

Unit IV - Methods of Teaching

Teacher-centred Instruction: Lecture method, Demonstration and Team teaching – Learner-centred Instruction: Self-learning, Forms of Self-Learning: Programmed Instruction, Computer Assisted Instruction, Keller Plan, Project Method, Activity Based Learning (ABL), Active Learning Method (ALM)-Mind Map and Advanced Active Learning Method (AALM).

Teacher Centered Instruction: lecture Method

TEACHER CENTERED METHODS

During the last few decades, there has been a vast change in the instructional process followed by teachers in the classroom. Initially, instruction was based on the behaviouristic approach which has shifted to humanistic and more recently is focused on constructivist approach. But still in many classrooms across the globe, teachers more often use teacher centric methods especially where the size of the classroom is more than fifty. In teacher centric classrooms all the instructional activities and procedures are under the control of the teacher. Teacher plans, prepares and conducts the teaching-learning process including the kind of learning experiences to be provided to learners, and activities to be carried out by the learners. Though, it is teacher controlled, the teacher can bring flexibility into the classroom through learners' participation. There are various teacher centered instructional methods. Few of them are being discussed in details.

Lecture Method

The word 'lecture' is derived from Latin word 'lectus', which means "that which is read." It wasn't until the 16th century that the word was used to describe oral instruction given by a teacher in front of an audience of learners. Presently, teacher uses lecture method that involves, primarily, an oral presentation given him/her to a group of learners. Many lectures are supplemented by some sort of visual aid, such as a slideshow, a word document, an image, or a film. Some teachers may even use a whiteboard or a chalkboard to emphasize important points in their lectures. It is the most conventional teacher centered instructional method wherein teacher transmits the knowledge and learners are the passive recipients of it. All the activities related to teaching-learning process in the classroom and beyond the classroom, are under the control of the teacher. These activities are planned and rigid in nature. Lecture method is generally applicable to learners who are studying in higher grades

and above average. Average and below average learners feel disinterested in transaction of the content through lectures. This method fits into the contents wherein teacher has to extensively focus on narration, memorization and information. It is a method of instruction which is suitable to a classroom of large size wherein large syllabus is to be covered in limited time. It is not suitable to contemporary multicultural classrooms as it does not emphasize two cardinal principles of teaching activity and child-centeredness. As teacher, one should refrain from using lecture method in schools, especially up to secondary level, as it is the stage where child learns better through concrete experiences rather than through mere abstract presentations.

ADVANTAGES OF THE LECTURE METHOD Lecture method has a few advantages that have made it most used method of teaching for so long. These advantages are discussed below:

a) Teacher control: Because the lecture is delivered by one authoritative figure – a teacher, a professor, or an instructor, she has full control over the transaction of the lesson and the tone of the classroom. She is able to shape the course of the lecture. So, lectures remain highly consistent.

b) New material: Lectures are literally just long-winded explanations of information, deemed important by the lecturer. As such, learners can absorb large quantities of new information.

c) Effortless: The lecture method makes the learning process mostly effortless on the part of learners, who need only to pay attention during the lecture and take notes when they feel necessary. Because so little input is required from learners, it's the most clear, straightforward and uncomplicated way to impart learners to large quantities of information – as explained above – and in a way that is controlled and time sensitive. Learners just need to know how to take good notes

DISADVANTAGES OF THE LECTURE METHOD What's funny about the lecture method is many of the pros listed above could actually be seen as cons as well. Many don't find the lecture method helpful in the least, and you'll find the explanations below:

a) One-way communication: People, who are against the lecture method, find it as a one-way communication. Professors dictate information to learners, who have little or no opportunity to provide their own personal inputs, or examine the information being delivered. Learners just have to sit down and take information; sometimes, learners will even be forced to agree with the lecture if they want a passing grade. If the lecture is on a sensitive topic over which there is much conflicting discourse, you can imagine the problems this might cause.

b) Passive listeners: Not only do people find the lecture method a biased, one-way communication, they also see it as a wholly passive experience for learners. This isn't just harmful because of the ways we described above. Not being actively engaged in a discussion over certain learning experience can make the learning experience itself seem worthless to a learner. After all, the aim of education isn't to programme learners to think a certain way according to their instructor's lectures but to critically analyze the information being provided and learn how to apply it in different contexts. If learners have no opportunity to discuss the course material with the person delivering the lecture, they will receive only a shallow understanding of the subject being discussed. Simply put, they might even be bored by the material because they will have no opportunity to learn how the subject applies to them on a personal level.

c) Strong speaker expectations: The lecture method can be disadvantageous to the professor as well. Not all academics can be expected to have the same level of public speaking skill. What if a teacher is a genius in his or her field, knows the material from every angle, and is enthusiastic about the subject... but has trouble speaking in front of large groups? The quality of a professor's course should not suffer because s/he is unable to prepare a decent lecture. Just as being lectured to might not be the learning method of choice for many learners, being the one that is expected to do the lecturing might not be the best way for every instructor to present her/his course material.

