UNIT 6

MOTIVATION

6.1 Motivation, Meaning, Intrinsic and Extrinsic Motivation, Strategies for Motivating Students to Learn

After the completion of the unit, students will be able to:

1. Understand the meaning of Motivation and its significance in the classroom.

2. Acquire information about the different strategies for motivating students to learn.

3. Differentiate between intrinsic and extrinsic motivation

MOTIVATION

Meaning: Motivation is derived from the latin word 'moveers, which means to move. thus in its literal sense motivation is the process of arousing movement in the organism. (Motivation may be defined as combination of forces which initiate direct and sustain behavior towards a goal. Thus motivation not only instigates a behavior but also reinforces the ongoing behavior in a class room situation. Motivation is that which drives the student to learn i.e. it makes the student desirous of learning to apply himself to the task.

Motivation is of particular significance to the class room teacher since the teacher has to guide and accomplish worthwhile goals. Motivation is the most acute problem for many a teacher. Most of the teachers go about their work in a routine manner without caring for the children and apathetically carrying on with classroom work ,accomplishing very little, thus leading to large scale wastage of

human resources in the terms of human potentiality. Motivation thus, may be regarded as something which prompts, compels and energizes an individual to act or behave in a particular manner at a particular time for attaining some specific goal or purpose.

Imagine two children who are equally capable one of them will motivated to learn while the other is not the first child masters the lesson in a day or two, while the other child does not master it even after a week of wasteful labor. The key to avert this state of affairs lies in motivation and that is why motivation is said to be the royal road to success.

A close examination of the so called lazy absent minded shows that they are neither lazy nor absent minded. In the playground they may even exhibit a very high degree of activity and alertness in the play field. This shows that the difficulty lies in our understanding of what would motivate the child.

Motivation in the class room affects learning as well as behavior of the students who are motivated to learn, who are interested in what they are going to learn and will learn more. When students are involved in learning, they are less likely to misbehave and cause problems of indiscipline.

Intrinsic and extrinsic motivation:

Motivation is intrinsic when an individual recognizes an activity as self rewarding. He does it because he derives self satisfaction from the activity the motives comes directly from within person and no external pressures are necessary Play is a good example of intrinsically motivated behavior. Ordinarily parents do not have to force or in bribe their children into playing. They play because they want to. Intrinsic motivation is die way to learn for the sake of learning when a child

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perceives a school subject such as reading to be a source of pleasure he is motivated intrinsically to learn to read.

When a child does not perceive inherent values in an activity, teachers resort to the use of extrinsic motivation. In extrinsic motivation the reason lies outside the person and has no necessary connection with the activity. When a child studies for the sake of earning a reward or a scholarship, he is motivated extrinsically. He pursues activity not for its own sake but for the sake of some external reward.

It is the needless to mention that intrinsic motivation is far superior to extrinsic motivation and the ultimate goal of the teacher should be to inculcate in the students intrinsic motivation towards learning by gradually withdrawing all external incentives.

Strategies for motivating students to learn

When a child is not intrinsically motivated to learn, the teachers use various techniques to motivate them. The most common of these are praise and blame, reward or punishment, competition vs cooperation, knowledge of results and success vs failure. Of these praise, reward, success are positive methods while blame, punishment and failure are negative methods.

1. Praise and blame

Praise and blame are both effective motivators. Research has shown that reproof (Blame) is relatively more effective with boys than with girls, with the bright than with the dull, and with extroverts than with introverts. The elect of blame wears off sooner or later than that of praise though both have a motivating effect first. A teacher should never hesitate to confer praise when it is deserved. It should not be exaggerated to become flattery. Praise is cumulative in its effect. Reproof if

overdone loses its effectiveness and is taken by students as a matter of routine. Praise is not always effective and blame can be used effectively, if the personality of the pupil is taken into account. Both have value as motivational devices if used judiciously.

