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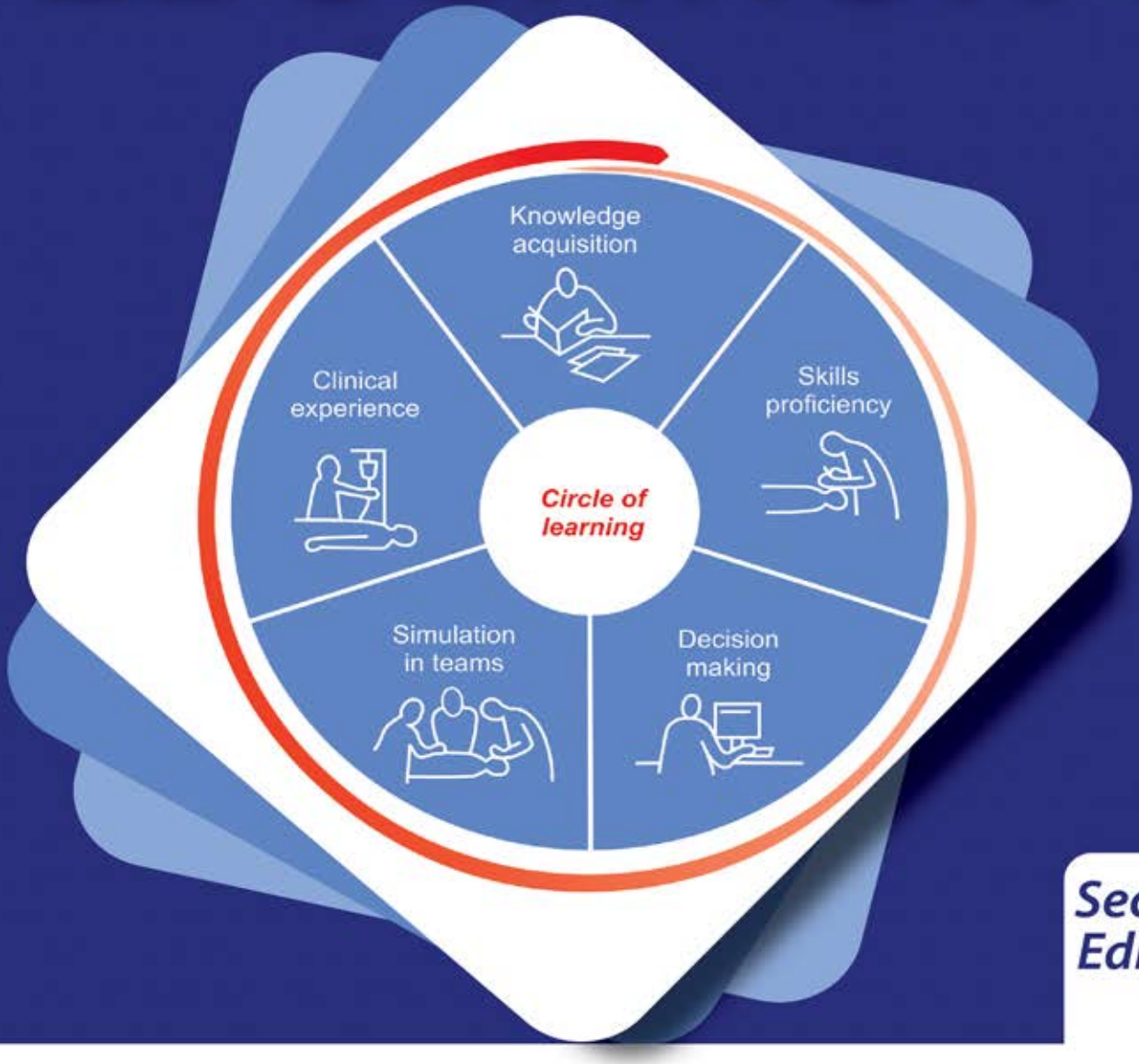
Comprehensive Textbook of NURSING EDUCATION



Second Edition

Jaspreet Kaur Sodhi

JAYPEE

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3 CHAPTER Teaching-Learning Methods

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- Guidelines for the Selection and Practice of Teaching-Learning Methods
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    - Case Study
    - Case Presentation
    - Brainstorming
    - Process Recording
    - Health Talk
    - Nursing Clinical Shift Reports
    - Concept Mapping
    - Field Trip
    - Gaming

'Learning is a treasure that will follow its owner everywhere'.

—Chinese proverb

INTRODUCTION

Teaching is a complex process intended to facilitate learning. Teaching methods refer to the orderly, logical course of action taken to accomplish a particular educational goal. The actual selection and use of a particular method or strategy should be based on expected outcomes, principles of learning and learner needs. The goal of teaching is to lead students in discovering knowledge for themselves and the teacher encourages this discovery through deliberate teaching actions that lead in that direction. A teaching-learning method will help the teacher to conduct teaching in an agreeable, student-friendly and successful manner by initiating and maintaining link between the subject matter and the student. A method is essential for the constructions and organization of knowledge. Critical thinking is essential to a teaching method.

DALE'S CONE OF EXPERIENCE

The Cone of Experience was introduced by Edgar Dale (1946) to demonstrate a progression from direct, first-hand experience to pictorial representation and on to purely abstract, symbolic expression. The Cone of Experience complements with three major modes of learning—direct experience, pictorial experience, and symbolic/highly abstract experience. It is a visual model composed of eleven (11) stages starting from concrete experiences at the bottom of the cone then it becomes more and more abstract as it reach the peak of the cone **(Fig. 3.1)**.