Demonstration Method

Demonstration method works on the principle of activity centeredness and, to some extent, on child centeredness. Therefore, it is better off than the lecture method. Demonstration method is based on performing some activities or experiments in front of learners and learners minutely observe them. Demonstration method has dual purposes. One, it is in accordance to the maxim of teaching concrete to abstract i.e. concepts, which are abstract in nature and harder to understand, can be demonstrated through an activity or experiment, which would facilitate the teacher to explain them easily and learners too can internalize them effectively. Second, learners can replicate the same demonstration wherein they can also understand concepts by doing. Moreover, demonstration helps learners develop their motor skills. A good demonstration method depends upon the following aspects:

i) Demonstration should be planned and rehearsed: It is necessary for a teacher to identify the concepts that need to be demonstrated through activity or experiment. Therefore, initial planning and rehearsal is must for a successful demonstration. During planning stage, it is necessary that all the materials required for demonstration should be arranged beforehand

and they should be placed on the demonstration table in a sequential manner so that teacher while experimenting needs not to worry about acquiring material as well as searching for it. After that, teacher needs to practice that demonstration as many times as possible so that it leads to expected outcomes.

ii) Purpose of demonstration: Before demonstration, teacher should be clear about its purpose and make the aim of the demonstration clear to learners beforehand. Teacher should clearly state what specific things need to be observed while demonstration, based on which inferences can be drawn or generalization can be made.

iii) Active participation of learners: Teacher should ensure that learners not only observe but also actively participate during the demonstration. It could be in the form of setting up of instruments related to experiment or activity or it can be in the form of seeking answers from the learners. It can also be that learners can write their observations on the blackboard. iv) Training in scientific thinking: Demonstration method provides learners with opportunity to develop process skills i.e. observe, explain, analyze, infer, verify and review.

MERITS

- Demonstration method has several merits over the lecture method. Some of them are as follows:
- It inculcates the habit of scientific thinking among learners.
- It is psychologically sound method as it takes into account the teaching from concrete to abstract.
- It does provide opportunity to learners to participate during demonstration.
- Theorization of concepts through verbal mode by teacher is reduced and focus is on demonstration of concepts through experiment or activity.
- It is suitable for a multicultural and differential classroom.

LIMITATIONS

Demonstration method is time consuming as lots of effort on the part of teacher is required during planning, organizing and conducting phase.

It is a resourceful method so sometimes teacher is unable to organize the materials required for demonstration.

If demonstration fails in achieving the purpose, then it will have negative impact on the morale and attitude of learners.

All the topics or contents cannot be covered through this method.

Team Teaching

The word 'team' is associated when two or more than two members join together to achieve some specific objectives. In team teaching too, two or more than two teachers with special abilities, competencies and specialization join together and teach in a classroom. According to R.A. Singer (1964), team teaching may be defined "as an arrangement whereby two or more teachers cooperatively plan, teach and evaluate one or more class groups in an appropriate and agreed teaching plan in given length of time, so as to take advantage of specific competencies of the team members". According to David Warwick (1971), team teaching represents "a form of organization in which individual teacher declared to pool resources, interests and expertise, in order to devise and implement a scheme of work suitable to the needs of their learners and the facilities of the institution".

From the above definitions, it can be concluded that team teaching involves a group of teachers working cooperatively in a team to develop a programme of instruction and share among themselves teaching, evaluation and course improvement.

CHARACTERISTICS OF TEAM TEACHING

- i) Group of teachers:** Team teaching generally involves a group of teachers. The number of teachers depends upon nature and objectives of the course, the size of the class and the facilities to be used.
- ii) Joint responsibilities:** In team teaching, teachers work together and are jointly responsible for planning and instruction of a course.
- iii) Cooperative teaching:** Team teaching is also referred to cooperative teaching, as teachers cooperatively develop a programme of instruction and share in planning, organizing, teaching, evaluation and course improvement.
- iv) Specific competencies:** In team teaching, each individual teacher has specific competencies and work is assigned based on these specific competencies. In team teaching, a teacher needs to be multi-tasking. Teachers, who are good in planning

would get an appropriate chance for instruction and length of time so as to use special competencies of teaching content to a group of learners.

- v) **Need-centered:** In team teaching, teachers have to consider the needs, interests and development level of their learners and they should teach cooperatively to satisfy learners' needs and interest and to remove their difficulties and problems.
- vi) **Autonomy to teachers:** Team teaching provides autonomy to each of the teachers to choose their teaching related activities and responsibilities as per their needs, interest and abilities.
- vii) **Flexibility in teaching:** Team teaching provides enough of flexibility to teachers in scheduling their activities to meet the needs of learners and themselves.
- viii) **Improvement in teaching-learning process:** Team teaching is a resultant of joint collaboration of teachers who have some specific abilities which would immensely help the learners in improvement in learning outcomes.
- ix) **Pooling of resources:** In team teaching, resources are pooled up so as to benefit learners at large and help teachers individually.

ADVANTAGES OF TEAM TEACHING

- a) **Better planning:** In traditional system, teachers separately spend their time individually in planning the same content at different period of time for two different classes or same classes. In team teaching both teachers can devote more time to and energy in planning and preparing content for the benefit of learners.
- b) **Improvement in teaching:** In team teaching, teachers are given the opportunity to observe each other teaching and thus obtain feedback on each other's teaching and thus it helps in improving their skills of teaching. In traditional teaching, teachers are devoid of this opportunity of observing the lesson of each teacher.
- c) **Benefit of specialization:** In team teaching, teachers normally are chosen based on their specialization, which would immensely help learners in getting deeper understanding of the content which is not the case with single teachers.
- d) **Useful for bright learners:** Team teaching would be helpful to bright learners as they get more knowledge about the subject matter, which is sometimes not possible in single teacher classroom. They are given extra work and they do not lose interest as they do in traditional classroom teaching.
- e) **Optimal utilization of resources:** Team teaching provides opportunity for optimal utilization of human resources. Learners are benefited by the best of available teachers.

f) Better interaction: Both teachers and learners get opportunities to interact with experts in a subject or a specialized field. It gives them useful exposure in terms of learning new and specialized field things. It also provides learners motivation and inspiration for reaching the top in the field of learning, instruction and research.

g) Flexibility: It is a highly flexible method of teaching whereas traditional methods of teaching are rigid. It is quite flexible in terms of scheduling and grouping techniques to meet the needs of a particular teaching learning situation. The time table also allows flexibility for the organization of team teaching.