2. Reward vs Punishment

Parents and teachers have long found that they can direct learning by rewarding approved conduct and by punishing disapproved conduct and by punishing disapproved conduct. Psychological experiments have proved that reward is more effective than punishment. Reward directly strengthens the rewarded behavior while punishment works only indirectly and does not always weaken the punished behavior Results If punishment are said to be less permanent than the results of reward. The by-products of punishment often lead to the dislike of the punishing person and also to the dislike of the activity that led to punishment. Teachers should use Rewards and punishment judiciously.

3. Competition and Co-operation

Competition is one of the oldest motivational devices. Rivalries as a principle of motivation are universally recognized. In school students compete with each other in curricular as well as co-curricular activities. They compete against themselves also in terms of trying to improve their past performance. This is indeed a more effective competition than competing with others. In the case of competing with others only the top can hope to win the prize others know from the beginning that they cannot. Competition as a technique of motivation has a number of limitations, when over emphasized. It leads to indifference on the part of the weaker students. It shatters the self-image or self concept of the consistent loser. The child tends to

become jealous. Unhealthy competition among children, could drive a child to dishonesty and malpractice.

Co-operation seems to be better than competition in several respects. Deutsch found that in groups where there was cooperation, the communication was friendlier. They inhibited greater diversity, co-ordination and productivity, compared. To the groups here there was competitive and not co-operation. In the classroom situation, the teachers should emphasize both co-operative and competitive spirit what is necessary is healthy competition

KNOWLEDGE OF RESULTS: In the class room if the student knows, how he is doing, he will work harder and more intelligently. Several studies have shown that students who are kept informed of their progress learn more steadily than others who are not so informed. Self competition is a desirable motive because it is a self motive. With the knowledge of our own progress we try to excel our own past performance we compete against ourselves. A student should be asked to keep a chart or graph to record his achievement. Self competition eliminates unfavorable comparison with others, permits every child to achieve some success, serves to protect ego and allows him to progress at his own rate.

SUCCESS AND FAILURE: The urge to succeed or to avoid failure is a fundamental drive in an individual's life. Research has shown that individuals reach new heights as a result of their continued success and that they reach new laws as a result of their continued failure.

But success and failure are relative terms. They are related to the level of aspiration. An experience which a person considers as rewarding may be interpreted as failure by another. One child may be overjoyed at getting 54 marks because she had done better than what she had done earlier, but another child may

not feel so happy getting 54 marks because she has done worse than what she had done earlier. Success and failure depend not only upon the actual achievements of an individual but on the goals and expectations which he has set for him. Teachers should help each student to set a goal which is appropriate for him. An appropriate level of aspiration has two characteristics. It is high enough to be challenging low enough to be attainable. Thus the level of aspiration is closely related motivation. The teacher should set the goal in such a way that the student will seldom meet with continuous failures. There should be a balanced diet of success and failure with success predominating.

EDUCATIONAL IMPLICATIONS

1. Motivation is necessary for progressing any work. Inartistic motivation that is result of an interest in the work is the best form of motivation.

2. It is better to use positive methods like praise, reward, self and group competition knowledge of result for full success

3. The reinforcement to any learning should be immediate. Teachers should correct the work done by the pupils as soon as possible. They should also employ praise, blame, or punishment as soon after the action as is possible.

4. Over motivation is as bad as lack of motivation. Spurring a child on to aim at doing more than what he is capable of doing, mocking him for failure to achieve something beyond his capacity makes him frustrated.

5. Teachers should understand the child's abilities and aim at developing their interests in the areas in which they have some natural talent in the way one can intrinsically motivate the pupils.

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6. The various measures suggested are efforts only when and administered immediately. Reward or punishment should follow immediately. Similarly both praise and blame lose the effectiveness if lot of time is allowed to lapse between event and the administration of praise or reproof.

7. Extrinsic motivating factors should be used judiciously and not indiscriminately.

8. Teachers should set up desirable and approachable goals, sub dividing the task into parts wherever necessary.

Check your progress

1. What are the major differences between Intrinsic and extrinsic motivation?

2. Describe a few strategies that helps motivate students to learn.

3. What is the significance of motivation in the classroom?

UNIT 6: FACTORS INFLUENCING LEARNING

Memory Retention and Forgetting - Their Nature, factors favoring Retention& Methods to improve Retention

After the completion of the unit, students will be able to:

1. Acquire knowledge about memory, retention and forgetting.

2. Know the factors that affect retention and forgetting.

3. Explain the various aspects of Remembering.

4. Know the different methods by which we can improve retention power.

5. Understand different processes such as reception, registration, encoding, and retention.

Retention

Retention and forgetting are part and parcel of memory and go hand in hand. The learnt material is neither retains completely by the individual, not forgotten totally, but some material is retained and the rest of it is forgotten.