GUIDELINES FOR THE SELECTION AND PRACTICE OF TEACHING-LEARNING METHODS

Selection of appropriate teaching-learning methods requires critical thinking and decision making. Even though some guidelines are synonymous with the principles or maxims of teaching, the below mentioned guidelines will assist the teacher in the selection of fruitful teaching-learning methods.

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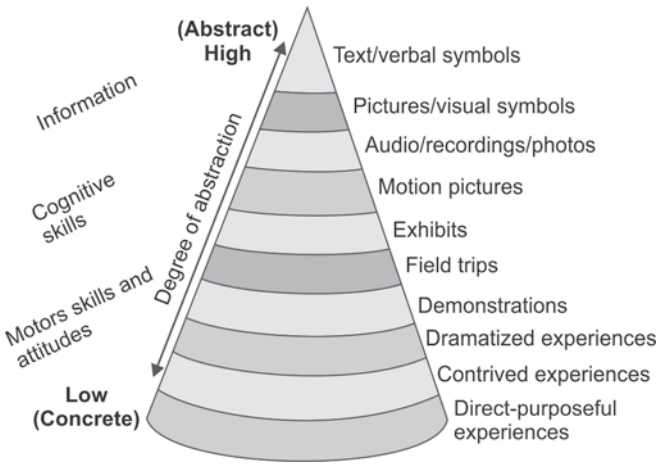


Fig. 3.1: Dale's Cone of Experience.

- *Method should be suited to objectives and contents of the subject matter:* Objectives and content play a major role in the selection of teaching-learning method. An intelligent teacher can very easily identify the suitable method by verifying the objectives and content.
- *Method should suit to the level of students:* Teacher has to consider the psychological status, receptiveness, intelligent maturity and previous knowledge of students while selecting the method of teaching.
- *Method should be based on sound psychological principles:* Methods with a psychological basis will make the teaching more rewarding and student centered.
- *Method should be used creatively:* It is not a must that the teacher should follow only the conventional methods of teaching. Without violating the fundamental aspects of teaching, a talented teacher can create new teaching methods by utilizing the technological developments in the field of communication and information technology.
- *Method should suit to teacher's style:* Teacher's style in teaching is an outgrowth of teacher's personality and character. Style is much more than exhibiting certain skills and behavior pertaining to good teaching.
- *Teacher has to rely on his or her strength or assets while selecting methods:* As innovations are occurring on a regular basis, there is no difficulty in modifying the existing teaching methods or devising a new one. A teacher, who is excellent in a handful of teaching methods, need not be worried about his or her weakness in dealing with a particular method.
- *Methods should address the challenges:* Major challenges usually faced by the teacher in the selection of teaching methods includes maintain a quality of teaching and learning and reduce the cost of instructions and responding to technological development in communication and information technology.

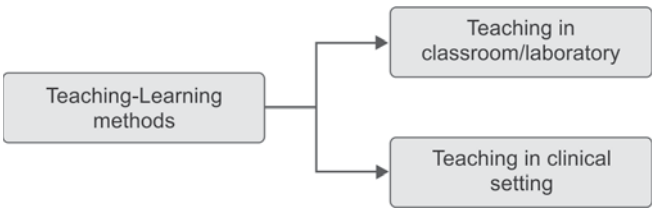
CLASSIFICATION OF TEACHING-LEARNING METHODS

a. Based on the degree of dominance enjoyed by the teacher or learner in the teaching learning process, teaching methods can be classified into:
   i. Teacher centered and
   ii. Learner centered methods:
      - In teacher centered methods, teacher plays an active role and student's role is minimized to a passive listener, on the contrary, in the learner centered methods, learners actively participate in the teaching-learning process. These methods include lecture, demonstration, bedside clinic, etc.
      - Learner centered methods include free group discussions, care plan, case study, return demonstration, role play, project work, self-learning methods, etc. with some conscious efforts and by the effective use of teaching aids, a talented teacher can easily transform a teacher centered method into a more admirable learner centered methods.

b. Classification of method of teaching:
   - *Inspirational methods:* Based on high activity on the part of the teacher, e.g., simulation and microteaching.
   - *Expository methods:* Cognitive emphasis is high, while student activity and emphasis on experience is low, e.g. lecture method.
   - *Natural learning:* Learning takes place in a natural way, e.g. field trips.

c. Classification based on mode of teaching:
   - *Didactic (direct teaching):* Verbal and typically in the form of a lecture or presentation.
   - *Modeling (direct teaching):* Visual and typically in the form of demonstration and practice.
   - *Managerial (indirect or interactive teaching):* Facilitation, individualization, and group management.
   - *Dialogic (indirect interactive teaching):* Socratic technique of dialogue, questions, and thought provocations.

d. Classification based on setting:



Teaching in classroom/ laboratory	*Teaching in clinical setting*
➢ Lecture Method	➢ Bedside Clinic
➢ Demonstration	➢ Nursing Rounds
➢ Simulation	➢ Clinical Conference
➢ Laboratory Method	➢ Ward Teachings
➢ Problem-Solving Method	➢ Case Study
➢ Group Discussion	➢ Case Presentation
➢ Role Play	➢ Brainstorming
➢ Panel Discussion	➢ Process Recording
➢ Seminar	➢ Role Play
➢ Symposium	➢ Health Talk
➢ Workshop	➢ Concept Mapping
➢ Exhibitions	➢ Field Trip
➢ Programmed Instruction	➢ Gaming
➢ Computer-Assisted Instruction	
➢ Computer-Assisted Learning	
➢ Microteaching	
➢ Project Method	

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Methods of Teaching in Classroom/Laboratory

Lecture Method

'To lecture well, that is with profit to your listeners and without boring them, requires not talent alone but experience and skill.'