DISADVANTAGES

a) Costly method: Team teaching is costlier than traditional method as it hires team of specialized teachers.

b) Lack of material facilities: Inadequate space and material facilities in the form of large rooms, furniture, laboratory, library, workshops, teaching aids, materials and communication equipment's act as a barrier for success of team teaching.

c) Lack of cooperation: The basis of team teaching is cooperation. But sometimes teachers hesitate to cooperate with other teachers. Hence cooperation from all teachers cannot be expected.

d) Lack of accountability: In traditional teaching, a teacher teaches a subject to a particular class and s/he is accountable for the results and progress of learners into the subject. In team teaching, since it is the joint responsibility of team of teachers teaching the learners therefore accountability rests with all the team members. One teacher can shirk its responsibility to other teachers.

e) Difficulty in maintaining harmony: Team teaching requires proper understanding, cooperation and harmony among the members of the team. There is difficulty in maintaining proper team spirit, positive attitude towards the assigned work, proper coordination and harmony among the members of the team.

f) Non availability of specialized teachers: All teachers of the team should have a thorough knowledge of the subject along with the necessary skills to handle the classroom management along with academic activities. Such type of competent and specialized teachers with complete willingness and positive attitude towards team teaching are not available.

Learner – centred Instruction

Self-learning

Self-learning is defined as a method of garnering information and after processing and retaining it without taking the help of another individual. It is the responsibility of the learner to learn and hold on to the knowledge without the help of another human resource.

It is a modern way of learning that helps a person to teach himself skills and knowledge that will prove relevant to his daily activities. It has not replaced the instructional learning process that has been used traditionally instead has become an extra key that will open the doors of knowledge for everyone who is interested in acquiring it.

Learning is a challenge and self-learning a step higher as the learner will require more patience and discipline than a general student who has enough material at his tips to study it without the extra effort.

Self-learning has proved it's worth a hundred times over as it keeps the individual happy, motivated and engaged. It works as a handy tool that leads to high performance and efficiency levels. It is useful for individuals who do not have enough time to enrol themselves in formal courses because of some reason or other.

When a learning process is not forced and the student wants to take the first step at self-learning voluntarily then it is a move in the right direction. Self-learning has to happen from within because you cannot force someone to do it effectively. It is actually motivated by a desire to make yourself richer in knowledge so that you can better your circumstances.

Self-learning is considered enriching and worthwhile because the learner can set a pace that is convenient and affordable. With the advent of the internet, it has become the process of self-learning has become very easy and flexible. It is especially beneficial for professionals who want to brush up their skills to refresh and hone their knowledge.

Process of self-learning

1. Be clear in your objectives and goals

It is important for a self-learner to be clear in his mind about his objectives and goals. Remember he has to study and learn independently through intentional learning and thus he needs to be clear in his perception from the beginning.

Start the process of self-learning by setting up result-oriented and smartly formulated objectives. Define the topics and what needs to be covered so that you can gather relevant information without wasting any time.

2. Find a reliable source

With the advent of the internet, you will find thousands of materials for any of the topics you want to pursue. Make sure that you have reached a reliable source that has credibility so that the information is correct and verified.

Another thing to remember is that you do not need an abundance of study material as it will make you confused and will waste your time sorting through for relevant matter. Be careful in your endeavor and filter the necessary from the unnecessary so that you can utilize the time expediently.

3. Allow yourself to be curious

If you are curious then you will have to dig deep and this will uncover facts that will help you in your self-learning process. As per several medical journals, curiosity is a trait that makes life exciting and ultimately more productive.

4. Motivate yourself and make the subject interesting

Are you going through the process of self-learning only because you have to or are you seriously interested in that subject Remember disinterest will not take you far and hence motivate yourself early on if you want to attain your goal. You can learn only what you want to learn and hence make sure you have a viable reason to study.

For instance, if the process of self-learning will help you in getting a promotion you can motivate yourself by reminding about it at regular intervals. You can make the subject interesting by integrating visual study material so that you do not get bored while learning.

5. Cover your topic

If you are stuck at any point during self-learning it is better to adopt a new angle and move on. Try to study from the alternative material that you have at your disposal for a change as it might offer you a new perspective. Don't stick to conventional and traditional approaches instead explore new and unconventional ideas to get out of the rut.

6. Deal with issues

Problems and issues are an integral part of self-learning hence prepares yourself for every eventuality. It is a new step for you and issues are bound to crop up. Face them head-on.

Have confidence and try to find viable alternatives so that you can get a clear picture. This will make it easier to handle them.

7. Use technology for your benefit

If you have a handy tool then be smart and use it. Technology is one such key that can do wonders during the process of self-learning. Tutorials, study materials, questionnaires, notes, etc are available through the internet very easily.

8. Do not stick to a fixed timetable

The beauty of self-learning is that it does not have to be time-constrained. The learner does not have to follow a fixed regime and that is a serious plus.

Adjust your time in such a manner that you can utilize your free time effectively through the process of self-learning.

9. Seek learning communities

Sometimes it is difficult to be the only student in a class as the loneliness starts getting to you. Seek and join an online learning community where you can share your knowledge and queries with other members. Make sure that the community has an interest in topics that are similar to your study material.

Learning communities have proved to be life-support to learners as it gives the necessary advice and encouragement to move forward diligently.

10. Taking viable breaks

The process of self-learning emphasizes the need for taking viable breaks in between. This helps to refresh the mind and body so that they can become aligned once again.