Our mind possesses a special ability by virtue of which every experience or learning leaves behind memory images or traces, which are conserved in the form of 'engrains'. Thus what is learned leaves its aftereffects which are conserved in the form of engrain composed of memory traces. This preservation of the memory traces by our central nervous system or brain is known as the retaining of the

learned or experienced act. I low long we can retain depend upon the strength and quality of the memory traces. When more and more new materials are added to the mental stock, they form new traces upon the older mental traces. Thus mental traces go on pilling over the other. Further accumulative of new mental traces reduces the bottom ones and the bottom ones fade away gradually.

However, the faded traces can be revived by suitable reinforcement processes.

Therefore both retentive and forgetting depend on various factors.

1. Mental ability: Retentive is directly related to the mental ability of the learner. The more the individual is intelligent, the more his mental traces are permanent.

2. Mental and Physical health deteriorates learning, making retention weaker- A sound mental and physical health promote learning and keep information of clearer mental traces. Physical and mental fatigue also affects retention negatively. A period of sleep or rest pause facilitates mental consolidation and helps in retention.

3. Meaningfulness of the material: Materials having contain definite meaning are better retained than the meaningless material. Meaningful material provide opportunity for an organization and development of relationship.

4 Pleasant associations while learning the content is necessary for better retention.

5. Material in which the subject is interested is better learnt than the material in which he is disinterested.

6. Over learnt material is better retained than the material which is casually learnt.

7. While helping the children to remember limitation of 'Span of memory, Span of attention' must be taken into account.

8. Spaced study with rest intervals help in better retention.

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9. "Mnemonics' which are artificial can be of much help, particularly in STM. Example- VIBGYOR- helps us to remember the seven colours which white light is made up of.

10. Rhymes and Rhythms help better retention and quick recall.

11. Constant practice helps in retention

12. By improving original methods of learning, the ideas should be associated clearly and vividly with as many ideas as possible

13. Concentration, active participation, motivation, interest and the attitude of the individual, meaningfulness of the material to be learnt will aid retention capability.

Nature of Retention:

1. Remembering is the power of the mind which is present in all healthy organisms.

2. Memory may be short term or long term. (STM or LTM)

3. Methods of learning are different for different types of retention needed

4. The disorders of memory may be due to neurological and psychological causes.

5 There are individual difference in remembering. Some have good memory for figures and some for names etc.

Aspects of Remembering- a) Registration b) Retention c) Recall d) Recognition

a) Registration - is the 'stamping in of conscious experience. If something is to be remembered it should be properly learnt. For permanent retention things have to be over-learnt. Insightful learning helps long range retention.

b) Retention - is the resting stage of Conscious experience. The capacity to retain is often inherited. Retention depends upon effective registration and also the will to retain. Frequency and relevancy of the learning material also help in retention.

c) Recall - It is the revival of the learnt experiences in appropriate situations. For effective recall the person must be free from fear, anger and anxiety. A Conscious faith in one's ability to recall is essential. Interference in recall may be due to emotional disturbances.

d) Recognition - is the identification of something presented to the senses as something which we had previously seen. Recognition is easier than recall. For example when a multiple choice question is given, the child recognizes the correct answer if he knows it.

Economic methods of remembering or Memorization or retention

1. Recitation Method - The learner at the first instant reads the material once or twice and then tries to recite and recall the same without looking at the material. There is enough scope in this method for self appraisal. Thus the learner avoids errors, during subsequent recitations for the material to stay permanently in the mind.