—Anton Chekhov in 'dull story'

Introduction

Lecture method is the oldest method of teaching based on the philosophy of idealism and is an autocratic style of teaching. The lecture method is most widely used form of presentation. In this method, the teacher is more active while students are passive listeners. This method is centered on the presentation of content and does not consider the learner's abilities, interests and personality. The purpose of this method is to achieve cognitive and affective objectives. The main focus of this method is on the presentation of content as a whole. The teacher talks continuously to the class and students learn better through listening.

Definition of lecture method

- Lecture method is the teaching procedure comprising the presentation of content, clarification of doubts and explanation of facts, principles and relationships.
- The lecture is defined as the method of instruction in which the instructor has full responsible for presenting facts and principles orally.
- Lecture method is a teaching method in which information is presented orally to a class with a minimal amount of class participation.
- Lecture is when an instructor is the central focus of information transfer. Typically, an instructor will stand before a class and present information for the students to learn. Usually, very little exchange occurs between the instructor and the students during a lecture.

  —Carter Good's Dictionary
- Lecture method can be defined as an instructional procedure by which the lecturer seeks to create interest, influence, stimulate and mold opinion, to promote activity, to impart information or to develop critical thinking, largely by the use of the verbal message, with a minimum of class participation, illustrations, maps, charts or other visual aids may be employed to supplement the oral technique.
- The lecture method refers to the teaching procedure involved in clarification or explanation of the students on some major idea.
- Lecture can be defined as an educational presentation usually delivered by an instructor to a group of students with the use of instructional aids and training devices. Lectures are useful for the presentation of new material, summarizing ideas, and showing relationships between theory and practice.

Domains of lecture method

- *Objectives:* To achieve the cognitive and affective objectives.
- *Activities:* Knowing and telling.
- *Nature of content:* It includes concept, facts, rules, principles, theories, problem-solving and creativity.

Purposes of the lecture method

The main purposes of the lecture method are:

- Stimulate thinking in students.
- Develop concentration in students.
- Achieve a very high order of cognitive objectives.
- Influence learners to inculcate the habits of listening and learning.
- Introduce new content in the classroom.
- Correlate subjects with other subjects.
- Develop problem-solving on a factual basis.

The plan or structure of the lecture method

A lecture has three parts that should receive proper attention while preparing the text of the lecture. These are:

1. Introduction
2. Body of the text
3. Closure or conclusion of the lecture.

Introduction to the lecture

The first few words of the lecture should grip the audience, arouse their curiosity and get their undivided attention. The first impression of the lecturer created by this goes a long way in assuring the active listening by the audience. There are variety of ways to open the talk. Introduce the subjects in such a way, that it catches the attention of the audience immediately, creating curiosity about what's going to follow next. It usually lasts 3–5 minutes.

The teacher should provide a general idea and framework for the lecture's content in this stage so that students get familiar with the ongoing topic. It helps the teacher capture the student's attention and stimulate their interest. During the introduction of the lecture, the teacher must ensure the following:

- The teacher should establish good rapport with students. The teacher's tactics and personality should generate interest in students. Establishing friendly communication to provide a positive learning so that students feel comfortable is important.
- In the first meeting with students, teachers should introduce themselves by using an 'ice breaker' and maintain a consistent and affectionate relationship with students so that the students feel comfortable while approaching the teacher.
- Teachers should assess the student's pre-existing knowledge. They should not simply announce the topic. To maintain interest, teachers should disclose the topic in the form of a story, situation or picture or question. For example, a nurse educator may begin a lecture on ventilators by showing pictures of patients on ventilator in the ICU.
- The teacher should relate the student's goals and interest with the topic of lecture. A lecture may also be introduced by describing how it will help the students succeed in their education and career.
- The teacher should clarify the objectives and purposes of a lecture and describe how it is organized.

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- The teacher should introduce the topic by raising some related issues for student participation.

The body of the lecture

The body of the lecture covers the content in an organized way. Since this component is allotted the greatest amount of time in a classroom, it includes many more teaching procedures than in introduction and conclusion. The body lays emphasis on the presentation of the content. The teacher is more active, while students are relatively passive participants. The teacher uses question-answer techniques to keep students attentive in class. Teacher controls and plans all student activities. The teacher generally uses maxims of teaching to make the students understand the concept using various examples, situations, etc.

The steady sequence of ideas should present the theme of the lecture in a coherent manner.

Ruth M Beard (1968) has shown that the maximum attention is obtained from the audience in the first 20 minutes of a longer lecture.

Conclusion

Conclusion helps the teacher summarize and re-emphasize the key points of the lecture and also get feedback from the students. The teacher can motivate the students to ask questions by focusing their mind to specific points. Students can also clarify their doubts and raise questions at this stage.