Importance of self-learning

The importance of self-learning has been pinpointed as follows-

- Self-learning helps a person in understanding the basic concept of learning and it says that everyone has to learn by himself at the end of the day. As you go deeper you start exploring new horizons that might have been a taboo in traditional form of learning and this can open further doors. Actively pursuing your goals single-handedly gives the learner the necessary confidence to deal with the eventualities of life by any means.
- The importance of self-learning is that it takes the crutches away. You are no longer dependent on others and this proves beneficial in the long run. Identifying and tackling problems works as a booster and gives you immunity against issues and problems that a person faces in life.
- Self-learning helps you to find the ground under your feet. It prepares you for the future where you have to work alone to reach your goal. The resilience and the immunity that you gain here are the key tools that will take you further in life.

Advantages

The advantages of self-learning are as follows

- It is not time-bound and is dependent upon the person who wants to learn for whatever number of hours he feels like. It gives him the opportunity to set his own pace and remove frustration and boredom from the equation
- Learning is without any restrictions
- Self-learning is not subjected to location-constraint as an individual can make use of the learning process from anywhere he pleases. He does not need to travel at a particular place at a specific time and this works in his favour
- It boosts the self-esteem of a person because he knows that he has learned everything on his own. It also helps him to keep digging until he knows all there is to know about the topic.
- Self-learning helps to identify issues and find solutions quickly because you do not want to waste your valuable time sorting out issues. The ability to learn, identify and change becomes more spontaneous
- Self-learning encourages curiosity and this can result in innovative ideas and information that can prove a blessing.
- The importance of self-learning is that it is considered stress-free because a learner does not have to adhere to preconceived rules that are an integral part of the traditional learning method. The pressure is less as the learner has the freedom to choose the content as per his requirement and not just because it is part of the curriculum.
- Self-learning often works hand-in-hand with self-assessment and time management. Thus setting and working towards achieving your goals becomes second nature. The increased ability proves a blessing in gaining other skills side-by-side.
- The desire to gain first-hand knowledge makes the experience more meaningful and relevant. Learning tends to become more enjoyable and purposeful with time.
- When you are part of the traditional learning process you have to adhere to the prescribed set of rules, books and even way of studying but self-learning gives you the freedom to choose your mode of learning.

Disadvantages

The disadvantages of self-learning are as follows-

- You do not have ready-made material at your disposal and whatever you need will have to be acquired through additional effort on your part

- You will have to verify your study materials whereas in traditional learning method these were already verified beforehand
- Working with others help in brainstorming which is not possible during self-learning
- Teamwork encourages open communication that is not seen during the process of self-learning
- There is no face-to-face interaction during self-learning
- The lack of transformational power is a serious limitation of self-learning
- There is a slow evolution
- Understanding becomes difficult without someone to explain things
- Waste of time as the learner has to spend considerable time in finding viable methods and understanding the material by himself
- There is no guarantee that whatever you are learning is correct.

Programmed Instruction

Definition of Programmed Instruction Method of Teaching

Program instruction method of teaching is an autocratic and individualized strategy. It is based on psychological principles of operant condition. The response of the learner are strictly controlled by the programmer.

Meaning of Programmed Instruction

Its main focus is to bring desirable change in the cognitive domain of the learner's behavior. The structure of teaching method is that the selected content is analyzed and broken into smaller elements. Each element is independent and complete in itself. The programmer develops frames based on each element. Responses are also provided to the learner in the program on some different leaflets. The correct response of the learner is the new knowledge or new behavior. Immediate confirmation of correct response provides reinforcement to the learner and he proceeds to the next frame. Wrong responses required feedback. Physical presence of the teacher is not necessary. He may come to give instructions regarding the program. Students are left for learning at their own pace.

Types of Programmed Instruction

There are three types of this teaching strategy

1. **Linear Programming.** It is being used for teaching all subjects. In programmed teaching strategy progressive chain elements are presented. Last step is at the mastery level. It is based on five fundamental principles.
 - Small steps
 - Active responding

- Immediate confirmation
- Self-pace
- Student testing

2. **Branched Programming.** It is generally used in mechanical fields.

Advantages of Programmed Instruction

Following are the advantages of this teaching strategy

1. The main emphasis is on individual differences and students' involvement.
2. There is not fixed time interval for learning. Students may learn at their own pace.
3. Learning by doing maxim of teaching is followed to involve learners in the learning process.
4. Students are exposed only to correct responses, therefore, possibility to commit errors in reduced.
5. Immediate confirmation of the results provides reinforcement to the learners and encourages the learners to proceed further. Feedback is provided to wrong answers, so that learner is able to develop mastery over the content.

Disadvantages of Programmed Instruction

1. It is very difficult to develop an instructional programme
2. Only cognitive objectives can be achieved
3. Due to tight schedule of time table, students cannot be left to learn at their own pace. It would be very difficult to learn the content the subject matter in a limited period of time.
4. There is no chance for students' creativity, their responses are highly structured.
5. Development of programme is not economical in terms of cost and time
1. In absence of the teacher, students may spoil the disciplinary tone of the class, or they will be helpless when any problem arises.
2. It cannot be applied at primary level of education or at higher education

Suggestion for this Teaching Strategy

1. A programmer should have thorough knowledge of the content and technique of content analysis.
2. This strategy should be used as a supplementary device for remedial teaching in the class room.
3. It should be used in distance education or continuing education programs where no rigid time table is applied.

4. If not at a primary level or higher level of education, this strategy may be useful at secondary level of education where many new subjects are introduced in the curriculum and they create problems in learning.

If applied in classroom teaching, teacher should be present in the class. He can maintain discipline in the class and help in eradicating the difficulties of the learners. Personal touch of the teacher can be more fruitful and effective in student's learning.

