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Educational Technology in NURSING Education

As per the Revised BSc Nursing Syllabus

COMMUNICATION

GUIDANCE & COUNSELING

ETHICS IN NURSING

Education Philosophy | Teaching Learning Process | Curriculum Planning | Evaluation Strategy

Jaspreet Kaur Sodhi

2nd Edition

JAYPEE

Educational Technology in Nursing Education

As per the Revised BSc Nursing Syllabus

Second Edition

Jaspreet Kaur Sodhi MSc
Lecturer
Government College of Nursing
Rajindra Hospital
Patiala, Punjab, India

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Syllabus

EDUCATIONAL TECHNOLOGY/NURSING EDUCATION PLACEMENT: V SEMESTER

Theory: 2 Credits (40 hours)
Practicum: Lab/Practical: 1 Credit (40 hours)
Description: This course is designed to help the students to develop knowledge, attitude and beginning competencies essential for applying basic principles of teaching and learning among individuals and groups both in educational and clinical settings. It also introduces basics of curriculum planning and organization. It further enables students to participate actively in team and collaborative learning.

Competencies: On completion of the course, the students will be competent to:

1. Develop basic understanding of theoretical foundations and principles of teaching and learning.
2. Identify the latest approaches to education and learning.
3. Initiate self-assessment to identify one's own learning styles.
4. Demonstrate understanding of various teaching styles that can be used, based on the learners' readiness and generational needs.
5. Develop understanding of basics of curriculum planning, and organizing.
6. Analyze and use different teaching methods effectively that are relevant to student population and settings.
7. Make appropriate decisions in selection of teaching learning activities integrating basic principles.
8. Utilize active learning strategies that enhance critical thinking, team learning and collaboration.
9. Engage in team learning and collaboration through interprofessional education.
10. Integrate the principles of teaching and learning in selection and use of educational media/technology.
11. Apply the principles of assessment in selection and use of assessment and evaluation strategies.
12. Construct simple assessment tools/tests integrating cognitive, psychomotor and affective domains of learning that can measure knowledge and competence of students.
13. Develop basic understanding of student guidance through mentoring and academic advising.
14. Identify difficult situations, crisis and disciplinary/grievance issues experienced by students and provide appropriate counseling.
15. Engage in ethical practice in educational as well as clinical settings based on values, principles and ethical standards.
16. Develop basic understanding of evidence-based teaching practices.

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COURSE OUTLINE

T – Theory, P – Practical (Laboratory)

Unit	Time (hours) T	P	Learning outcomes	Content	Teaching/ learning activities	Assessment methods
I	6	3	Explain the definition, aims, types, approaches and scope of educational technology. Compare and contrast the various educational philosophies. Explain the teaching learning process, nature, characteristics and principles.	**Introduction and theoretical foundations** *Education and educational technology:* ➢ Definition, aims ➢ Approaches and scope of educational technology ➢ Latest approaches to education: – Transformational education – Relationship based education – Competency based education *Educational philosophy:* ➢ Definition of philosophy, education and philosophy ➢ Comparison of educational philosophies ➢ Philosophy of nursing education *Teaching learning process:* ➢ Definitions ➢ Teaching learning as a process ➢ Nature and characteristics of teaching and learning ➢ Principles of teaching and learning ➢ Barriers to teaching and learning ➢ Learning theories ➢ Latest approaches to learning – Experiential learning – Reflective learning – Scenario based learning – Simulation based learning – Blended learning	Lecture-cum-discussion **Group exercise:** Create/discuss scenario-based exercise	Quiz **Assessment of assignment:** Learning theories – analysis of any one
II	6	6	➢ Identify essential qualities/attributes of a teacher. ➢ Describe the teaching styles of faculty. ➢ Explain the determinants of learning and initiates self-assessment to identify own learning style. ➢ Identify the factors that motivate the learner.	**Assessment and planning** *Assessment of teacher* ➢ Essential qualities of a teacher ➢ Teaching styles—Formal authority, demonstrator, facilitator, delegator *Assessment of learner* ➢ Types of learners ➢ Determinants of learning—learning needs, readiness to learn, learning styles ➢ Today's generation of learners and their skills and attributes ➢ Emotional intelligence of the learner ➢ Motivational factors—personal factors, environmental factors and support system	Lecture-cum-discussion **Self-assessment exercise:** Identify your learning style using any learning style inventory (e.g., Kolb's learning style inventory) Lecture-cum-discussion	Short answer Objective type **Assessment of assignment:** Individual/ Group

