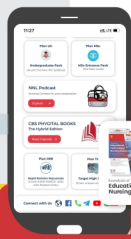


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# Essentials of **Educational Technology/ Nursing Education**

## for BSc Nursing Students

*As per the Revised INC Syllabus (2021-22) for BSc Nursing*

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- Thoroughly revised and updated edition conforming to the latest INC syllabus
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**L Gopichandran  
C Kanniammal**

# Essentials of **Educational Technology/ Nursing Education** for BSc Nursing Students

*As per the Revised INC Syllabus (2021-22) for BSc Nursing*



■ **Third Edition** ■

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Essentials of

# Educational Technology/ Nursing Education

for BSc Nursing Students

*As per the Revised INC Syllabus (2021-22) for BSc Nursing*

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*For glorifying the role of women as nurses,  
For holding the title of “The Lady with the Lamp,”  
For working tirelessly for humanity—  
Florence Nightingale will always be  
remembered for her  
selfless and memorable services to the  
human race.*



**Florence Nightingale**  
**(May 1820 – August 1910)**







## *Dedication*

*Dedicated to our families, students and nursing fraternity  
whose unconditional love and belief in our capabilities provided us  
moral support to complete this book.*

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# Preface to the Third Edition

*“Good Teacher Explains  
Superior Teacher Illustrates  
Exceptional Teacher Inspires.”*

*“Harmonious Development of the Head, Hand and Heart is the Mark of a Model Man”*

— **Swami Vivekananda**

It's an undisputed fact that nursing is a noble profession. Educating the student nurses as well as practicing nurses so that they could take up the responsibility of keeping our society hale and hearty, is undoubtedly an honorable and inspiring duty.

As nurse educators, we have dual ethical obligations: Firstly, to the society which expects us to prepare competent nurses, and secondly, to the students under our care and guidance. This dual commitment leads to many ethical dilemmas among educators.

As nurse educators, we also face different challenges while journeying with the students through the road toward positive and successful learning outcome that we would like to see in them. To overcome these challenges, we need to train our teachers not only as sole experts of content, but also as educators who bring necessary behavioral modification in students, who eventually have to serve the society.

There is also tremendous growth in healthcare techniques and communication-education technology as the world has become increasingly interconnected and technologically advanced. This scenario has inspired and motivated the student nurses, practicing nurses and nurse educators to keep themselves abreast of this dynamic teaching-learning process.

Thus, it is essential for the student nurses, nurses and nurse educators to be conversant with the essentials of communication and education technology to practice as the best teachers who can inspire their learners to serve the society selflessly. Hence, practicing the right techniques of education become imperative to equip our nurses with right knowledge, attitude and skills and make them adroit communicators.

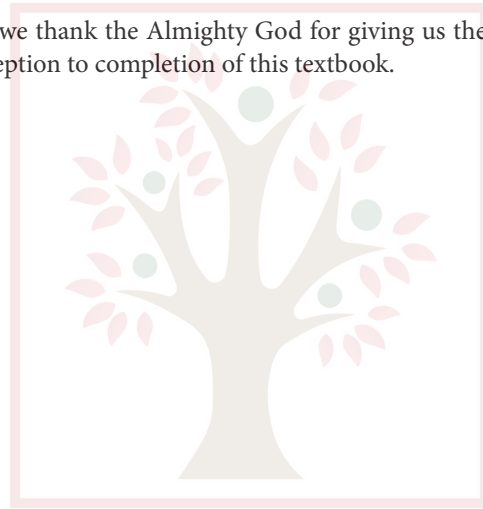
Keeping this responsibility in mind, we have modified and added value to this third edition of *Essentials of Educational Technology/Nursing Education for BSc Nursing Students* (as per the Revised INC Syllabus). Now, it is enriched with remarkable contributions from experts and resource persons as well as contributors from various parts of the country. It was a quite amazing learning experience for us while designing and establishing this book in such a way that it proves a panacea for the users.

This textbook now in its third edition conforms to the revised INC syllabus. The text is arranged in **eight chapters** in a well-organized manner with attractive illustrations. The layout of the textbook is planned in such a way that any user will find it very useful and productive. To facilitate self-learning, each chapter is featured with chapter outline, examples and different types of assessment questions. In this textbook, we have incorporated the evidence-based practices and expert insights in the fields of communication, educational technology and nursing education.

We hope that this book will foster enthusiasm, inspire and empower the student nurses and meet the needs of student nurses and professional nurses in their life-long teaching-learning process. This book has been developed with utmost care in order to serve as a guide for both undergraduate and postgraduate nursing students. This book provides integration of foundational concepts with advanced concepts by incorporating evidence-based practice with advanced theoretical perspectives in nursing education.

We are grateful to the contributors for their hard work and highly useful contributions which have enhanced the quality of this book for sure. We also thank reviewers for their suggestions to refine the content matter.

Last but not least, we thank the Almighty God for giving us the wisdom, knowledge, skills and strength from the inception to completion of this textbook.



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**L Gopichandran**  
**C Kanniammal**



# Preface to the First Edition

*“Good Teacher Explains  
Superior Teacher Illustrates  
Exceptional Teacher Inspires.”*

*“Harmonious Development of the Head, Hand and Heart is the Mark of a Model Man”*

— **Swami Vivekananda**

Nursing is a noble profession and educating the student nurses and nurses to take up the responsibility to positive health outcome of the society is an honorable and inspiring task.

As nurse educators, we have dual ethical obligations: Firstly, to the society which expects us to prepare competent nurses and secondly to the students under our care. This dual commitment leads to many ethical dilemmas among educators.

As nurse educators, we also face different challenges while journeying with the students through the road toward positive and successful learning outcome that we would like to see in the nurse, if we are sick.

To overcome these situations, we need to train our teachers not just as sole experts in content, but also as educators who bring necessary behavioral modification in students who eventually have to serve the society as healthcare experts.

There is also tremendous growths in healthcare techniques and communication-education technology, which enforce the student nurses, nurses and nurse educators to continue the journey of life-long teaching-learning process. Thus, it is essential for the student nurses, nurses and nurse educators to be conversant with the essentials of communication and education technology to practice as the best teachers who can inspire their learners to serve the society efficiently and effectively. Hence, practicing the right techniques of education becomes imperative to equip our nurses with right knowledge, attitude and skills.

Keeping this fact in mind, we introduce this book on “*Essentials of Communication and Education Technology*” for BSc Nursing, *1st edition* which is enriched with remarkable contributions from experts or resource persons or contributors from various parts of the country. It was a real learning experience for us while establishing this book in such a way that it reaches the users in its real spirit.

This textbook is designed as per the INC syllabus. The text is arranged in nine chapters in a well-organized manner. The layout of the textbook is planned in such a way that readers will find it very useful and productive. To facilitate self-learning, each chapter is featured with chapter outline, examples and different types of assessment questions. We hope that this book will foster enthusiasm and meet the needs of student nurses and professional nurses in their life-long teaching-learning process.

We are grateful to the contributors for their hard work and valuable contributions that enhanced the quality of this book. We also thank reviewers for their suggestions to refine the content matter.

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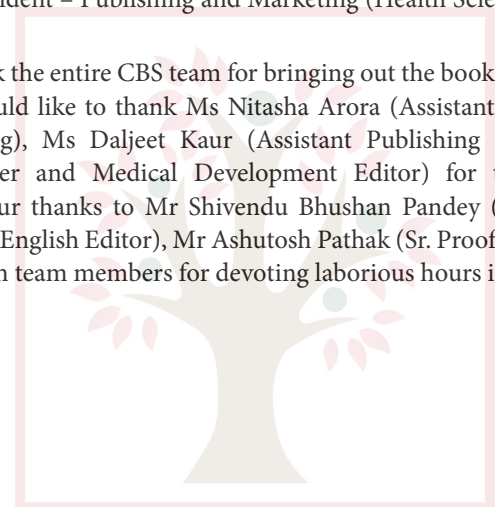
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We sincerely thank the entire CBS team for bringing out the book with utmost care and attractive presentation. We would like to thank Ms Nitasha Arora (Assistant General Manager Publishing–Medical and Nursing), Ms Daljeet Kaur (Assistant Publishing Manager) and Dr Anju Dhir (Sr. Product Manager and Medical Development Editor) for their publishing support. We would also extend our thanks to Mr Shivendu Bhushan Pandey (Sr. Manager and Team Lead), Ms Surbhi Gupta (Sr. English Editor), Mr Ashutosh Pathak (Sr. Proofreader cum Team Coordinator) and all the production team members for devoting laborious hours in designing and typesetting the book.



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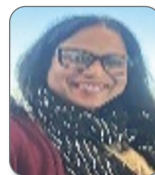
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# From the Publisher's Desk

*Dear Reader,*

Nursing Education has a rich history, often characterized by traditional teaching techniques that have evolved over time. Primarily, teaching took place within classroom settings. Lectures, textbooks, and clinical rotations were the core teaching tools; and students majorly relied on textbooks by local or foreign publishers for quality education. However, today, technology has completely transformed the field of nursing education, making it an integral part of the curriculum. It has evolved to include a range of technological tools that enhance the learning experience and better prepare students for clinical practice.