Keller Plan – Personalized System of Instruction

INTRODUCTION:

The process of teaching learning is as old as human beings on earth. The process has undergone several changes from non- formal to formal with the passage of time. Teaching, as conventionally understood by a traditional teacher, is the act of disseminating information to the learners in the class room. It is generally, equated with telling. The traditional methods and techniques have been replaced by new methods and techniques in the last two decades in western countries. We can also benefit from these new methods and techniques, if we faithfully implement them in our class room communication. According to the changed concept, teaching is to cause the child to learn and acquire the desired knowledge, skills, and also desirable ways of living in the society. The main aim of teaching is to help the child to respond to his environment in an effective way. Teaching may consist of a description of those acts teachers demonstrate that reflect their commitments to a particular philosophy of education. It has been explained from different angles by psychologists and educators as follows,

[1] Teaching is communication between who are more persons who influence each other by their idea and learn something in the process of interaction.

[2] Teaching is to fill in the mind of the learner by information and knowledge of facts for future use.

[3] Teaching is a process in which learner, teacher, curriculum and other variables are organized in a systematic way to attain some pre -determined goal.

[4] Teaching is to cause motivation to learn.

PRINCIPLES OF TEACHING:

Teaching is an art and Teacher is the artist. As the artist is governed by certain principles which help him acquired proficiency in his profession so the teacher is also governed by

certain principles which help him acquire proficiency in teaching. The teacher must know the developmental characteristics of children at different age levels so that he can take the advantage of the interest and motivation of the students in learning tasks. Following are some of the important principles of teaching;

[1] To use the experience already acquired.

[2] To emphasize the knowledge and skill for use.

[3] To provide individual differences readiness of learner

[4] To specify the objectives of lessons should be learned.

[5] To follow the psychological principles which have been already developed by great educators. They are

- Proceed from simple to complex
- .Proceed from concrete to abstract.
- Proceed from general to complex.
- Proceed from known to unknown.
- Proceed from induction to deduction or vice versa.
- Arrange for frequent reinforcement.

PERSONALISED SYSTEM OF INSTRUCTION

(PSI) : The modern world is dynamic with its revolutionary changes in all spheres of human life. Needless to mention the great changes have taken place rapidly with the introduction of educational technology the field of education and training in advanced countries of the world. The developing countries have also been imparting and adopting educational technology from the advanced countries who solve their own problem the class room communication has considerably been changed with application of education technology in teaching learning process with its emphasis on individualizing instructions. Personalized system of instruction (PSI) is the one of the recent innovation which has been successfully introduced in higher education to individualize instruction. This system of instruction which is person oriented. It is more emphasis on the individualization of instruction than other methods in higher education. The instruction is tailored to the need and ability of the individual learner. PSI gets its name from the fact that each student is served as an individual by another person face to face and one to one in spite of fact that the class may contain number of students. It is suitable for courses for the student is expected to acquire a well defined body of knowledge or skill. The majority of college courses the PSI teacher expects almost all of his students to learn his materials well and is prepared to award high grades to those , who do , regardless of

their relative in the standing in the class. The teacher accepts the responsibility meeting the goal within the normal limits of manpower, space and equipment.

OBJECTIVES OF PSI

The PSI has been to evolve to fulfill certain specific instructional objectives which may be enumerated as follows:

- To establish better personal social relationship in the educational process .
- To provide frequent reinforcements for learning.
- To provide increased frequency and quantity of feed back to the instructors which the consequent benefit of a basis for meaningful revision in programme, content, and instructional procedures.
- To decrease reliance on the lecture for presentation or critical information utilizes different techniques for instructional purposes
- To evaluate on the basis of fixed standard are mastery in a variable time period at the acceptable level of performances of the students.

CHARACTERISTICS OF PSI:

The personalized system of instruction (PSI) lays more emphasis on the importance of written works. The teacher gives practice to the learners on carefully prepared assignments consisting of section from standards text books. Articles are given to the students along with study question and other instructions as to what to read in what order and for what information. When the students think that he has mastered the materials he comes to the class room to take a brief quiz. This is immediately corrected by proctor. If there are errors the proctor indicates what part of the assignments needs further study the students goes of to do some more work and then come back to try again. That is are not examination in the normal sense. Students are not penalized for securing lower grade for an error.

The specific distinctive characteristic of PSI is as follows.

- ♣ Self – pacing.
- ♣ Use of multimedia.
- ♣ Use of proctors.
- ♣ Mastery learning.
- ♣ Importance of written work

RESEARCH ON PSI: Though PSI is very recent innovation in higher education, but it has stimulated a great amount of research in short life. A number of research studies have been

conducted on the PSI model to study its effectively in instructional process in western countries. Very few research studies have been undertaken in our country to verify the clients of personalized system of instruction. The five important areas of instructional effectiveness which have been investigated by researchers are as follows:-

- Performance
- Retention
- Transfer of training.
- Efficient learning methods.
- Attitudes.

CURRENT STATUS OF PSI : The PSI has been tried out in all areas of education with great success. There are four major developments PSI, originally was developed to design a psychology programme and social science. All disciplines have tried PSI and there are PSI courses at all levels of education from secondary through advanced graduate courses. The Second development is the implementation of PSI beyond the single course in to sequences of courses of entire college. The third development is the institutionalization of PSI. It has been successfully used in higher education and thousand of studies have been conducted in USA to establish in superiority over other current techniques are class room teaching

SUGGESTIONS FOR IMPLEMENTING THE PSI AND ITS NEED IN OUR EDUCATIONAL SYSTEM:

The PSI method is effective and yields better results than another comparable methods but the question is whether we may introduce it in our system of higher education. It is to early to predict its effective and efficiency in our country without conducting studies on the model of PSI. The method needs comprehensive planning and preparation before it is introduced. It should be experimented in some institute of higher learning and then gradually introduce in actual class room situation. After making modification, if needs be, the system should be introduced in higher education on large scale. The Second important factor is to prepared to teachers mentally to accept this innovation in higher education. The introduction of PSI entails extra academic work on the part of teacher which very few are ready to undertake in the present circumstances. The third problem is that the introduction of PSI necessitates the appointment of proctor who can establish face to face rapport with students which do not think if can afford at the present time. The undergraduate students may also we employed to

access the quiz test and providing immediate guidance to the students. There is a great problem of providing TV, Tape Recorder, and Computer in addition to printed materials and discussions etc., The introduction of PSI needs restructuring of present classrooms which involves great financial liabilities which we are not prepared to take at present, since we are busy in solving other national problems on priority basis. The last but not least is the organization of orientation courses in which teachers may be trained to write course units on the PSI model.