Factors in planning the lecture

Related to students

Learner's.....

- Capability and ability
- Interest and attitude
- Cognitive level
- Previous knowledge
- Type of programs, e.g. ANM, GNM, BSc (N), and MSc (N), etc.

Related to teacher

Teacher's....

- Knowledge and mastery over the subject matter
- Teaching tactics include voice, gestures, eye contact and manners
- Teacher-learner relationship
- Preparation of lecture before presentation
- Purpose or reason to be taught

Related to environment

- Time of the day, e.g., morning lecture seems superior to afternoon lectures for recall information
- Duration and length, i.e., lecture more than 40 minutes can reduce the absorption and assimilation power of students
- Use of audiovisual aids
- Good light facility.

Lecture delivery

Nonverbal behaviors play a significant role in effective public speaking: They can enrich or elaborate the spoken message. There are basically two aspects to nonverbal behavior: Body language and voice.

The following four elements make up body language:

1. *Speaker audience distance:* More the distance (psychological as well as physical) between speaker and audience, the more formal the atmosphere. If you desire to create a more informal atmosphere, you should reduce these barriers. It is better if you move from behind the dais from time to time and walk in the aisles as you present information or carry on discussions with the students.
2. *Body movement and distance:* To communicate, you must compensate for distance by employing larger gestures and more volume. Body movement and posture can convey messages to your audience. For example, slouching communicates disinterest or boredom, facing aimlessly with head down indicates nervousness and standing stiffly indicates tenseness. Being animated during your lecture helps convey your own enthusiasms and interest to students; they recognize that you are not bored, nervous or tense.
3. *Facial expressions:* A significant portion of the emotional impact of a speaker's message is conveyed by facial expressions. Facial expressions tell students how you feel about them and yourself and give students cues to help them interpret the content of the message. Regular eye contact helps you establish credibility. Look directly at different individuals as though you are carrying on a conversation with them.
4. *Gestures:* Purposeful movements of the head, arms, hands and shoulders accentuate or dramatize ideas. Three characteristics of effective gestures include relaxation, vigor, and timing. Use your body to indicate a change of topic or transition.

Voice variables allow the speaker to make a message clear and interesting. Some of the vocal characteristics of good speaking are as follows:

- *Strength:* Speak loudly enough so that the audience does not have to strain to hear.
- *Enunciation:* Make an effort to speak crisply, avoiding slurring or skipping parts of words in order to limit the possibility of misunderstanding.
- *Pronunciation:* Meet your audience's expectations in regard to acceptable pronunciation.
- *Rate of speech:* In a large lecture, with students concentrating on note taking, a rate of 120–130 words per minute is comfortable.
- *Variety:* Vary the characteristics of your voice in terms of rate, pitch, stress, pauses, volume and inflection.
- *Pauses:* Pauses can provide emphasis and allow students time to think and take notes. Furthermore, pausing indicates that you are a conscientious speaker who thinks about what you are going to say. However, filling in pauses with sounds like 'um', 'ah', 'well-uh' make a presentation seem disconnected and can be distracting.

Additional hints for a successful lecture include the following:

- Present an outline of the lecture (use the blackboard, overhead transparency or handout) and refer to it as you move from point to point.

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- Repeat points in several different ways. Include examples and concrete ideas.
- Use short sentences.
- Stress important points (through your tone or explicit comments).
- Pause to give listeners time to think and write.
- Use lectures to complement, not simply repeat, the text.
- Learn student's names and make contact with them during the lecture.
- Avoid racing through the last part of the lecture. This is a common error made by instructors wishing to cram too much information into the allotted time.
- Schedule time for discussion in the same or separate class periods as the lecture.
- Prepare. Preparation reduces stress, frustration, insecurity and consequent ineffectiveness.

Advantages of the lecture method

- *Factual information:* Factual material is presented in a direct, logical manner.
- *Useful for large gathering:* With lecture method it is possible to communicate a large amount of information to many listeners.
- *Cost effective:* It is one of the reason why the lecture has retained its dominant place in the educational and training scene is that the method appears to be highly cost-effective, since it enables high student/staff ratios to be achieved. May provide experiences that inspire useful for large groups.
- *Quick and straightforward way:* Lectures are a straightforward way to impart knowledge to students quickly.
- *Great control:* Instructors also have a greater control over what is being taught in the classroom because they are the sole source of information.
- *Useful methods for auditory learner:* Students who are auditory learners find that lectures appeal to their learning style.
- *Easier to create:* Logistically, a lecture is often easier to create than other methods of instruction.
- *Familiar method:* Lecture is a method familiar to most teachers because it was typically the way they were taught.
- *Time saving:* The lesson can be taught in short time as there is no student activity, discussion or demonstration.

Disadvantages of the lecture method

- *Content or subject centered:* It center round the content or subject matter. It pays little or almost no attention to needs, interest and abilities of students.
- *One sided affair:* Communication is one way. Here the teacher talks and students listen or are made to sit before the teacher with or without their attention or interest.
- *Need proficient oral skills:* Teacher need special oral skills in delivering lecture. If they do not have this skill then lecture become boring, tiresome and uninteresting.
- *Passive audience:* As there is less or almost no involvement of students so they are at passive side.
- Minimizes feedback from students.
- No place for any practical activity, observation experimentation and demonstration.
- *Failure with the student of lower class:* Not appropriate for children below grade 4.
- *Group strategy:* It is group strategy, no scope for meeting the requirement of individual learner.
- *Leaves gaps in understanding:* Often disengages students from the learning process causing information to be quickly forgotten.