As publishers, we've been contributing to the field of Medical Science, Nursing and Allied Sciences and earned the trust of many. By supporting **Indian authors**, coupled with **nursing webinars and conferences**, we have paved an easier path for aspiring nurses, empowering them to excel in national and state level exams. With this, we're not only enhancing the quality of patient care but also enabling future nurses to adapt to new challenges and innovations in the rapidly evolving world of healthcare. Following the ideology of **Bringing learning to people instead of people going for learning**, so far, we've been doing our part by:

- Developing quality content by qualified and well-versed authors
- Building a strong community of faculty and students
- Introducing a smart approach with Digital/Hybrid Books, and
- Offering simulation Nursing Procedures, etc.

Innovative teaching methodologies, such as modern-age Phygital Books, have sparked the interest of the Next-Gen students in pursuing advanced education. The enhancement of educational standards through **Omnipresent Knowledge Sharing Platforms** has further facilitated learning, bridging the gap between doctors and nurses.

At Nursing Next Live, a sister concern of CBS Publishers & Distributors, we have long recognized the immense potential within the nursing field. Our journey in innovating nursing education has allowed us to make substantial and meaningful contributions. With the vision of strengthening learning at every stage, we have introduced several plans that cater to the specific needs of the students, including but not limited to **Plan UG** for undergraduates, **Plan MSc** for postgraduate aspirants, **Plan FDP** for upskilling faculties, **SDL** for integrated learning and **Plan NP** for bridging the gap between theoretical & practical learning. Additionally, we have successfully completed seven series of our **Target High** Book in a very short period, setting a milestone in the education industry. We have been able to achieve all this just with the sole vision of laying the foundation of diversified knowledge for all. With the rise of a new generation of educated, tech-savvy individuals, we anticipate even more remarkable advancements in the coming years.



We take immense pride in our achievements and eagerly look forward to the future, brimming with new opportunities for innovation, growth and collaborations with experienced minds such as yourself who can contribute to our mission as Authors, Reviewers and/or Faculties. Together, let's foster a generation of nurses who are confident, competent, and prepared to succeed in a technology-driven healthcare system.



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# Special Features of the Book

## LEARNING OBJECTIVES

*After the completion of the chapter, the readers will be able to:*

- Elaborate on educational technology.
- Compare and contrast various educational philosophies.

**Learning Objectives** enlist what the students will learn after studying the entire chapter.

**Chapter Outline** provides a glimpse of the entire chapter in one go.

## CHAPTER OUTLINE

- Introduction
- Education
- Educational Technology
- Latest Approaches to Education
- Nursing Education
- Philosophy

## KEY TERMS

**Competency-based education:** An educational approach that focuses on the mastery of specific competencies or skills rather than emphasizing traditional time spent or grades.

**Critical theory:** Critical theory is a philosophical approach that critiques society and culture by examining power structures and seeking to identify and challenge inequalities and injustices.

**Eclecticism:** It is an approach that does not hold rigidly to a single paradigm or set of assumptions, but instead draws upon multiple ideas to gain complementary insights into a subject or applies different theories in particular cases.

Important **Key Terms** have been added in the beginning of every chapter to get a quick and easy understanding of important terms in one go.

Important facts, concepts and ideas have been covered in-between the text in **High Yield Points** boxes.

## High Yield Points

### Instructions while preparing and using poster:

- Choose the message to be displayed.
- Plan the message after knowing about the target audience.
- Message should be conveyed at single glance.

Important topics and concepts from exam point of view have been given as a separate entity in **Must Know** boxes.

**Must Know**

**For effective use of chalkboard/blackboard:**

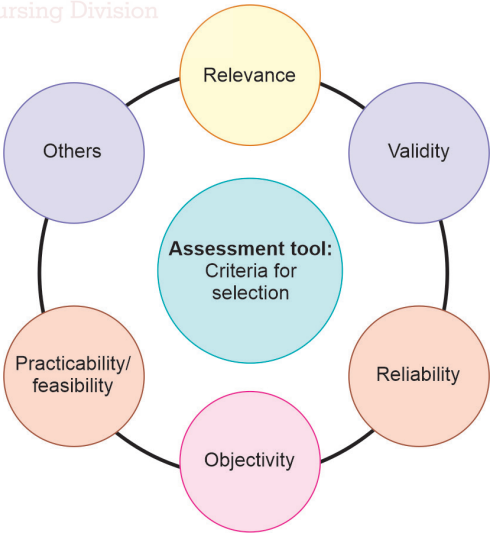
- The effective use of chalkboard/blackboard can be understood by expanding the word BLACKBOARD
- “B” - Be kind and use me
- “L” - Lay/put the plan in advance
- “A” - **Arrangement of blackboard:** Check LAG- (L)-Light, (A)-Angle, (G)-Glare

**TABLE 4.1: Various methods of teaching**

Classroom methods	Clinical methods
<ul style="list-style-type: none"><li>• Lecture</li><li>• Group discussion</li><li>• Demonstration</li><li>• Laboratory method</li><li>• Seminar</li><li>• Symposium</li><li>• Panel discussion</li><li>• Role play</li><li>• Project</li><li>• Field trip</li><li>• Workshop</li><li>• Exhibition</li></ul>	<ul style="list-style-type: none"><li>• Case method</li><li>• Nursing rounds and reports</li><li>• Bedside clinic</li><li>• Conference (individual and group)</li><li>• Process recording</li><li>• Nursing process</li><li>• Concept mapping</li></ul>

**Numerous tables** have been used in the chapters to facilitate learning in a quick way.

**Numerous figures** and flowcharts are used to make learning easy for students.



**Figure 6.4:** Criteria for selection of assessment techniques and methods

### SUMMARY

- In all areas of nursing education and practice, assessment is important to obtain information about student learning, evaluate clinical competencies, and arrive at other decisions about students and nurses.
- Assessment is integral to monitoring the quality of educational and healthcare programs.

Important takeaway points of respective chapters have been given under **Summary** boxes.

To have supportive extra knowledge **Further Readings** section has been included.

### FURTHER READINGS

- Holden R B. "Face validity". In: Weiner IB, Craighead WE. The Corsini Encyclopedia of Psychology. 4th edition. Hoboken, New Jersey: Wiley; 2010. p. 637-8.
- Gravetter F J, Forzano, L B. Research Methods for the Behavioral Sciences. 4th edition. Belmont, Calif: Wadsworth; 2012. p. 78.
- Shankaranarayanan B, Sindhu B. Learning and Teaching in Nursing. 3rd edition. Calicut: BBraefill Publisher; 2009. p. 209-11.

## STUDENT ASSIGNMENT

### LONG ANSWER QUESTIONS

1. Discuss the types of assessment in nursing. Explain about the assessment of knowledge.
2. Discuss the types of assessment in nursing. Explain about any one method of assessment of skill in nursing practice.

### SHORT ANSWER QUESTIONS

1. Explain about any one method of assessment of attitude.
2. Explain principles of selection of assessment methods.

### MULTIPLE CHOICE QUESTIONS

1. Which of the following is not the purpose of assessment?
  - a. Certification
  - b. Safeguarding public
  - c. Monitoring the program
  - d. Safeguarding educational institution

Detailed **Student Assignment** in the form of exercises in each and every chapter will facilitate structured learning and revision of the material provided in the respective chapters.



# Syllabus

## Educational Technology/Nursing Education

Placement: V SEMESTER

Theory: 2 Credits (40 hours)

Course Content

T – Theory, P – Practical (Laboratory)

Unit	Time (Hrs)		Learning Outcomes	Content	Teaching/ Learning Activities	Assessment Methods
	T	P				
I	6	3	<ul style="list-style-type: none"> <li>Explain the definition, aims, types, approaches and scope of educational technology</li> <li>Compare and contrast the various educational philosophies</li> <li>Explain the teaching learning process, nature, characteristics and principles</li> </ul>	<p><b>Introduction and Theoretical Foundations:</b>  <i>Education and educational technology:</i></p> <ul style="list-style-type: none"> <li>Definition, aims</li> <li>Approaches and scope of educational technology</li> <li>Latest approaches to education:                             <ul style="list-style-type: none"> <li>Transformational education</li> <li>Relationship-based education</li> <li>Competency-based education</li> </ul> </li> </ul> <p><i>Educational philosophy:</i></p> <ul style="list-style-type: none"> <li>Definition of philosophy, education and philosophy</li> <li>Comparison of educational philosophies</li> <li>Philosophy of nursing education</li> </ul> <p><i>Teaching learning process:</i></p> <ul style="list-style-type: none"> <li>Definitions</li> <li>Teaching learning as a process</li> <li>Nature and characteristics of teaching and learning</li> <li>Principles of teaching and learning</li> <li>Barriers to teaching and learning</li> </ul>	<p>Lecture cum discussion</p> <p><b>Group exercise:</b>                      Create/discuss scenario-based exercise</p>	<p>Quiz</p> <p><b>Assessment of Assignment:</b>                      Learning theories—analysis of any one</p>

Contd...