Project Method

The Project Method is one of the modern methods based on experienced centred teaching in which, the curricula and content of studies are based on life situations through achieving the objectives of cognitive, affective and psychomotor skills. This method is based on the philosophy of Pragmatism and the principle of 'Learning by doing'. William Heard Kilpatrick expanded the project method into a philosophy of education. According to W.H. Kilpatrick, "A project is a wholehearted purposeful activity proceeding in a social environment". He emphasized on child-centred and progressive education. He has classified project method into four types as given below,

- Constructive-when learners have to construct something related to social life such as charts, models, maps etc.,
- Artistic – Projects focusing on aesthetic fields of life such as music, dance, painting etc.,
- Problem-solving Projects focussing on problems related to real life situations such as how to operate a bank account, how to communicate with others through social medias etc.
- Group work Projects focussing on involving group of students in achieving a task such as developing a garden

Advantages

- i) It helps in developing social norms and social values among the learners.
- ii) It provides invaluable opportunities for correlation of various elements of the subject matter and for transfer of learning.
- iii) It helps in growing knowledge very effectively as a result of co-operation on social participation.

Disadvantages

- i) The project cannot be planned for all subjects and whole subject matter cannot

be thought by this strategies.

- ii) It is not economical from the point of view of time and cost.
- iii) It is very difficult for a teacher to plan or to execute the project the learner and surprise them.

Activity-based Learning

Introduction

Activity-based learning evidently has two major components, activities and learning. It is seen as a process where activities play a key role in learning. Activity is defined as an exposure to a situation involving actions and movements. Learning is defined as a process of acquiring knowledge, behavior, skills, values, and preferences. Learning is an experience in which we are continuously engaged in. The process of activity based learning intends to embed activities in the process of learning. Activity based learning is defined as a learning process in which students are constantly meaningfully engaged (Panko et al., 2007). The emphasis of effective learning in a classroom has a significant role in student retention.

As Richard E. Mayer defines, “Learning is the relatively permanent change in a person’s knowledge or behavior due to experience.

What is activity-based learning?

Activity-based learning is the process of learning by practically doing. As opposed to asking the learners to simply listen and memorize, activity-based learning encourages students to actively participate in their own learning experience through practically engaging in activities such as independent investigation.

Churchill (2003) propagates that activity-based learning aids students and learners to construct mental models that allows higher-order thinking and performance such as applied problem solving and transfer of information and skills.

Types of Activity Based Learning

Learning is collaborative and co-constructed between the learner and her social environment;

Exploratory Activity based learning:

Gathering knowledge and Acquiring skills through exploration and active investigation.

Constructive activity based learning:

Gathering experience and constructing knowledge through experience and through creative engagement.

Experimental activity based learning: Gathering knowledge by the method of experimentation with the existing knowledge. Contesting facts and debating

Expressional activity based learning: Expressing the acquired knowledge through presentation.

Examples of Activities for learning

Story boarding: It is a way of engaging children into the act of creating stories and story boarding it. In this activity children visually organize the created story in a sequential manner.

Picture Reading: It is a process of reading pictures by giving words to it and building an understanding around it.

Thematic Classroom: It is a process of thematically rearranging a class to enhance the learning of the learners

Why is Activity-based Learning crucial?

Activity-based learning encourages the learners to explore, experiment and learn independently through activity-based techniques. It equips children with skills in problem-solving, critical analysis and creativity.

Activity-based learning is the baseline for the enhancement of creative and critical thinking. The most useful and effective method of teaching complex concepts, is by engaging the learners in interactive activities.

The prominent advantages of activity-based learning:

Motivation: Activity based learning helps in the motivation of the learner as it gives a sense of accomplishment to them while performing each activity. They feel motivated by each of their achievements. This enhances their confidence and self-image.

Memory enhancement: By encouraging the learners to get physically and mentally involved in the learning process, activity-based learning helps students learn, memorize and retain information. This process of gathering knowledge through personal experience helps children to understand and reach the learning objective aimed.

Independence and self-sufficiency: Activity-based learning focuses on independent investigation and analysis. Engaging children independently or in small groups, encourages them to be independently inquisitive, helps them in becoming critical thinkers and also makes them self-sufficient. This self-directed learning process supports their acquisition of knowledge outside as well as inside the educational environment.

Social development: Activity-based learning encourages the learners to take responsibility for their own learning experience. It also involves group-based activities which helps students in developing teamwork and social skills. These skills are essential to them to understand the idea of coexisting.

Continuous engagement: Activity based learning is extremely helpful as it draws the learners attention and keeps them actively involved at every step.

Relevance of educational material: Learning materials are exceptionally relevant. However their relevance is often overlooked by the learners. Activity-based learning gives a new meaning to the learning materials and helps the learners to understand the ‘real-life’ relevance of learning material by encouraging them to explore.

