for the overall development of their students, laying the foundation for lifelong progress.

✓ While the challenges in the 21st century continue to grow, so do the resources and rewards available to teachers.

✓ With constant updates in the education sector, the teaching landscape may only improve.

- ✓ It is our duty as educators to keep evolving and adapting to the ever-changing environment in which we work.