Unit	Time (Hrs)		Learning Outcomes	Content	Teaching/ Learning Activities	Assessment Methods
	T	P				
				<ul style="list-style-type: none"> <li>• Learning theories</li> <li>• Latest approaches to learning               <ul style="list-style-type: none"> <li>▪ Experiential learning</li> <li>▪ Reflective learning</li> <li>▪ Scenario-based learning</li> <li>▪ Simulation-based learning</li> <li>▪ Blended learning</li> </ul> </li> </ul>		
II	6	6	<ul style="list-style-type: none"> <li>• Identify essential qualities/ attributes of a teacher</li> <li>• Describe the teaching styles of faculty</li> <li>• Explain the determinants of learning and initiates self-assessment to identify own learning style</li> <li>• Identify the factors that motivate the learner</li> <li>• Define curriculum and classify types</li> <li>• Identify the factors influencing curriculum development</li> <li>• Develop skill in writing learning outcomes, and lesson plan</li> </ul>	<p><b>Assessment and Planning</b></p> <p><i>Assessment of teacher:</i></p> <ul style="list-style-type: none"> <li>• Essential qualities of a teacher</li> <li>• Teaching styles—Formal authority, demonstrator, facilitator, delegator</li> </ul> <p><i>Assessment of learner</i></p> <ul style="list-style-type: none"> <li>• Types of learners</li> <li>• Determinants of learning—learning needs, readiness to learn, learning styles</li> <li>• Today's generation of learners and their skills and attributes</li> <li>• Emotional intelligence of the learner</li> <li>• Motivational factors—personal factors, environmental factors and support system</li> </ul> <p><b>Curriculum Planning</b></p> <ul style="list-style-type: none"> <li>• Curriculum—definition, types</li> <li>• Curriculum design—components, approaches</li> <li>• Curriculum development—factors influencing curriculum development, facilitators and barriers</li> <li>• Writing learning outcomes/behavioral objectives</li> <li>• Basic principles of writing course plan, unit plan and lesson plan</li> </ul>	<p>Lecture cum discussion</p> <p><b>Self-assessment exercise:</b></p> <ul style="list-style-type: none"> <li>• Identify your learning style using any learning style inventory (ex. Kolb's learning style inventory)</li> </ul> <p>Lecture cum discussion</p> <p><b>Individual/group exercise:</b></p> <ul style="list-style-type: none"> <li>• Writing learning outcomes</li> <li>• Preparation of a lesson plan</li> </ul>	<ul style="list-style-type: none"> <li>• Short answer</li> <li>• Objective type</li> </ul> <p><b>Assessment of assignment:</b> Individual/ Group</p>

Contd...

Unit	Time (Hrs)		Learning Outcomes	Content	Teaching/ Learning Activities	Assessment Methods
	T	P				
III	8	15	<ul style="list-style-type: none"> <li>• Explain the principles and strategies of classroom management</li> <li>• Describe different methods/ strategies of teaching and develop beginning skill in using various teaching methods</li> <li>• Explain active learning strategies and participate actively in team and collaborative learning</li> </ul>	<p><b>Implementation</b>  <i>Teaching in classroom and skill lab—teaching methods</i></p> <ul style="list-style-type: none"> <li>• Classroom management—principles and strategies</li> <li>• Classroom communication                             <ul style="list-style-type: none"> <li>▪ Facilitators and barriers to classroom communication</li> <li>▪ Information communication technology (ICT)—ICT used in education</li> </ul> </li> </ul> <p><i>Teaching methods—features, advantages and disadvantages</i></p> <ul style="list-style-type: none"> <li>• Lecture, Group discussion, microteaching</li> <li>• Skill lab—simulations, demonstration &amp; re-demonstration</li> <li>• Symposium, panel discussion, seminar, scientific workshop, exhibitions</li> <li>• Role play, project</li> <li>• Field trips</li> <li>• Self-directed learning (SDL)</li> <li>• Computer assisted learning</li> <li>• One-to-one instruction</li> </ul> <p><i>Active learning strategies:</i></p> <ul style="list-style-type: none"> <li>• Team-based learning</li> <li>• Problem-based learning</li> <li>• Peer sharing</li> <li>• Case study analysis</li> <li>• Journaling</li> <li>• Debate</li> <li>• Gaming</li> <li>• Interprofessional education</li> </ul>	<ul style="list-style-type: none"> <li>• Lecture cum discussion</li> <li>• Practice teaching/ Micro-teaching</li> <li>• Exercise (Peer teaching)</li> <li>• Patient teaching session</li> <li>• Construction of game—puzzle</li> <li>• Teaching in groups—interdisciplinary</li> </ul>	<ul style="list-style-type: none"> <li>• Short answer</li> <li>• Objective type</li> <li>• Assessment of micro-teaching</li> </ul>
IV	3	3	<ul style="list-style-type: none"> <li>• Enumerate the factors influencing selection of clinical learning experiences</li> </ul>	<p><b>Teaching in the Clinical Setting—Teaching Methods</b></p> <ul style="list-style-type: none"> <li>• Clinical learning environment</li> <li>• Factors influencing selection of clinical learning experiences</li> </ul>	<ul style="list-style-type: none"> <li>• Lecture cum discussion</li> <li>• Writing clinical outcomes—assignments in pairs</li> </ul>	<ul style="list-style-type: none"> <li>• Short answer</li> <li>• Assessment of written assignment</li> </ul>

Contd...

Unit	Time (Hrs)		Learning Outcomes	Content	Teaching/ Learning Activities	Assessment Methods
	T	P				
			<ul style="list-style-type: none"> <li>Develop skill in using different clinical teaching strategies</li> </ul>	<ul style="list-style-type: none"> <li>Practice model</li> <li>Characteristics of effective clinical teacher</li> <li>Writing clinical learning outcomes/practice competencies</li> <li>Clinical teaching strategies—patient assignment—clinical conference, clinical presentation/bedside clinic, case study/care study, nursing rounds, concept mapping, project, debate, game, role play, PBL, questioning, written assignment, process recording</li> </ul>		
V	5	5	<ul style="list-style-type: none"> <li>Explain the purpose, principles and steps in the use of media</li> <li>Categorize the different types of media and describe its advantages and disadvantages</li> <li>Develop skill in preparing and using media</li> </ul>	<p><b>Educational/Teaching Media</b></p> <ul style="list-style-type: none"> <li>Media use—purpose, components, principles and steps</li> <li>Types of media</li> </ul> <p><i>Still visuals:</i></p> <ul style="list-style-type: none"> <li>Nonprojected—drawings &amp; diagrams, charts, graphs, posters, cartoons, board devices (chalk/white board, bulletin board, flannel board, flip charts, flash cards, still pictures/photographs, printed materials-handout, leaflet, brochure, flyer</li> <li>Projected—film stripes, microscope, power point slides, overhead projector</li> </ul> <p><i>Moving visuals:</i></p> <ul style="list-style-type: none"> <li>Video learning resources—videotapes &amp; DVD, blu-ray, USB flash drive</li> <li>Motion pictures/films</li> </ul> <p><i>Realia and models:</i> Real objects &amp; models</p> <p><i>Audio aids/audio media:</i></p> <ul style="list-style-type: none"> <li>Audiotapes/Compact discs</li> <li>Radio and tape recorder</li> </ul>	<ul style="list-style-type: none"> <li>Lecture cum discussion</li> <li>Preparation of different teaching aids—(Integrate with practice teaching sessions)</li> </ul>	<ul style="list-style-type: none"> <li>Short answer</li> <li>Objective type</li> <li>Assessment of the teaching media prepared</li> </ul>