Activity based learning as an expression: Activity-based learning encourages the learners to be creative in expressing their knowledge. This learning method provides students with the opportunity to express knowledge through the act demonstration as well as through the act of verbal presentation.

Knowledge is about attaining information, gaining insight into the existing facts and utilizing it in various forms. Activity based learning expands the horizons of the learners by empowering them to apply the skills and knowledge in their real life and fulfills the core purpose of attaining knowledge.

Advantages (Pros)

1. Prolonged Engagement and Motivation
2. You Learn Information within its Context
3. You Learn from Trial and Error

Disadvantages (Cons)

1. It is Time Consuming
2. Sometimes Memorization is Necessary
3. It Discourages Listening to Elders

Active Learning Method (ALM)

Active learning is a student centered approach in which the responsibility for learning is placed upon the student, often working in collaboration with classmates. In active learning teachers are facilitators rather than one way providers of information. The presentation of facts, so often introduced through straight lecture, is deemphasized in favor of class discussion, problem solving, cooperative learning, and writing exercises (graded and ungraded). Other examples of active learning techniques include role-playing, case studies, group projects, think-pair-share, peer teaching, debates, Just-in-Time Teaching, and short demonstrations followed by class discussion.

There are two easy ways to promote active learning through the discussion. The first method is the mini lecture format in which the instructor talks ten to twenty minutes about a particular topic and then pauses for students to consolidate their notes, find gaps, and work with classmates to fill in gaps. The second technique is an active listening lecture where students just listen to a lecture without writing notes and then, after ten to twenty minutes, the student works with a classmate or small group to recall, clarify, and elaborate on the lecture's content.

Examples of active learning technique:

- **Think Pair Share**: students ponder the answer to a question and then share their thoughts with a neighbour.
- **Role Playing**: "Each student takes the role of a person affected by an Earth science issue, such as a volcano or a polluted lake and studies the impacts of Earth science issues on human life and/or the effects of human activities on the world around us from the perspective of that person."
- **Discovering Plate Boundaries (more info)** : this is a group discussion method employing many aspects of cooperative learning. In the example cited here, students use the "Jigsaw" technique to learn more about plate tectonics. For a more general discussion of cooperative learning see the module on Cooperative Learning.
- **Peer Review**: students review and comment on materials written by their classmates.
- **Discussion**: promoting a successful discussion depends on correctly framing questions. Discover tips for framing discussion questions to promote higher order thinking.
- **Role Playing**: students look at the topic from the perspective of a character, who will affect and be affected by a chosen topic.
- **Problem solving using real data**: students use a variety of data to explore scientific questions.
- **Just in Time Teaching**: students read assigned material outside of class, respond to short questions online, and then participate in collaborative exercises the following class period.

- **Game Based Learning:** Uses competitive exercises, either pitting the students against each other or through computer simulations.

Mind Map

A mind map involves **writing down a central theme and thinking of new and related ideas which radiate out from the centre**. By focusing on key ideas written down in your own words and looking for connections between them, you can map knowledge in a way that will help you to better understand and retain information.

A mind map is a graphical way to represent ideas and concepts. It is a visual thinking tool that helps structuring information, helping you to better analyze, comprehend, synthesize, recall and generate new ideas.

Just as in every great idea, **its power lies in its simplicity**.

In a mind map, as opposed to traditional note taking or a linear text, information is structured in a way that resembles much more closely how your brain actually works. Since it is an activity that is both analytical and artistic, it engages your brain in a much, much richer way, helping in all its cognitive functions.

Mind Mapping Techniques

A mind map is an invaluable tool for busy people. It allows them to plan, organize, and present information efficiently and effectively. A mind map promotes bigger-picture thinking, improved problem-solving, and is a valuable tool for team collaboration.

Here are just ten ways to use a mind map. The actual number of possibilities is unlimited.

1. Brainstorming Sessions

A mind map is a great tool for brainstorming new ideas. Its unstructured format allows ideas and thoughts to flow freely. Since concepts are placed in groupings, it also allows ideas to jump around among topics, rather than forcing them down a list.

2. Managing Meetings

A mind map makes an ideal meeting agenda format. Topics are arranged around the meeting's primary purpose, with details branching out from there. Displaying the mind map on a screen (or sharing it in an online meeting) allows participants to discuss points, add action items, set deadlines, and make decisions. All of these can be recorded on the mind map, which is then shared electronically after the meeting ends.

3. Decision Making

When weighing the various factors to be considered in making a major decision, a mind map can be a helpful tool. Listing various alternatives, pros and cons of each, and other factors can generate creative thinking and lead to an informed decision.

4. Organizing Information

Many busy people find that using a mind map is a great way to organize information and activities.

5. Strategic Thinking

Mind maps are an ideal way to plan business strategy. From basic SWOT analysis to decision-making and developing specific tactics, mind maps can be used in many ways during the strategic planning process.

6. Event Planning

When working on an event, which may involve several different vendors, guests, and an array of tasks to coordinate, a mind map works perfectly.

7. Project Management

Planning a project with a mind map allows tasks to be arranged starting with large categories and broken into smaller pieces. This refinement of tasks makes it much easier when it comes time to assigning, budgeting, and estimating timing. Plus, when you use a Smar Draw mind map, **you can convert it into a Gantt chart with a single click** or assign any idea or action item using Trello

8. Presentations

Mind maps work extremely well in presentation settings. Using mind map diagrams, rather than bullet-point lists, is a more interesting way to present information. Smart Draw mind maps are also easy to import into PowerPoint®, MS Word®, and Google Docs®, and more.

9. Evaluating Situations

Sometimes problems arise and require assessment. A mind map is a good tool for this purpose. It allows you to explore various aspects of the problem, and group them into related areas. Thinking and recording such a situation visually in this manner can also stimulate finding solutions.