2. <u>Masses Vs Spaced Method</u>: In masses method the learner studies the material at a stretch suitable gap. The most efficient length and spacing of study sessions depends on the nature of the material and the maturity of learner. Shorter study periods are more effective for younger than older pupils. It has been found that, when interest and motivation are high and material is easy, masses learning is more effective. Contrary to this, when there is no interest or motivation and material is difficult, spaced learning is better, in this method we are concerned with spacing study sessions. We do not split up the lesson of the poem.

3. <u>Whole Vs Part learning, Progressive part learning</u>: Suppose the learning material is a poem, we can learn it by reading the entire poem at a time and repeat doing so, until the whole poem is learnt. This is suitable when the material is small and is meant for immediate memory. But if we learn the poem in par i.e. one stanza by one stanza it is part learning. This is suitable when the material to be learnt is long and is meant for long range retention. In this method 'Law of effect' acts. The satisfaction of having learnt the first stanza reinforces the effort to learn the second and so on.

But both these methods have disadvantages also. Repeating blindiy until the entire poem is memorized may make the task un- interesting. Part learning may result in faulty associative between the stanzas in a poem. Progressive part learning is an eclectic approach. It is a combination of the good aspects of both the methods. The learner learns the first stanza, and then learns the second stanza. Then he learns the first and second stanza together, before learning the third. II A, B, C, D represents the order of stanzas in a poem, progressive part method can be illustrated as follows- A, B, AB, C, A BC, D, A BCD and so on.

In this case also, there is a scope for unnecessary repetition of too easy stanzas which kills the interest. The learner may use a combination of both the methods to achieve his goal in learning.

Forgetting

Failure to recall is forgetting. It is a process in which are fails to recall or recognize the material learnt earlier. We do not forget anything totally. There is much individual difference in the rate of forgetting and rate of retention.

The rate of forgetting or the rate of retention can be plotted on a graph to get ne 'curve of forgetting'. Ebbinghaus was the first to plot the curve of forgetting. He used the learning of Non-sense syllables to eliminate the factor of familiarity. He plotted 'percentage of forgetting' against the 'lapse of time"

Thus found that-

a) Amount of material retained depends upon the time lapsed after learning.

b) in the beginning, the rate of forgetting is rapid, and gradually the rate of forgetting decreases. Ebbinghaus forgot more than 50% of what he learnt withir Just 24 hours.

c) Greater part of our learning is retained for a relatively long time.

Causes of forgetting:

1 improper registration- This is the most important cause of forgetting. While learning, the learner should exhibit originality and strong determination to remember things which have to be over learnt for better recall.

2. Emotional blocking due to fear, tension, and anxiety

3. Lapse of time and disuse. Woodworth calls this as 'Atrophy through disuse.

4. Wrong methods of learning.

5. The law of retro-active inhibition' works negatively. According to this law, forgetting is a result of an active process of interference or interaction between old and new learning material. Technically, if two bonds are formed, one after another, then the former tries to inhibit the later or Vice-versa. (Pro- active inhibition).

6. Forgetting may be in the form of amnesia', when the individual loses memory due to brain injury.

7. Sometimes forgetting is purposive and deliberate. According to Freud forgetting is a necessary function. Unpleasant things are mostly forgotten which we call 'active forgetting. 8. Forgetting is also be due to the influence causes by preservation of old ideas or beliefs.

6.3 Information Processing- Reception, Registration, Encoding Retention And Retrieval Phases, Concept of Executive Controls