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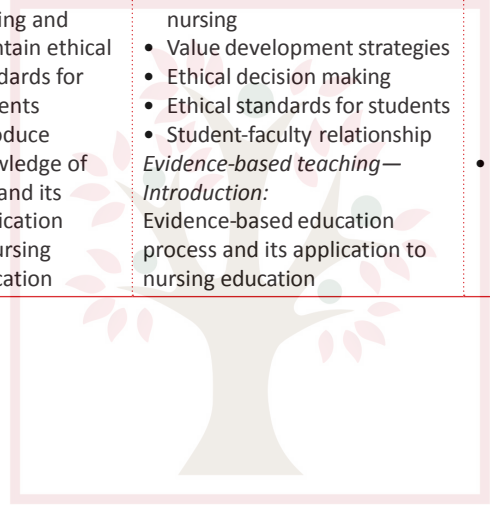
Unit	Time (Hrs)		Learning Outcomes	Content	Teaching/ Learning Activities	Assessment Methods
	T	P				
				<ul style="list-style-type: none"> <li>Public address system</li> <li>Digital audio</li> </ul> <p><i>Electronic media/computer learning resources:</i></p> <ul style="list-style-type: none"> <li>Computers</li> <li>Web-based video conferencing</li> <li>E-learning, Smart classroom</li> </ul> <p><i>Telecommunication (Distance education):</i></p> <ul style="list-style-type: none"> <li>Cable TV, satellite broadcasting, video conferencing</li> <li>Telephones—Telehealth/ telenursing</li> </ul> <p><i>Mobile technology</i></p>		
VI	5	3	<ul style="list-style-type: none"> <li>Describe the purpose, scope, principles in selection of evaluation methods and barriers to evaluation</li> <li>Explain the guidelines to develop assessment tests</li> <li>Develop skill in construction of different tests</li> <li>Identify various clinical evaluation tools and demonstrate skill in selected tests</li> </ul>	<p><b>Assessment/Evaluation Methods/Strategies</b></p> <ul style="list-style-type: none"> <li>Purposes, scope and principles in selection of assessment methods and types</li> <li>Barriers to evaluation</li> <li>Guidelines to develop assessment tests</li> </ul> <p><i>Assessment of knowledge:</i></p> <ul style="list-style-type: none"> <li>Essay type questions,</li> <li>Short answer questions (SAQ)</li> <li>Multiple choice questions (MCQ—single response &amp; multiple response)</li> </ul> <p><i>Assessment of skills:</i></p> <ul style="list-style-type: none"> <li>Clinical evaluation</li> <li>Observation (checklist, rating scales, videotapes)</li> <li>Written communication—progress notes, nursing care plans, process recording, written assignments</li> <li>Verbal communication (oral examination)</li> <li>Simulation</li> <li>Objective Structured Clinical Examination (OSCE)</li> <li>Self-evaluation</li> <li>Clinical portfolio, clinical logs</li> </ul>	<ul style="list-style-type: none"> <li>Lecture cum discussion</li> <li>Exercise on constructing assessment tools</li> </ul>	<ul style="list-style-type: none"> <li>Short answer</li> <li>Objective type</li> <li>Assessment of tools prepared</li> </ul>

Contd...

Unit	Time (Hrs)		Learning Outcomes	Content	Teaching/ Learning Activities	Assessment Methods
	T	P				
				<i>Assessment of attitude:</i> Attitude scales <i>Assessment tests for higher learning:</i> Interpretive questions, hot spot questions, drag and drop and ordered response questions		
VII	3	3	<ul style="list-style-type: none"><li>• Explain the scope, purpose and principles of guidance</li><li>• Differentiate between guidance and counseling</li><li>• Describe the principles, types, and counseling process</li><li>• Develop basic skill of counseling and guidance</li><li>• Recognize the importance of preventive counseling and develop skill to respond to disciplinary problems and grievance among students</li></ul>	<b>Guidance/Academic Advising, Counseling and Discipline</b> <i>Guidance:</i> <ul style="list-style-type: none"><li>• Definition, objectives, scope, purpose and principles</li><li>• Roles of academic advisor/ faculty in guidance</li></ul> <i>Counseling:</i> <ul style="list-style-type: none"><li>• Difference between guidance and counseling</li><li>• Definition, objectives, scope, principles, types, process and steps of counseling</li><li>• Counseling skills/ techniques—basics</li><li>• Roles of counselor</li><li>• Organization of counseling services</li><li>• Issues for counseling in nursing students</li></ul> <i>Discipline and grievance in students:</i> <ul style="list-style-type: none"><li>• Managing disciplinary/ grievance problems— preventive guidance and counseling</li><li>• Role of students’ grievance redressal cell/committee</li></ul>	<ul style="list-style-type: none"><li>• Lecture cum discussion</li><li>• Role play on student counseling in different situations</li><li>• Assignment on identifying situations requiring counseling</li></ul>	<ul style="list-style-type: none"><li>• Assessment of performance in role play scenario</li><li>• Evaluation of assignment</li></ul>

Contd...

Unit	Time (Hrs)		Learning Outcomes	Content	Teaching/ Learning Activities	Assessment Methods
	T	P				
VIII	4	2	<ul style="list-style-type: none"><li>• Recognize the importance of value-based education</li><li>• Develop skill in ethical decision making and maintain ethical standards for students</li><li>• Introduce knowledge of EBT and its application in nursing education</li></ul>	<b>Ethics and Evidence-Based Teaching (EBT) in Nursing Education</b> <i>Ethics—review:</i> <ul style="list-style-type: none"><li>• Definition of terms</li><li>• Value-based education in nursing</li><li>• Value development strategies</li><li>• Ethical decision making</li><li>• Ethical standards for students</li><li>• Student-faculty relationship</li></ul> <i>Evidence-based teaching—Introduction:</i> Evidence-based education process and its application to nursing education	<ul style="list-style-type: none"><li>• Value clarification exercise</li><li>• Case study analysis (student encountered scenarios) and suggest ethical decision-making steps</li><li>• Lecture cum discussion</li></ul>	<ul style="list-style-type: none"><li>• Short answer</li><li>• Evaluation of case study analysis</li><li>• Quiz—MCQ</li></ul>



Nursing Knowledge Tree  
An Initiative by CBS Nursing Division



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# 6

## Assesment and Evaluation: Methods and Strategies

### LEARNING OBJECTIVES

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*After the completion of the chapter, the readers will be able to:*

- Describe the purpose and scope of assessment.
- Understand the principles and criteria for selections of assessment techniques and methods.
- Discuss guidelines to develop assessment test.
- Develop skill in construction of different tests.
- Identify the various clinical evaluation tools and demonstrate skills in specific tests.

### CHAPTER OUTLINE

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- Introduction
- Assessment
- Barriers to Evaluation
- Guidelines to Develop Assessment Tests/Steps of Assessment
- Types of Assessment Methods and Techniques
- Assessment of Knowledge
- Assessment of Skills
- Assessment of Attitude
- Assesment Tests for Higher Learning

## KEY TERMS

---

**Assessment:** It is the systematic basis for making inferences about the learning and development of students.

**Attitude:** Attitude refers to how someone feels about something.

**Attitude scales:** These measure the relative quantity of an attitude possessed by an individual as contrasted with a reference group.

**Checklist:** A checklist is an instrument used by the observer which consists of list of statements for assessing the learners when observing a class.

**Clinical evaluation:** Clinical evaluation means an assessment of a person's physical and/or mental health condition conducted by licensed health personnel.

**Clinical log:** The clinical experience log lists and defines the procedures one needs to track on a daily basis during training practice and treating the patients.

**Drag and drop:** Drag and Drop question type prompts students to insert the correct answer by choosing from several possible options, and dragging it to one of several possible positions within a text or a background image.

**Essay questions:** A question in an examination whose answer is in the form of an essay.

**Evaluation:** Evaluation refers to the systematic and ongoing assessment of student learning, progress, and performance in relation to set learning objectives and standards.

**Hotspot questions:** Students are presented with an image and select a particular area as the answer.

**Interpretive questions:** An interpretive question has more than one answer that can be supported with evidence from the text.

**Knowledge:** Knowledge is a familiarity, awareness, or understanding of someone or something, such as facts, information, descriptions.

**MCQ:** It is an assessment item consisting of a stem, which poses the question or problem, followed by a list of possible responses, also known as options or alternatives.

**Nursing care plan:** A nursing care plan is a roadmap for the care of a patient and a necessary tool in following the nursing process.

**Ordered response questions:** Ordered response questions present several answer options and require the students to drag and drop them into place to rank them in a certain order.

**OSCE:** OSCE stands for "Objective Structured Clinical Examination." OSCEs are very helpful in medical education because they allow a student to practice and demonstrate clinical skills in a standardized medical scenario.

**Process recording:** A process recording is a written record of an interaction with a client.

**Self-evaluation:** Self-evaluation is the ability to examine yourself to find out how much progress a student has made.

**Simulation:** It is a model that mimics the operation of an existing or proposed system, providing evidence for decision-making by being able to test different scenarios or process changes.

**Skill:** It is a special ability or technique acquired by particular training in cognitive or physical area.

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## INTRODUCTION

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**Assessment:** It is an integral component of education which aims at quantifying the learning gains. The main purpose of education is to make change in the attitude and behavior of an individual.



Each individual is unique in his/her physical and mental abilities. Evidences show that people differ significantly from each other with respect to intelligent quotient (IQ), interest, attitude, aptitude, skills, potentialities and other personality traits. So, it becomes mandatory to identify and appraise those differences in the individuals with respect to educational system. Teaching and assessment together lead to meaningful learning among students. Particularly, assessment helps us to know about the ignorance of the students and how much knowledge and skills have been obtained. The main objective of this chapter is to help teacher to use the best assessment tool depending on the learning outcome needed to be assessed.

The term measurement, testing, evaluation and assessment are often interchangeably used in education due to its considerable overlap in their meanings. Even though these terms are used in regard to the achievement of the educational objectives, there are considerable differences between each of them.