Conclusion

Therefore with its entire limitations one should make each lecture, lively, educative, creative, thought provoking, understandable, relevant and enjoyable while disseminating information.

Demonstration

'Knowledge advances NOT by repeating known facts, but by refuting false dogmas.'

—Karl Popper

Introduction

The dictionary meaning of the word "Demonstration" is the outward showing of a feeling, etc., a description and explanation by experiment; so also logically to prove the truth; or use the demonstration to teach the skills. This method of teaching is based on the simple, yet sound principal that we learn by doing. Students learn physical or mental skills by actually performing those skills under supervision.

Demonstration is a method of presentation of skills in which it is illustrated and shown how a particular skill or procedure is performed. The demonstration method is based on the principle of "Learning by Doing". This method is recommended for teaching skill because it covers all the necessary steps in systematic and an effective learning order.

In nursing education demonstration method is very useful and relevant. Demonstration is a method of teaching by performance, exhibition and explanation combined to illustrate a procedure (or) experiment. It trains the student in the area of careful observation, a quality, which is essential for every nurse. Hence, it is considered to be one of the best methods for teaching skills in nursing and health-related education.

Definition

Demonstration is defined as visualized explanation of facts, concepts and procedures. Demonstration implies the presentation of a prearranged series of events or equipment to a group of students for their observation. This is accompanied by explanatory remarks. Demonstrating is the process of teaching through examples (or) experiments.

Purposes

The demonstration method of teaching can be used to serve the following purposes:

- To carry out experiments related to nursing practical.
- To teach nursing procedure in the classroom and clinical settings.

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- To equip the patients and family members with skills to provide health related self-care.
- To enable establishment of effective nurse-patient relationship.
- To show the learner 'how' to perform certain psychomotor skill. Here the learner must reproduce exactly the behavior of demonstration.
- To show the learner 'why' certain things occur. Here the behavior is intended only as a strategy to aid the learners to understand concepts and principles.
- A demonstration is useful either by itself or to accompany a formal lecture or informal talk in the classroom, a laboratory or clinical area.
- In respect of a procedure in which the student needs to gain a degree or skills, she should be asked to make a return demonstration which should be followed by opportunities for practice.
- Demonstration by teacher alone should be carried only where the procedure is not one that the student has to master or when the time which it would take for the return demonstration is out of proportion to its value.
- One of the important methods to teach nursing. In nursing, it is used for the purposes and also for clinics, conferences, laboratory classes, symposium, autopsies and teaching or health to patients obviously, this method is of utmost importance in teaching of nursing.

Characteristics of demonstration

- The demonstrator should understand the entire procedure before attempting to perform.
- All equipments needed should be assembled and pretested before demonstration.
- Knowledge (theoretical aspects) about the procedure should be given to the students, before starting procedure/demonstration.
- A positive approach should be used.
- Everybody should have a good view of the demonstration.
- The person in charge of the demonstration should accompany it with running comments related to materials used, amounts necessary, process taking place, and anticipated results.
- The setting for the demonstration should be as true to life as possible, wherever possible.
- A discussion period should always follow the demonstration.
- The students should be provided with the opportunities for prompt practice of the procedure (demonstration).

Preparation and performance

Planning and preparation

- Plan all activities related to demonstration.
- State the objectives to the learner.
- The entire group, maximum of 15 students need to be in a single row so that the procedure can be viewed clearly.
- It should be planned and rehearsed by the teacher beforehand.
- The apparatus/articles used for demonstration should be big enough to be seen by the whole class. If the class is disciplined, she may allow them to sit on the benches to give them a better view.
- Adequate lighting arrangements be made on demonstration table and a proper background table should be provided.
- All the pieces of apparatus are placed in order before starting the demonstration.
- The apparatus likely to be used should be placed in the left hand side of the table and it should be arranged in the same order in which it is likely to be used.
- Before actually starting the demonstration a clear statement about the purpose of demonstration should be made to the students.
- Ensure that all the equipment, illustrations and other relevant material are procured in time and kept ready before the demonstration begins.
- The procedure to be demonstrated should be in steps so that it can be easily understood by the students.

Performance

- Proceed with the demonstration slowly, so that all the students may grasp the details.
- Whenever possible involve the students in demonstration.
- Make sure, after every step whether the students have grasped the meaning, contents and explanation. Repeat it if they have not followed it.
- Give suitable verbal explanation for heightening the interest of the student.
- Encourage students to analyze, record and tabulate the results of their observation.
- Make an assignment based on the demonstration.
- The teacher should make sure that the demonstration lecture method leads to active participation of the students in the process of teaching.
- The demonstration should be quick and slick, and should not appear to linger on unnecessarily.
- It would be better if the teacher demonstrated with materials or things the children handle in everyday life.
- For active participation of students, the teacher may call individual students in turn to help him with the demonstration.
- The teacher should write the summary of the principles arrived at as a result of the demonstration, on the black-board.
- The black-board can also be used for drawing.

Evaluation

- Evaluate through return demonstration by observing students (or) trainees. Good and effective demonstration will result in good feedback of return demonstration.
- This is done by taking return demonstration and comparing steps of the procedure with planned set criteria of the procedure.
- As the teacher receives feedback from the students, the goals can be established for improving skills.
- Strengthen positive behavior and elimination of limitations.