The most recent approach to the study of remembering and forgetting is the information processing approach. The functioning of the mind as far as remembering and forgetting are concerned are compared with similar processes in a computer. They stand on the assumption that much of human learning is receiving, processing or registering and retaining knowledge and that is largely true of learning in educational systems as well.
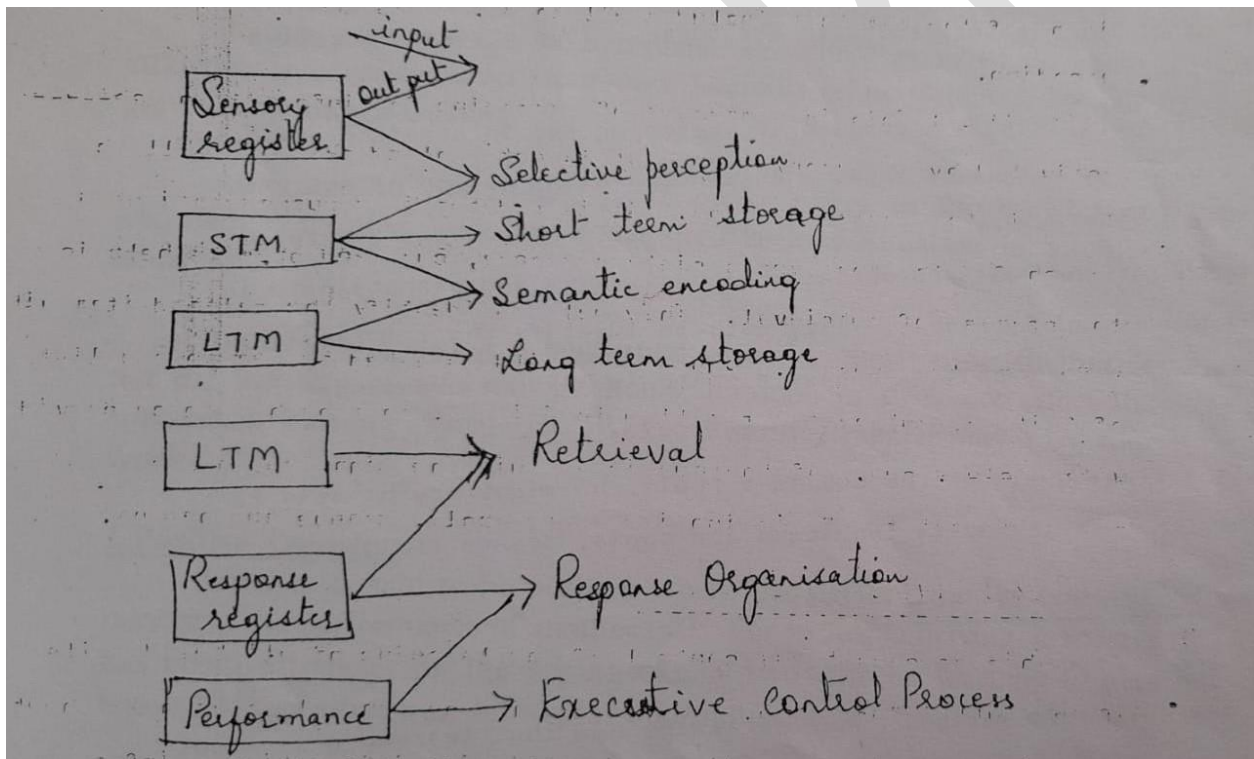
Information flows as input into the memory storage mechanism. As a result the learner receives the stimulation from the environment. The reception is executed by the receptors or the sense organs. The 'input' is transferred into neural

information. This is duly received by the brain which serves as a 'sensory register'. At this stage 'selective perception takes place.

This helps us to attend to STM (short term memory) needs. For LTM (long-term memory) an interesting phenomenon takes place during the storage of memory traces. This phenomenon is called 'encoding.' At the encoding stage, the information is not stored as mere sounds or shapes. They are stored as concepts for meaningful modes. Information here is organised in various ways. Encoding is a complex process involving hierarchical relations of concepts. Visual imagery helps the process of encoding. Encoding process may take the form of matrices, tables, diagrams, images or pictures of the information. The material is meaningfully arranged for long-term memory. Therefore this phenomena and is called 'semantic encoding.' For example, when we look at the chat we notice that it has four legs, whiskers, do ice and two years and so on. But we do not have to store each of these bits of information separately. Rather, manually we form an image of the cat that includes all these. This process is called encoding.

RETRIEVAL: this is the process of searching for information activated by a memory task. It is not a blind search of all the items in the memory storage. It is a determined purpose oriented search for the most appropriate response, cues and prompts Helps in the process of retrieval. They help to identify the related item with reference to a recall. Suppose a child is asked to remember a list of 8 items, but he can recall only 5 items, then he has to be provided with a cue. If the cue is a fruit, he might not be able to remember that the 3 missing items or apple, orange and banana.