- **Assessment of skills:** Observation checklist, practical exam, viva, objective structured clinical examination (OSCE).
- **Assessment of attitudes:** Attitude scales.

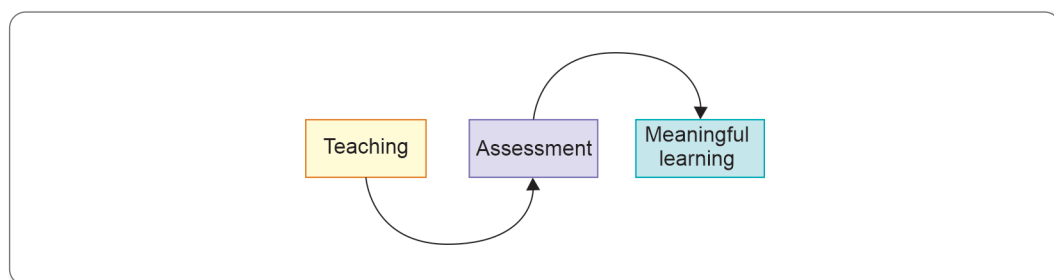
**Measurement:** Measurement is the process of quantification of a trait or characteristic. It is an act or a process that assigns numerical value to whatever being assessed. Examples of measurement include—measuring the weight, height, age, intelligence, and abilities, etc. Measurement can be direct, indirect or relative. Some of the measurements are physical in nature. The tools used are meter, liter, grams, etc. which are very simple, direct and accurate measurements. Scope of measurement is very narrow and quite limited.

**Testing:** Testing is a procedure or instrument used for measuring a behavior or attribute and it is applicable to measurement, evaluation as well as assessment. Though test is used in all these three processes, it is not synonymous with them. Different types of tests are used for assessing different domains of learning to indicate the extent to which the particular attribute is present in a particular individual. Direct measurements such as measurement of length, height, size, volume, etc. are used in physical sciences and these may not be applicable in education. In education, indirect measurements such as intelligence, attitude, aptitude, skills, achievement and personality are used as the abstract attributes and so need to be measured.

**Evaluation:** Evaluation is the direct or indirect measurement of any attribute with respect to some standards. Evaluation is an informal and continuous process which can be used for facts, objects, events, behaviors, process or products. Evaluation is the process of judging the value or worth of achievements against some standards. It is a systematic process of determining whether predetermined educational objectives have been achieved. In education, we need to evaluate both the process and products.

## ASSESSMENT

The term “assessment” is used usually for individual or people. It is the measurement of various attributes of individuals such as knowledge, attitude and skills against a particular standard. In education, we attempt to measure the quality and quantity of teaching and learning using various assessment techniques. We need to assess learning of students in all the three important domains (knowledge, attitude and skills) against the predetermined objectives. Different types of techniques are used in assessing different domains. If evaluation can be considered a process of judgment or



**Figure 6.1:** Interdependence of teaching and assessment

decision-making about the course, teachers or students, assessment can be equated to the same about the students' learning. Therefore, assessment is a vital part of educational evaluation as the main focus of entire educational process is students' learning.

Figure 6.1 clarifies the interdependence of teaching and assessment

### Purposes and Scope of Assessment

- **Certification:** Examination is conducted to determine success or failure on the part of the student. Certification, an affirmation regarding the competency, is provided on the basis of performance of the student at the end of the course.
- **Feedback:** Assessment is used to provide feedback to the students regarding what they know and what they do not know. It keeps them informed about the objectives and goals.
- **Monitoring the program:** Assessment provides feedback to the teacher and the organization about the effectiveness of the educational program.
- **Safeguarding the public:** Assessment ensures that those who have attained a minimal level of competence are only entrusted with the responsibility of taking care of general public during health and illness.

### Types of Assessment

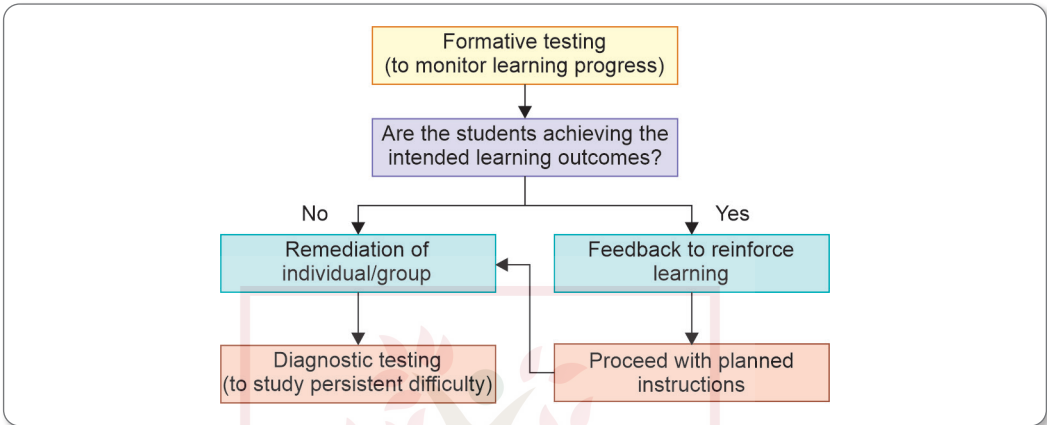
Assessment can be formative or summative based on the frequency and pattern of conducting assessment. Assessment can be criterion referenced or norm referenced.

#### Formative Assessment

Formative assessment is the type of assessment conducted during learning process in order to improve teaching-learning process and students learning outcomes. The main focus of formative assessment is to determine how well the students have learned and to provide effective feedback to them.

Teachers come to know about the degree of accomplishment of learning objectives and accordingly, modify the teaching-learning methods. Based upon this, they can plan out some individual or group remedial measures. It gives feedback to students about their learning style in different domains and helps them in identifying their learning difficulties. So, this becomes a platform for the students to improve their learning by counseling. For effective outcomes, formative assessment should be conducted more frequently and must cover small content area with different difficulty level and give immediate feedback to the students (Fig. 6.2).



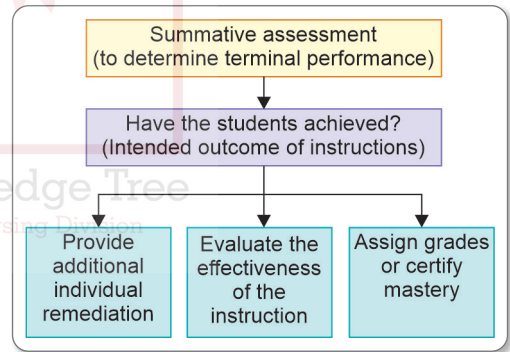


**Figure 6.2:** Formative assessment

Formative assessment is a continuous and periodic process and at times, is equitable to internal assessment. The main purpose of having formative assessment is to integrate teaching and evaluation in order to identify and develop the abilities/skills of the students.

### Summative Assessment

The purpose of summative assessment, also called external assessment, is to certify or judge and therefore, is conducted at the completion of the course. It determines the students' mastery on specified learning outcomes which are set based on the predetermined objectives. The testing should include broad coverage of the content and range of difficulty levels. Even though the feedback to teachers and students are less when compared to formative assessment, it gives a comprehensive feedback about the overall educational process in the institute (Fig. 6.3).



**Figure 6.3:** Summative assessment

## Criterion Referenced Assessment versus Norm Referenced Assessment

### Criterion Referenced Assessment

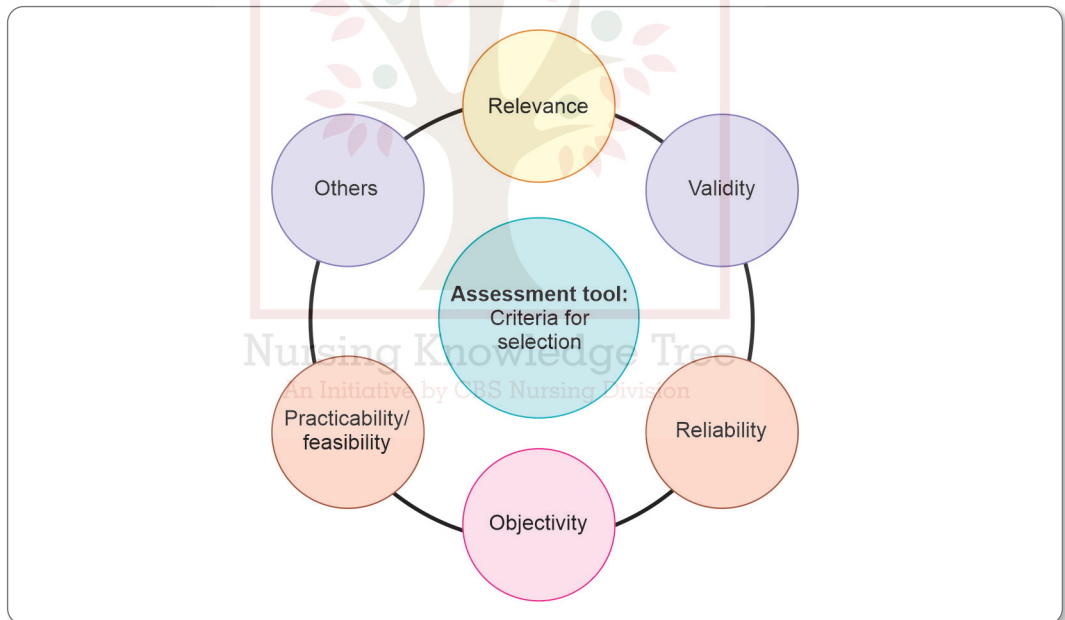
A criterion referenced assessment determines whether each student has achieved specific skills or concepts. In this, each individual is compared with a preset acceptable standard for achievement. The performance of other students is irrelevant. For example, assessing a student's skill to administer intramuscular injection based on the standardized checklist. Our focus over here is to ascertain whether the student could perform the task based on the set criteria. He/she should not be compared with other students' performance. A formative assessment should always be criterion referenced. Each student should be assessed with respect to his/her achievement to acceptable criteria of competency and not by comparison with peers. He/she should receive constructive feedback about the performance, which would help in effective accomplishment of competency.