10. Taking Notes

In meetings, classrooms, online programs, and for general everyday use, mind maps are a fast, effective way to take notes.

Benefits and Uses

I think I already gave away the benefits of mind mapping and why mind maps work. Basically, mind mapping avoids dull, linear thinking, jogging your creativity and making note taking fun again.

But what can we use mind maps for?

- Note taking
- Brainstorming (individually or in groups)
- Problem solving
- Studying and memorization
- Planning
- Researching and consolidating information from multiple sources
- Presenting information
- Gaining insight on complex subjects
- Jogging your creativity

It is hard to make justice to the number of uses mind maps can have – the truth is that they can help clarify your thinking in pretty much anything, in many different contexts: personal, family, educational or business. Planning you day or planning your life, summarizing a book, launching a project, planning and creating presentations, writing blog posts -well, you get the idea anything, really.

How to Draw a Mind Map

Drawing a mind map is as simple as 1-2-3:

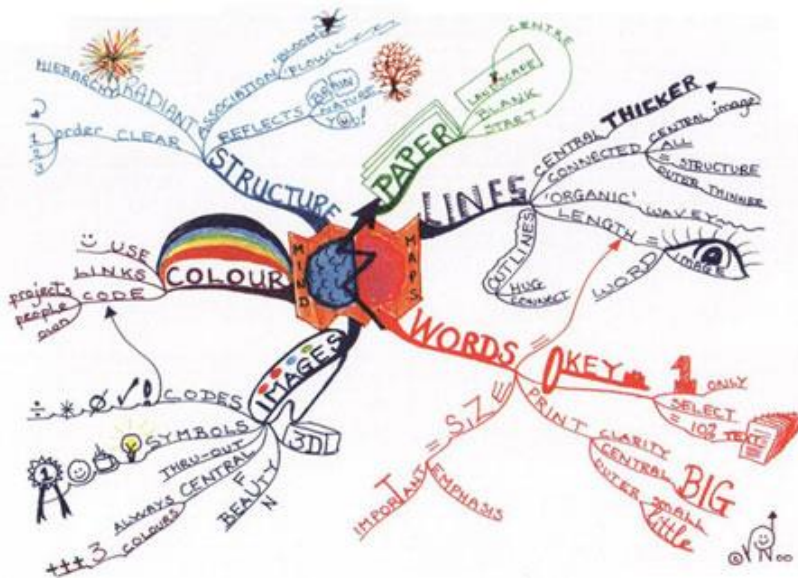
- **Start** in the middle of a blank page, writing or drawing the idea you intend to develop. I would suggest that you use the page in landscape orientation.
- **Develop** the related subtopics around this central topic, connecting each of them to the center with a line.
- **Repeat** the same process for the subtopics, generating lower-level subtopics as you see fit, connecting each of those to the corresponding subtopic.

Some more recommendations:

- **Use colors, drawings and symbols copiously.** Be as visual as you can, and your brain will thank you. I've met many people who don't even try, with the excuse they're "not artists". Don't let that keep you from trying it out!.

- **Keep the topics labels as short as possible**, keeping them to a single word – or, better yet, to only a picture. Especially in your first mind maps, the temptation to write a complete phrase is enormous, but always look for opportunities to shorten it to a single word or figure – your mind map will be much more effective that way.
- **Vary text size, color and alignment.** Vary the thickness and length of the lines. Provide as many visual cues as you can to emphasize important points. Every little bit helps engaging your brain.

Image of mind mapping



Advanced active learning method?

Advanced active learning formats are **designed to engage a student's critical thinking skills and apply previous and new knowledge to real-life scenarios**. They are processes designed for students to be responsible for their own learning with structured, and open-ended guidance from instructors.

Advanced Active Learning Strategies

What is it? Advanced active learning formats are designed to engage a student's critical thinking skills and apply previous and new knowledge to real-life scenarios. They still employ the critical elements associated with active learning “in doing things and thing about the things they are doing (reflection)” with more emphasis on the higher order learning

processes.¹ They are processes designed for students to be responsible for their own learning with structured, and open-ended guidance from instructors.

Why is it important? As you learned during the 5-minute Faculty Development Session on “Encouraging Classroom Participation”, active learning involves student development of critical thinking and problem solving skills. More advanced engaged learning activities that require additional planning by the instructor are case-based learning, team-based learning or problem-based learning. Students continue to fail in their ability to demonstrate complex thinking skills because their educational experiences have provided little support for development of these skills for maximal performance. Multiple teaching styles exist to encourage students to apply critical thinking skills to open-ended problems utilizing multiple points of view.

How do I do it? The traditional model of students as passive recipients of learning has been shown to be inadequate to foster a student's understanding and enhance a student's interest. As student's become active learners, faculty become active teachers. A teacher's responsibility moves beyond providing a didactic lecture and more towards encouraging students to be more independent after providing a conducive, team-based learning environment

Case-based learning Three-part case based learning, or scenario-based story, helps students develop a deeper understanding of the material. The instructor is responsible for creating a complex and engaging scenario or case which parallels the concepts of the lesson. Student may be additionally directed using guided questions however; students will use critical thinking skills to dissect the scenario while communicating and collaborating as a group. Using this technique, students are presented with real-life scenarios that are multi-faceted. Though these are often clinical scenarios, case based learning can be used in basic science courses to portray foundational knowledge that is applicable to clinical practice adding relevance to the material.

Team-based learning (TBL) This approach utilizes student-student interaction in small teams to develop critical, practical, and creative teaching in their courses. Students assume the role of being inquirers and faculty burnout is decreased with increased student responsibility and student engagement. Key characteristics of TBL include the creation of heterogeneous work groups, a readiness