EXECUTIVE CONTROL PROCESS: Process takes control of the learning of all the details of the full information. They determine how the learner goes about

attending, storing, encoding and retrieving information. In fact Bruner's cognitive strategies are executive control processes. Expectancy is the dynamic part of the executive control process. This helps the learners to select the output. The learner has to recall items about electrical circuit, expectancy places before him all items connected with electrical circuits such as resistors, condensors, capacitors etc.

Check your Progress

1. Explain the terms memory, retention and forgetting.

2. What are the factors that affect retention?

3. Explain the various aspects of Remembering?

4. What are the different methods by which we can improve retention power?

SPECIFIC AREA 6.4

TRANSFER OF LEARNING - MEANING IMPORTANCE, MEASURES TO MAXIMISE TRANSFER (CONDITIONS AND METHODS)

We learn many things and perform many tasks in our life. Sometimes when we learn and perform a new task, we find that it has been influenced by some of our previous learning or training The learning of addition and subtraction, helps the child in learning, multiplication. Learning of mathematics helps in solving the numerical problems in physics. Similarly if one has learnt to play tennis, are finds it easier to learn playing ping-pong or badminton. In this way learning or training in one situation, influences our learning or performance in some other situation. This is called 'Transfer of training or transfer of learning.

According to Crow and Crow - "The carry-over of habits of thinking, feeling, or working of knowledge or of skills, from one learning area to another, usually is referred to as the transfer of training.

In this way, we can take transfer as a process which some influence is exercised over our new learning or performance by our previous earning or training.

According to Sorenson: - "Transfer refers to the transfer of knowledge, training and habits acquired in one situation to another situation". Transfer of learning is concerned with the question of whether or not the learning of material 'A' helps, hinders, or does not affect the subsequent learning of material 'B' .Based on this transfer may be of four types.

1.Positive Transfer

Transfer is said to be positive when, the performance of one task may help the performance of another task. For example driving a scooter has positive transfer for the driving of any two wheelers learning to play tennis has a positive transfer to play badminton.

2.Negative transfer

Transfer is said to be negative if performance of one task, inhibits or disrupts performance of another task. Here the precious learning interferes with the learning of a new task. For example-pronunciation of the mother tongue comes in the way of accurate pronunciation of English Emphasis on neatness and precision in the laboratory work, hinders the creativity of the students.

3. Zero Transfer

There may be no effect of the learning of one task upon the other In other words, the previous tasks neither facilitates nor hinders the new learning. Proficiency in badminton and proficiency in driving a car have zero transfer effect.

4. Bilateral Transfer

When the gains of training and experience of one part of the body are transferred to opposite side of the body, bilateral transfer is said to have taken place. Training given to one part of the body for eg, writing gets transfers to another part of the body.

Theories explaining transfer of learning

Transfer of learning is a fact, but transfer is not automatic. The curriculum is constructed on the assumption of positive transfer

a) Theory of Formal Discipline: It is the oldest of all transfer theories. This theory believes that the mind is composed of many independent faculties like memory attention, imagination, judgement etc. these faculties according to this theory are noting but the muscles of the mind and can be strengthened or improved through exercise (practice use). According to this theory, the purpose of this education is to develop the facilities of the mind by repetition and practice. This theory is rejected because it pushes the content to the back ground. Psychologists feel that one cannot assume that mind consists of isolated bits of mental function.

b) Theory of Identical Elements : The chief profounder of the theory *Theory of identical elements' was Thorndike Later on Wood worth supported this theory and used the word 'components in place of 'elements Therefore the theory is also known as 'Theory of identical components. This theory maintains that, transfer from one situation to another is possible, to the extent that, there are common or identical elements in the situation For example there is a possibility of a transfer from the field of mathematics to the field of physics to the extent that that there are some common elements like symbol, formulae, equation, numerical calculation etc. In a similar way transferee takes place from typing to piano, to the extent that such skills as eye-finger co-ordination are identical to both activities. In this way similarities in the two situation with regard to the common elements of content, skill, attitudes.