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Guidelines of return demonstration

- Teacher should remain silent and should offer cues, when required.
- Breaking steps of procedure and doing will produce good re-demo.
- Practice should be supervised by the teacher.
- Return demo should be planned close to the demonstration class.
- Teacher should encourage students, which improves psychomotor skills. These are some of the requirements of good demonstrations.

Phases of demonstration method

- *Explanation Phase:* Explanation must be clear, pertaining to the objectives of the particular lesson to be presented and based on the known experiences and knowledge of the students. In teaching, the instructor must convey to the students the precise actions they are to perform. In addition to the necessary steps, the instructor should describe the end results of these efforts. Before leaving this phase, the instructor should encourage students to ask questions about any step of the procedure that they do not understand.
- *Demonstration Phase:* The instructor must show the students the actions necessary to perform a skill. As little extraneous activity as possible should be included in the demonstration, if students are to clearly understand that the instructor is accurately performing the actions previously explained. If, due to some unanticipated circumstances the demonstration does not closely conform to the explanation, this deviation should be immediately acknowledged and explained.
- *Student Performance Phase:* This phase requires students to act and do. To learn the skills, students must practice. It is important that the students must be given opportunities to perform the skills as soon as possible after a demonstration. Prior to termination of the performance phase, they should be allowed to independently complete the task atleast once, with supervision and coaching as necessary.
- *Evaluation Phase:* In this phase, the instructor judge's student's performance. The student displays whatever competence has been attained, and the instructor discovers just how well the skill has been learned. To test each student's ability to perform, the instructor requires students to work independently throughout this phase. The teacher determine the effectiveness of the instructions, by measuring student's achievement in this phase.

Ways to ensure effective use of demonstration

- Preparing beforehand the required material is necessary; selection of time and appropriate place also plays an important role.
- Practicing good communication skills and questioning techniques, answering all questions to clarify students' doubts; and closing in appropriate manner will result in good demonstration.
- Every step of a well-conducted demonstration should be shown properly giving explanation and rationale.
- The teacher should practice the entire procedure and should be skillful and confident before demonstrating the same.
- All equipment should be tested before the demonstration to ensure that they are in working condition and in order.
- It is better that the students and the teacher review the theory of sequence and steps of procedure in advance and have its knowledge.
- A positive approach should be applied, lay emphasis on 'What to do' sequel rather than 'What to avoid'.
- Every student should be able to watch all the steps of demonstration properly. Avoid over-crowding and congestion by keeping the size of group-viewers small.
- The verbal communication should synchronize with the steps of procedure. Keep the speech clear, audible and understandable.
- The setting of demonstration process should be true to life. Demonstration of nursing procedure should be done on a live model if possible.
- Discussion must follow demonstration. Use questions, recall summary, and take feedback.
- Allow students to practice the demonstration procedure. Return demonstration should be taken for all procedures from the students. All the return demonstrations must be supervised to ensure that the students are performing them effectively.

Uses of demonstration

- To demonstrate experiments and the use for experimental equipment in the science laboratory, medical, nursing, etc.
- To introduce a new procedure or to revise a procedure to meet a special situation.
- To teach the patient/client a procedure to treatment which he must carry out in the home.
- To demonstrate a procedure at the bedside or in the ward conference room, demonstration in a natural setting.
- To teach the use and care of new equipments.
- To teach health maintenance and preventive healthcare measure to patients and families.
- To teach ways of establishing effective nurse patient communications and interpersonal relationships.
- To teach application of observation techniques and skills to nursing situations.

Advantages of demonstration

- Demonstration enables the students to acquire first-hand information.
- It brings close relationship between theory and practice and helps to bridge this gap
- Activates several senses by 'hands on experience' thus providing better learning opportunity.
- It creates interest in the students as it gives them a better understanding.
- It makes the students familiar with the nature and use of apparatus.
- This method provides for coordination and develops psychomotor skills.

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- It activates several senses—increases learning because the more senses used, the opportunities for learning.
- It trains the students in the art of careful observation a quality which is so essential to good nurse.
- It is a method of self-learning through observation and it uses several of the senses.
- It provides opportunities for observational learning.
- The students not only hear the explanation, but also can see the procedure or process.
- It projects a mental image in the student's mind, which fortifies verbal knowledge.
- It clarifies the underlying principles of the procedure.
- It commands interest by the use of concrete illustrations.
- It gives the teacher an opportunity to evaluate the student's knowledge of procedure and to determine reteaching if necessary.
- It serves as strong motivational force, keeps the students active. The students have the opportunity to gain knowledge and apply it immediately.
- Return demonstration by the students under supervision of the teacher provides an opportunity for well-directed practice before the student must use the procedure on the ward.