### Norm Referenced Assessment

A norm referenced test scores a test by comparing a learner's performance similar to others with similar educational background. To make a test norm referenced, we need to compare students to what is normal for that age, class or course. In norm referenced test, percentile rank could preferably be used. Norm referenced tests can be used as a preliminary tool before making the actual evaluation tool. In norm referenced assessment, instead of looking at the actual score of the student, we intend to see how well they are performing in relation to others. Ideally summative assessment also should be criterion referenced. However, in practical settings, it is norm referenced.

### Principles and Criteria for Selection of Assessment Techniques and Methods

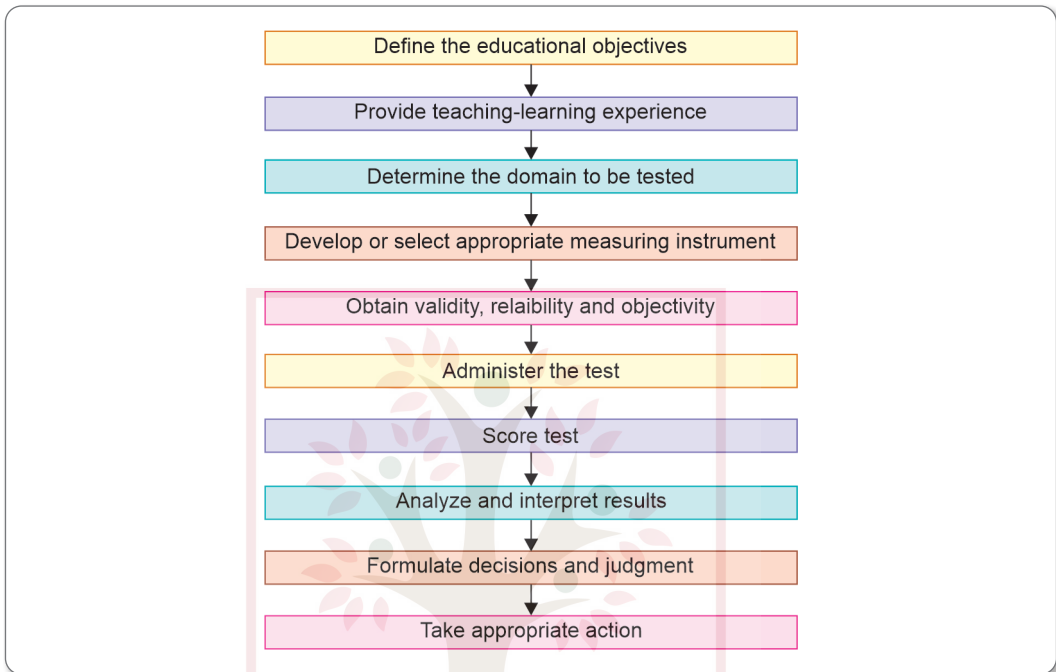
The following principles or criteria should be followed while preparing the tools for assessment. Selection of the right tool should be based upon what we are principally trying to observe. The most important criteria for an assessment tool are shown in Figure 6.4 and Box 6.1.



**Figure 6.4:** Criteria for selection of assessment techniques and methods

#### Box 6.1: Criteria for selection of assessment techniques and methods

- Relevance
- Validity
- Reliability
- Objectivity
- Practicability/feasibility
- Others [equity, specificity, discrimination, efficiency, length, time, usefulness, adequacy, easy to use (administration, scoring, interpretation), economy and comparability]



**Figure 6.5:** Steps of assessment

3. **Determine the domains to be tested:** In this step, teacher determines the domains to be tested. It could be cognitive (knowledge) or affective (attitude) or psychomotor (skill). According to the domain to be tested, the testing tool has to be decided.
4. **Develop or select appropriate measuring instrument:** The instrument required for testing the domain is selected. For assessing the knowledge multiple choice questions (MCQs), short answer questions (SAQs) or essay type questions can be used; for assessing performance objective structured clinical evaluation or objective structured practical evaluation (OSCE/OSPE) or performance checklist may be used; while for assessing the attitude or perception, various scales, like Likert scale or semantic scale can be used.
5. **Obtain validity, reliability and objectivity:** Tools are prepared carefully. The reliability and validity of the tools are measured using appropriate tests before their administration. Teacher should try to improvise the validity, reliability and objectivity of the tool in order to get the reliable results.
6. **Administer the test:** Test is administered using a reliable, valid test in controlled congenial setting as per the instructions. Administering test in ideal conditions help in enhancing the reliability of test scores.
7. **Score test:** Once the test is administered, teacher prepares the score card of every student. While scoring the test, principles of evaluation should be followed. This process enhances the objectivity and reliability of the test.
8. **Analyze and interpret results:** Finally, the results are analyzed and interpreted by comparing with the peer group scores or the previous scores.

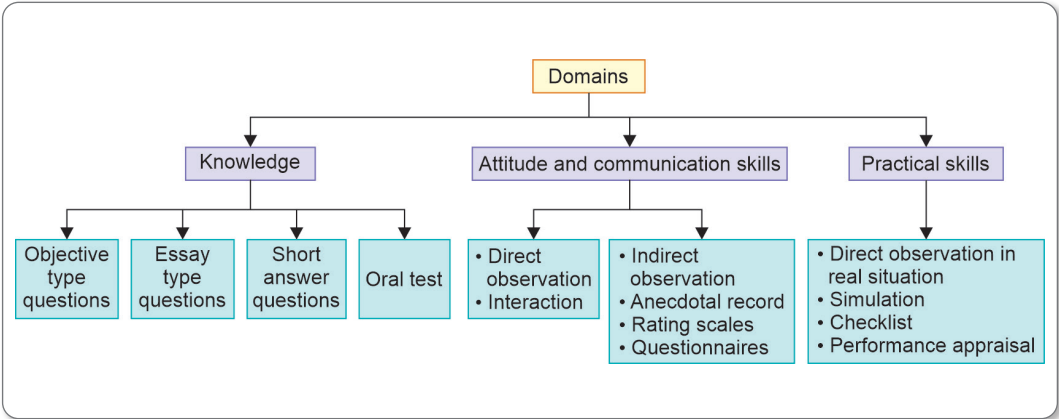


- 9. **Formulate decisions and judgment:** Based on test scores finally decision and judgment is made regarding how to bring about improvement in the knowledge and performance of the student.
- 10. **Take appropriate action:** The remedial measures are planned and taken to improve the progress of the student.

**TYPES OF ASSESSMENT METHODS AND TECHNIQUES**

Assessment methods and techniques depend on the domain to be examined. However, it is not practical to assess each domain independently. The examination tool can be selected based on the major domain which has to be tested. The following domain-specific matrix of evaluation methods can be used as a guide while preparing examination tools for assessing different domains (Table 6.1 and Fig. 6.6).

TABLE 6.1: Domain specific matrix for assessment		
Domain	Method	Instrument/tool
Cognitive/knowledge	Written	Essay type questions
		Short answer type questions
		Multiple choice questions
	Oral	Viva voce
Psychomotor/skill	Observation	Traditional practical examinations
		Objective structured clinical examinations
		Objective structured practical examinations
		Checklist, nursing process
Affective/attitude	Observation	Behavioral scales: Anecdotal records, personal records, cumulative records, communication, group discussion, process recording, etc.
		Psychological scales: Likert scale (summative scales), semantic differential scale, scalogram, sociometry, etc.