Generalization: The advocate of this theory C.H.Judd argues that transfer and generalization are one and the same. According to him, it is not enough if there are identical elements between the two learning situations, it is the method learning of that matters. There must be scope for pupils to generalise

the transformable elements in the content. Judd concluded that it is the generalisation of the general understanding or some relationships, which is usually transferred from the earlier situation to the later one Similarly, day to day generalised experiences of a child like 'by touching the fire, we get learnt green mangoes are sour to taste', etc. Always get transferred to the coming new situations. For example. it is not enough if the child learns that it should be punctual and should refrain from annoying his classmates, these habits must become a child's attitude.

c) Theory of Ideals of procedure

This theory was put forward by W.C.Bagley. He tried to explain the mechanism of transfer in terms of ideals. Ile asserted that generalisations are more likely to get transferred , if they are regarded as Ideals - (desirable values). A child may not pay attention to neatness, if he is simply asked to be neat. But if the same neatness is taken as a value and explained to a child-that if a child is neat in one thing, he is always neat in everything else i.e.. handwriting, book keeping, clean clothes, clean room etc., and that neatness in everything is an important value of life, then the child may consciously develop the habit of neatness. In this way, the theory, of Ideals emphasize that the ideals like-love for wisdom, thirst for knowledge, Tolerance for difference of opinions, spirit of enquiry etc., are transferable from one situations to another, and therefore, every attempt should be made to develop desirable ideals among children.

Measures to maximise transfer:-

The problem of transfer of training occupies a significant place in the process of education. By realising transfer, what one learns, or experiences in some previous situation can either be utilised for learning in the new situation or it

can be applied to the solution of the day to day problems. Therefore, a wise teacher should try to secure maximum positive transfer, so that the child can be benefited properly from his earlier experiences and training.

Suggestions to maximise transfer

1. Suitable curriculum

The present day school curriculum is divorced from actual life. There is an urgent need to bring desirable changes in the school curriculum. So that it may provide adequate opportunities for the transfer of knowledge skills, habits and attitudes acquired in the class room to their life situation and experience. The content should be chosen with reference to the learners present needs and future needs. While teaching the teacher should bring in:

a. Correlation between the different subjects.

b. correlation between the school subjects with the social and physical environment

c. Correlation between the different branches of the same subject.

d. Correlation of the different topics of the same branch.

2. Proper methods of Instruction

Methods of instruction must also be modified in such a manner that the possibilities of transfer are increased.

a) These should be a provision for integration of theory and practical

b) Identical components between the situations should be identified and the relationships pointed out.

c) Students should be made to learn through proper understanding and insight

d) Verbal illustration and the audio-visual aid material should be used to make the learning interesting, alive and effective.

e) Proper attention should be paid on the process of Icarning, as well as the product. Many how? Questions should be asked while icaching. As far as possible, ine should be made iv discover ine facts and solve the problems himself.

3. Due preparation on the part of the learner

In order to seek maximum transfer, the teacher should always take the learner into confidence. He should be told about the importance of such transfer and should be encouraged to perceive the relevant relationship between two identical situation. He should be given proper training to transfer the knowledge gained in one subject to the other subjects and apply the class room learning in the actual life situation.

4. Development of desirable attitudes and ideals

Ideals posses a great transfer value. They should be taught through practical situations and experiences and students should be encouraged to transfer them from class-room siiuation to specific life activities.

5. Due preparation on the part of the teacher Every teacher should realize the importance of transfer in the teaching learning process. The teacher should get proper training to achieve maximum positive transfer. He should not teach the subjects as water-tight compartments but should always take extra care to emphasize relationships between two co-related subjects and topics for achieving maximum transfer.

b) Must as far as possible help the pupils to accept them at the ideal level.

c) While teaching psychological approach must be preferred to logical approach.

d) Teacher in the class room must pick up examples from actual life situations for achieving maximum transfer.

Check your progress

- What is meant by transfer of learning? Briefly explain the types of transfer of learning.

- What are the different measures to maximize the transfer of learning?

- What is the importance of transfer of learning?