Disadvantages of demonstration

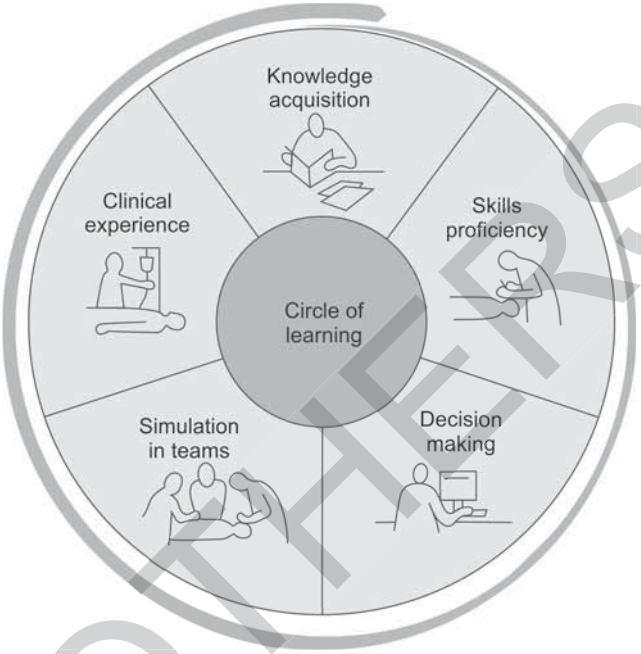
The demonstration strategy suffers from the following disadvantages:

- Number of students is limited
- Keeps the students in passive situation
- Offers little possibility of checking the learning process
- Does not allow for individual paces of learning
- High cost in personnel and time
- Difficulty in repeating demonstration in order to acquire competence

Common errors in using demonstration for teaching

- Equipment/Apparatus may not be ready for use or may not be working and may be out of order.
- There may not be an apparent relation between the demonstration experiment and the topic under discussion.
- The theory class may not have been taken, but the teacher demonstrates the procedure which results in difficulty with synthesis of information and lack of coordination.
- Teacher may not address the issue of individual differences among students.
- Teacher may be in a hurry to arrive at a generalization without allowing students to arrive at a generalization from facts.
- Teacher may talk too much or unnecessarily which will suppress the enthusiasm of the students.
- Teacher may fail to ask the right type of questions related to the procedure under demonstration.
- The group may be too large to see the demonstration of the procedure properly and grasp the steps.

Circle of learning



The Circle of Learning is a framework that identifies stages of learning in healthcare education and illustrates the process of going from theoretical knowledge to clinical practice. It consists of five steps:

1. **Knowledge acquisition** is the process of acquiring knowledge through textbooks, charts, anatomical models, etc.
2. **Skills proficiency** is the process of developing psychomotor skills through repetitive practice to master practical procedures typically using task trainers and simulators. Here, checklists and skills labs play an important role. Checklists ensure objective and standardized learning of skills. Demonstrations are used for skill proficiency.
3. **Critical thinking/decision making** is using problem-based learning/computer programs/case studies that provide intelligent feedback to develop critical thinking and decision-making skills.
4. **Simulation in teams** allows a group of students to practice and role play realistic scenarios to improve technical-critical thinking, physical skills and clinical decision-making skills and non-technical skills like communication, time-management during clinical care, leadership and teamwork. Students have the opportunity to apply their previous knowledge and skills attained in a classroom to real world situations which require making decisions that in many cases well before they experience it in their clinical practicum experiences.
5. **Clinical experience and practice** is learning through reflecting on the management of real patients, personal tuition, and exchange of knowledge with colleagues.

Simulation

Simulation is a step in the circle of learning that follows knowledge acquisition, skills proficiency and decision making

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learning. It is a technique, rather than just a technology that promotes experiential and reflective learning.

Definitions of simulation

- Simulation is the artificial representation of a complex real-world case with sufficient fidelity to facilitate learning through immersion, reflection, feedback, and practice without the risks inherent in a similar real-life experience.
- Simulations have been defined as an operating representation of central features of reality as an attempt to give appearance and/or to give the effect of something else. ***—Barton (1970)***
- Simulation is a method whereby an artificial or hypothetical experience is created that engages the learner in an activity that reflects real-life conditions but without risk-taking consequences of actual situations. ***—Rystedt and Lindstrom (2001)***
- Simulations are instructional scenarios where the learner is placed in a situation defined by the teacher. They represent a reality within which students interact. The teacher controls the parameters of this 'world' and uses it to achieve the desired instructional results. Students experience the reality of the scenario and gather meaning from it.
- A simulation is a form of experiential learning. It is a strategy that fits well with the principles of student centered and constructivist learning and teaching. Constructivist teaching is based on the belief that learning occurs as learners are actively involved in a process of meaning and knowledge construction as opposed to passively receiving information.
- Technology-enhanced simulation is often defined as an educational tool or device with which the learner physically interacts to mimic an aspect of clinical care for the purpose of teaching or assessment. It encompasses a broad range of diverse products like static and high-fidelity manikins, plastic models, computer-based virtual reality simulators, live animals, inert animal products and human cadavers.