**Figure 6.6:** Methods of evaluation

## High Yield Points

### Preparation of Multiple Choice Questions

Preparing MCQs is a corporate activity rather than individual effort. First guidelines and the educational objectives has to be provided to the individuals. Once the MCQs are framed, a small group of experts validate them along with their answers. It has been observed that one-third of the questions are generally accepted as it is, another one-third questions are accepted after modification and remaining one-third are discarded. After validation and item analysis MCQs are recommended to be kept in question bank.

- Decide on the number of MCQs which has to be kept in the exam.
- Select appropriate formats.
- Group all similar formats together.
- Include items with different difficulty and discrimination index (based on item analysis).
- Make sure that all parts of an item are in same page.
- Provide appropriate instruction at the beginning of corresponding format itself.
- Verify whether all items are matched according to the learning outcomes.
- Prepare table of specification before preparing any evaluation tool.
- Each item should be complete and independent.
- Items and options should be given in a standard format.
- Alphabets are preferred for options.
- There should be central theme for options (e.g., all 4 options should be on treatment).
- Options should not consist of long statements as it can result in lack of time for reading them.
- Stem should be a clearly formulated statement or question.
- Reference/units should be given in the stem.
- Avoid negative words, if unavoidable highlight them (e.g., not, except).
- Strictly avoid double negatives in one item.
- Try to avoid abbreviations in stem.
- Avoid expressions, like common, fairly, majority, sometime, etc.
- Options should be parallel to stem.
- Avoid ambiguity/subjectivity elements in items.
- Avoid keeping narrow numerical ranges in options.
- Use only effective/functional distractors (paying focus even on lower ability students).
- Use only mutually exclusive options for each item.
- Use appropriate language and grammar.
- Follow rank order for options, if any.
- Do not place "all or none of the above" options in many items.
- Do not use "none of the above" with a negative stem.
- Avoid grammatical clues in stem such as a/an, singular/plural, is/are.
- Make sure that there is no clue given in any part of the question paper.
- Options must be of similar length or precision.
- Placement of key of each item among options must be on random basis.

### Advantages of Multiple Choice Questions

- Multiple choice questions can test the knowledge of students covering large syllabus.
- It is easy to score.
- Multiple choice questions have high reliability, validity and objectivity.
- It requires less time and efforts in administering the test.

### Disadvantages of Multiple Choice Questions

- Most of the MCQs test the knowledge recall ability only. For testing comprehension, application and to some extent analysis, one has to thoughtfully prepare the MCQs.
- Multiple choice questions cannot test the writing skills and capability of expression.
- They cannot test communication, psychomotor and interpersonal skills.

## ASSESSMENT OF SKILLS

Similar to knowledge being tested in theory examination, skills are evaluated in clinical or practical examination. Various methods of skill assessment of the students in nursing profession include traditional or conventional practical examinations, observational checklists, viva voce and objective structured clinical evaluation or objective structured practical evaluation (OSCE or OSPE). This method of assessment cannot assess the skills of the learners independently with good validity, objectivity and reliability. So, it is prudent enough to choose a wise combination of these methods or tools in order to ensure a holistic and comprehensive skill assessment.

### Clinical Evaluation

Clinical evaluation means an examination of the body of an individual for the presence of disease or injury to the body, and review of any laboratory test results for the individual by a physician, doctor of naturopathic medicine, dentist or registered nurse practitioner.

As per the EU MDR, a clinical evaluation “means a systematic and planned process to continuously generate, collect, analyse and assess the clinical data pertaining to a device in order to verify the safety and performance, including clinical benefits of the device when used as intended by the manufacturer”.

The four basic types of evaluation: (1) Clinical reviews, (2) Clinical trials, (3) Program reviews, and (4) Program trials. It is a tool to measure systematically the standards of teaching and overall benefits for the students in line with their learning objectives. Evaluation effectively helps us to train and teach learners to become competent medical professionals for future healthcare services.

### Traditional or Conventional Practical Examination

The conventional practical examination system in nursing usually involves writing of detailed procedure or writing nursing process for one or two patients, followed by un-observed or partially observed performance of nursing care by the student on the patient. The assessment is made on the basis of observation of global performance rather than candidate's individual competency. However, observation of the students' performance in the clinical setting is the most frequently used evaluation technique in nursing profession. It is used to make judgment on all three domains namely knowledge, attitude, interpersonal relationship and psychomotor skills. Some of the problems involved in conventional practical examination include patient and examiner variability which significantly affect the score because of poor objectivity, validity and reliability. However, there is no uniformity in assessment because different students are assigned with different patients. In addition, there will be variability in the skills performed by each student based on the differing patient conditions. When compared to more objective type of skill assessment such as OSCE/OSPE, it is a popular method of skill assessment due to the better feasibility. But using this method as a stand-alone tool is questionable owing to its poor quality of assessment and shorter duration



of observation. To improve the quality of skill assessment, this method can be used in combination with other objective skill assessment tools.

### Observational Checklist

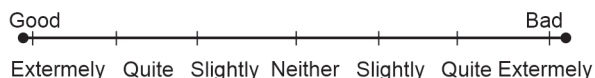
The observational checklist is a method to assess the performance of specific skills, attitudes of individual learner. Checklist is basically a technique of recording whether a specific attribute is present or behavior is performed. It provides a quick and easy way to observe and record the essential skills and behaviors of the students. In nursing, observation checklists are helpful in assessing the attitudes of the learners. Observation checklists, used for formative assessments, focus on performing important skills such as writing skills, speaking skills, or activity-based skills. An observational checklist should be carefully prepared based upon all major elements of a specific responsibilities which learners should know or need to achieve. Each component of the procedure must be conscientiously included in order and acceptable weightage must be given to important elements in case, if scoring needs to be done. Each component can be noted as done/present, not done/absent, or inappropriately done. Option of 'not applicable' can be added if any unique elements are there in the checklist (Table 6.2).

<b>TABLE 6.2:</b> Example of observational checklist for pulse oximetry					
Sl. no.	Element/step	Done	Not done	Inappropriately done	Not applicable
1.	Wash hands				
2.	Review the manufacturer's instruction				
3.	Explain the procedure to the patient				
4.	Select a finger on the patient's nondominant hand				
5.	Remove fake fingernail or nail polish (if any)				
6.	Turn on the power switch				
7.	Place the transducer probe over the patient's finger so the light beams and sensor oppose each other				
8.	Position the patient's hand at heart level				
9.	Rotate the sensor site according to the manufacturer's instructions				
10.	Record the reading				
11.	Clean the probe between patients as per facility policy or if disposable, discard				
12.	Wash hands				

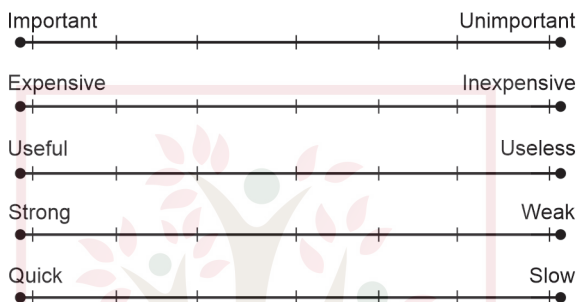




### Semantic scale



### Semantic differential scale



**Figure 6.9:** Semantic differential scale

### Anecdotal Records

Anecdotal records are the description of an individual's behavior being observed in a particular situation. Every behavior of a student cannot be recorded. It is only that behavior which reflects some significant attitude which are mentioned in this. For example, if the individual's behavior shows evidence of honesty, the whole situation is described in a meaningful manner. Anecdotal records are the collection of such incidents of an individual. They are recorded immediately after they occur and are filed in the name of the individual. If they are selected, carefully recorded and analyzed objectively, they serve as significant documentation of attitude of the individual. Interpretation of behavioral incident is however not easy and tend to become subjective. But when used with other data they appear to be meaningful and useful.

### Cumulative Records

Cumulative records are broader than progress records and personal records. But, they are not prepared carefully and maintained regularly in most of the institutes. Other than the academic progress of the students, they also provide updates regarding intelligence, personality, aptitude, individual's interests, attitude, values, emotional maturity, emotional conflicts or self-adjustment, etc. As in any behavioral tool, interpretation of cumulative record is very much subjective and difficult in long run.

### Psychological Techniques

Though contribution of behavioral techniques in attitude measurement is very important and significant, they have their own limitations. As a result of this, use of psychological techniques came into light. The most commonly used psychological scales for measuring the attitude are, Likert scales or summative scales and semantic differential scales. Other psychological scales include scalogram, sociometry, point scale, Q-sort scaling technique, etc.