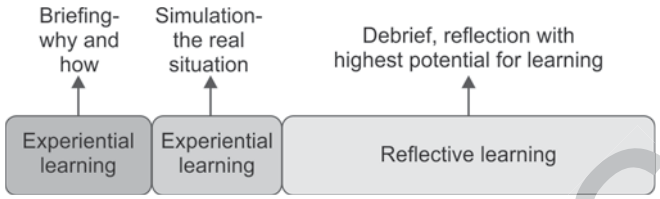
Purposes of simulation

- To help students practice decision-making and problem solving skills and to develop human interaction abilities in a controlled and safe-setting
- By means of active involvement in a simulation exercise, a game, or a role-playing situation, the student achieves cognitive, affective and psychomotor outcomes.
- Students have a chance to apply principles and theories they have learned and to see how and when these principles work

Stages of simulation

There are three stages of simulation namely:

1. Brief/Pre-brief
2. Scenario
3. Debrief



Brief/Pre-brief

Briefing is a foundational part of the simulation experience that helps to prepare and orient learners to the simulation experience. It promotes experiential learning. The pre-brief also introduces learners to the concept of simulation, orients them to the simulation environment, equipment, and embedded participants. The facilitator discloses learning objectives of the simulation scenario, establishing a fiction contract (expectation setting for performance) with learners, providing logistic details about the session, and pledging to respect the learners. It allows for confidentiality and create psychologically safe environment for the learners which will enable to optimize their experience in the simulation lab.

Scenario

A scenario is an outline or model of the simulated sequence of events that can be used for an exercise or to support scenario-based training. It can be written as a narrative or depicted by an event timeline. Simulation scenarios are designed to assess, educate, and help learners to self-identify gaps in their understanding of material or application of knowledge. It provides the context for the simulation based on actual or potential situations and includes the objectives, target population, description and progress of the situation, actions expected from the students.

Debriefing

"Debriefing is the heart and soul of simulation based training"

Post-event debriefings in healthcare are defined as an after-event discussion regarding performance and thought processes of the team during the scenario to promote reflective learning and improve clinical performance.

It is a facilitated or a guided reflection in the cycle of experiential learning. Debriefing should be based on the pre-set learning outcomes. 80% of learning take place in this phase. It should allow for progression through the identified phases of debrief—reaction, analysis and summary. A psychologically safe environment must be established in debriefing stage. It allows people to share and reflect their feelings, assumptions and opinions. This further helps in discussing difficult topics.



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Stages of debriefing		
Reactions	***Analysis***	***Summary***
Clear the air and guide the initial discussion	This is the bulk of the debrief. Spending time to understand "what happened and deeper meaning into why it happened"	Review what happened, what was discussed and try to apply it to the context
Questions like "So how did you feel this case went"	Try to understand the frame of mind of participants, their mental models	You could say something like "Let us identify some take home points from this case for future practices"

Goals of the Debrief

- To enable the participants to become aware of their reactions during a crisis
- To help them develop tools for evaluating and analyzing their reactions
- To effect a positive change in their behavior.

Advantages of Debriefing

- Clarify learning points
- Introduce key issues to participants for further dialogue
- Insight into strategies and processes that lead to good results, not just results themselves
- Participants can begin to develop their own evaluative skills for future critical events.

Role of the teacher in simulation

The teacher has an important role to organize session for students on pertinent skill to be learnt through simulation:

- *Planning*: It begins with choosing or developing an appropriate simulation that will meet course objectives. Textbooks or library books should be pointed out to students so that they can prepare for the simulation. Teacher is also responsible for preparing the environment. When planning a simulation it is very important if the learning experience is made to resemble real life as much as possible but in a non-threatening way. The activity should challenge the decision-making ability of the learner. This can be done by the imposition of:
  - Time constraints
  - Provision of realistic levels of tension
  - Use of actual equipment or other important features in the environment in which the specific skills will be performed.
- *Facilitating*: After introducing the activity the teacher may take a backseat but she must be vigilant and alert to guide the students who are trying to find their way through a difficult problem and encourage creative thinking and act as an information resource or a facilitator.

Characteristics of simulations

- Mirror real situations while providing control over extraneous variables that might interfere with learning.
- Provide a mix of experiences that can be replicated for successive learners.
- Provide a safe environment in which learning has priority over patient care or system demands.
- Focus on application rather than uncertain recall of knowledge.
- Provide immediate feedback on performance.

Uses of simulation

Simulation in healthcare offers many benefits:

- Simulations are used to synthesize cognitive, psychomotor and or affective content in the analysis and solution of real life problems.
- Simulations provide opportunities for the practice of problem-solving and decision-making as well as psychomotor and interactive skills, within a controlled, low-risk setting.
- A wide variety of clinical conditions can be simulated in controlled environments to produce standardized experiences. With simulation, students and providers can gain experience with various types of patients and cases they may not often encounter during their rotations and shifts. This is particularly significant for training to manage emergency situations.
- Simulation technique can be used to achieve many learning objectives.
- Simulation can help nursing students gain skill in applying the nursing process.
- Learn to solve problems efficiently with minimal wasting of time and resources.
- In the acquisition of communication skills, e.g. students can put themselves in the shoes of others (patients, families, coworkers, supervisor, and physicians) and learn something about these people's feelings and how to interact effectively with them. They get immediate feedback about how they effect other people learning communication.
- Decision making skills can be fostered via simulation, e.g. if the results are undesirable, one can back track and look at the factors that led them to a poor decision. The instructor and classmates (if a group is involved) can help the students to gain insight.
- Simulation technique can be applied to the learning of psychomotor skills, e.g. when students practice skills in college lab using mannequins and hospital type equipment, they are involved in a patient care simulation.
- According to Hertel and Millis, 2002; Simulation allows faculty members to take specific information—such as a client's personal characteristics; health information; family components; and physical, mental, and emotional state—and weave it into a real-life scenario that enhances a student's comprehension of the material because it is meaningful.
- Used to evaluate the student learning and competence, e.g., written exams have been developed in a simulation format to test the application of knowledge.

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