## ASSESSMENT TESTS FOR HIGHER LEARNING

- **Interpretive questions:** An interpretive question has more than one answer that can be supported with evidence from the text. Interpretive questions keep discussions going and require the reader to refer back to the text. “An interpretive question has an answer that can be supported with evidence from the text. Sometimes people may answer differently, but the question could still be right as long as evidence supports the question. For example, “How do cancer survivors make sense of their illness journey?” or “What meanings do members of a religious community attach to their rituals and practices?”
- **Hotspot questions:** Hotspot is a question type where the candidates, on the basis of the given instruction(s), indicate the correct answer by clicking on a point/area inside an image or illustration. It is possible to click on the image and the selection appears as a cross. The answer can be changed by moving the cross (x).
- **Drag and drop questions:** Drag and drop question contains a set of words or short phrases (text items) that the learner must drag into response targets on an image. This question type challenges the learners to recall information while also analyzing the challenge at hand in order to apply the information they have recalled.
- **Ordered response questions:** Ordered response questions are those that require you to place the answer options in the correct order using the drag and drop method with the computer mouse. There’s nothing wrong here, but there is only one right order from start to finish. Ordered response items present candidates with a list of steps, tasks, or actions and require them to be put in a specific order. This item type tends to be another tricky one for candidates because like multiple response items, you have to get all parts of the order correct to get the question right.

### SUMMARY

- In all areas of nursing education and practice, assessment is important to obtain information about student learning, evaluate clinical competencies, and arrive at other decisions about students and nurses.
- Assessment is integral to monitoring the quality of educational and healthcare programs.
- OSCE/OSPE is considered as superior over traditional examination methods because it enables the teacher to perform fair assessment.
- By evaluating outcomes achieved by students, graduates, and patients, the effectiveness of programs can be measured and decisions can be made about needed improvements.
- Through assessment, nurse educators and other healthcare professionals collect information for evaluating the quality of their teaching as well as documenting outcomes for others to review.

### CONCLUSION

Educational evaluation is engaged with the accomplishment of educational objectives at the end of the course. A quality assessment gives feedback to the students, parents and teachers. Assessment findings have vital role in curriculum revision. Assessment can be classified into formative assessment and summative assessment or norm-based assessment or criterion-based assessment. Students should always be assessed on all three educational domains of knowledge, attitude and skill. Selection of appropriate tool and its quality are vital in assessment. The tools selected for assessment should be of good validity, reliability, objectivity and feasibility. Thus appropriate selection, construction, administration and scoring of the test by the evaluator is the important steps of perfect assessment.



## FURTHER READINGS

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# STUDENT ASSIGNMENT

## LONG ANSWER QUESTIONS

---

1. Discuss the types of assessment in nursing. Explain about the assessment of knowledge.
2. Discuss the types of assessment in nursing. Explain about any one method of assessment of skill in nursing practice.

## SHORT ANSWER QUESTIONS

---

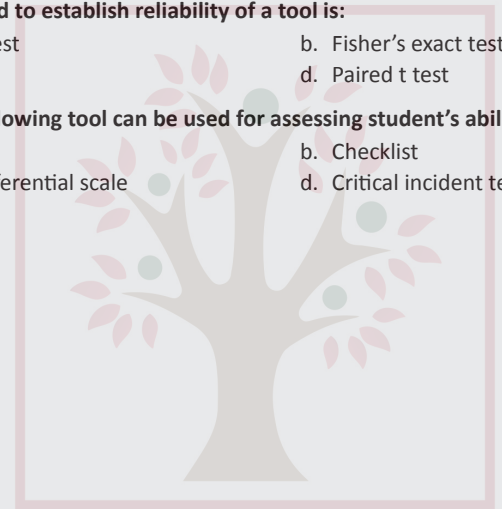
1. Explain about any one method of assessment of attitude.
2. Explain principles of selection of assessment methods.
3. Describe the steps of assessment process.
4. Explain barriers in evaluation
5. Write a note on clinical logs
6. Write short notes on:
  - a. OSCE/OSPE
  - b. Describe the methods used for assessment in class room situations
  - c. Tabulate a observation checklist for evaluating hand washing
  - d. Describe the steps of OSCE/OSPE using flowchart
  - e. Define attitude scales and describe any one scale in depth
  - f. Differentiate between assessment and evaluation
  - g. Process recording
  - h. Nursing care plan
  - i. Simulation
  - j. Drop and drag questions
  - k. Likert scale
  - l. Self-evaluation
  - m. Oral examination

## MULTIPLE CHOICE QUESTIONS

---

1. Which of the following is not the purpose of assessment?
  - a. Certification
  - b. Safeguarding public
  - c. Monitoring the program
  - d. Safeguarding educational institution

2. The important characteristic of assessment tool that helps us know about whether the tool measures what it is intended to measure is:
- a. Validity
  - b. Objectivity
  - c. Reliability
  - d. Practicability
3. A type of validity in which the test scores correlates with another construct related to what is being tested is called:
- a. Content validity
  - b. Construct validity
  - c. Face validity
  - d. Criterion validity
4. The method used to establish reliability of a tool is:
- a. Chi-square test
  - b. Fisher's exact test
  - c. Split half test
  - d. Paired t test
5. Which of the following tool can be used for assessing student's ability to perform suctioning?
- a. Likert scale
  - b. Checklist
  - c. Semantic differential scale
  - d. Critical incident technique



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**ANSWER KEY**

1. d      2. a      3. b      4. c      5. b
-

# Essentials of Educational Technology/ Nursing Education for BSc Nursing Students

## Salient Features

- Completely revised and updated compendium aligned with the revised INC syllabus for BSc Nursing, also useful for MSC Nursing programs.
- This book has been fastidiously developed to serve as a guide for both undergraduate and postgraduate nursing students.
- This book provides integration of foundational concepts with advanced concepts by incorporating evidence-based practice with advanced theoretical perspectives in nursing education.
- Recent Nursing Educational Technology aspects and details have been covered extensively.
- The evidence-based practices and expert insights from the fields of communication, educational technology and nursing education have been incorporated throughout the book.
- A new chapter on Ethics and Evidence-Based Teaching in Nursing Education and at places, various new matters (Teaching-learning Process, Emotional Intelligence, Teaching in clinical setting, Latest approaches to learning, etc.) have been added keeping the syllabus as well as the students' requirements in mind.

**Learning Objectives** in the beginning of every Chapter help readers understand the purpose of the chapter.

### LEARNING OBJECTIVES

After the completion of the chapter, the readers will be able to:

- Elaborate on educational technology.
- Compare and contrast various educational philosophies.

**Chapter Outline** gives a glimpse of the content covered in the entire chapter.

### CHAPTER OUTLINE

- Introduction
- Education
- Educational Technology

**Key Terms** are added in each chapter to help students understand difficult scientific terms in easy language.

### KEY TERMS

**Competency-based education:** An educational approach that focuses on the mastery of specific competencies or skills rather than emphasizing traditional time spent or grades.

Important facts, concepts and ideas have been covered in-between the text in

**High Yield Point** boxes.

### High Yield Points

Instructions while preparing and using poster:

- Choose the message to be displayed.
- Plan the message after knowing about the target audience.

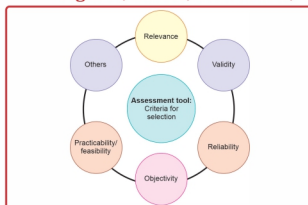
Important topics and concepts from exam point of view have been given as a separate entity in **Must Know** boxes.

### Must Know

**For effective use of chalkboard/blackboard:**

- The effective use of chalkboard/blackboard can be understood by expanding the word BLACKBOARD
- "B" - Be kind and use me

The book is well-illustrated with relevant colorful **Figures, Tables, Flowcharts**, etc.



**TABLE 4.1: Various methods of teaching**

Classroom methods	Clinical methods
<ul style="list-style-type: none"><li>• Lecture</li><li>• Group discussion</li><li>• Demonstration</li><li>• Laboratory method</li><li>• Seminar</li><li>• Symposium</li><li>• Panel discussion</li><li>• Role play</li><li>• Project</li></ul>	<ul style="list-style-type: none"><li>• Case method</li><li>• Nursing rounds and reports</li><li>• Bedside clinic</li><li>• Conference (individual and group)</li><li>• Process recording</li><li>• Nursing process</li><li>• Concept mapping</li></ul>

Each and every chapter ends with **Summary** for quick glance of the chapter.

### SUMMARY

- Classroom management refers to the strategies, techniques, and approaches; teachers use to maintain a productive and positive learning environment. This is the responsibility of a teacher to make the environment conducive for teaching learning process.

**Further Readings** is given at the end of each chapter for referring to additional sources to gain more information on the topics.

### Further Readings

- Holden R B. "Face validity". In: Weiner IB, Craighead WE. The Corsini Encyclopedia of Psychology, 4th edition. Hoboken, New Jersey: Wiley; 2010. p. 637-8.
- Gravetter F J, Forzano, L B. Research Methods for the Behavioral Sciences. 4th edition. Belmont, Calif: Wadsworth; 2012. p. 78.

At the end of chapters, **Student Assignment** section is given which contains frequently asked questions in exams and multiple choice questions to help students attain mastery over the subject.

### STUDENT ASSIGNMENT

#### LONG ANSWER QUESTIONS

1. Discuss the types of assessment in nursing. Explain about the assessment of knowledge.
2. Discuss the types of assessment in nursing. Explain about any one method of assessment of skill in nursing practice.

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