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Unit	Time (hours) T	P	Learning outcomes	Content	Teaching/ learning activities	Assessment methods
			➢ Define curriculum and classify types. ➢ Identify the factors influencing curriculum. development. ➢ Develop skill in writing learning outcomes, and lesson plan.	**Curriculum planning** ➢ Curriculum–definition, types ➢ Curriculum design–components, approaches ➢ Curriculum development–factors influencing curriculum development, facilitators and barriers ➢ Writing learning outcomes/ behavioral objectives ➢ Basic principles of writing course plan, unit plan and lesson plan	**Individual/ Group Exercise:** ➢ Writing learning outcomes ➢ Preparation of a lesson plan	
III	8	15	Explain the principles and strategies of classroom management.	**Implementation** *Teaching in Classroom and Skill lab – Teaching Methods* ➢ Classroom management-principles and strategies ➢ Classroom communication – Facilitators and barriers to classroom communication – Information communication technology (ICT)–ICT used in education	Lecture-cum-discussion	Short answer Objective type
			Describe different methods/strategies of teaching and develop beginning skill in using various teaching methods.	*Teaching methods – Features, advantages and disadvantages* ➢ Lecture, group discussion, microteaching ➢ Skill lab–simulations, Demonstration & re-demonstration ➢ Symposium, panel discussion, seminar, scientific workshop, exhibitions ➢ Role play, project ➢ Field trips ➢ Self-directed learning (SDL) ➢ Computer-assisted learning ➢ One-to-one instruction	Practice teaching/micro teaching Exercise (peer teaching) Patient teaching session	Assessment of microteaching
			Explain active learning strategies and participate actively in team and collaborative learning.	*Active learning strategies* ➢ Team-based learning ➢ Problem-based learning ➢ Peer sharing ➢ Case study analysis ➢ Journaling ➢ Debate ➢ Gaming ➢ Interprofessional education	Construction of game—puzzle Teaching in groups—inter-disciplinary	
IV	3	3	Enumerate the factors influencing selection of clinical learning experiences	**Teaching in the clinical setting – teaching methods** ➢ Clinical learning environment ➢ Factors influencing selection of clinical learning experiences	Lecture-cum-discussion	Short answer

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Unit	Time (hours) T	P	Learning outcomes	Content	Teaching/ learning activities	Assessment methods
			Develop skill in using different clinical teaching strategies.	➢ Practice model ➢ Characteristics of effective clinical teacher ➢ Writing clinical learning outcomes/ practice competencies ➢ 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	Writing clinical outcomes—assignments in pairs	Assessment of written assignment
V	5	5	Explain the purpose, principles and steps in the use of media. Categorize the different types of media and describe its advantages and disadvantages. Develop skill in preparing and using media.	**Educational/teaching media** ➢ Media use – Purpose, components, principles and steps ➢ Types of media *Still visuals* ➢ Non projected–drawings & 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) ➢ Projected–film stripes, microscope, power point slides, overhead projector *Moving visuals* ➢ Video learning resources–videotapes & DVD, blu-ray, USB flash drive ➢ Motion pictures/films *Realia and models* ➢ Real objects & Models *Audio aids/audio media* ➢ Audiotapes/Compact discs ➢ Radio & Tape recorder ➢ Public address system ➢ Digital audio *Electronic media/computer learning resources* ➢ Computers ➢ Web-based videoconferencing ➢ E-learning, smart classroom *Telecommunication (Distance education)* ➢ Cable TV, satellite broadcasting, videoconferencing Telephones–Telehealth/telenursing *Mobile technology*	Lecture-cum-discussion Preparation of different teaching aids—(integrate with practice teaching sessions)	Short answer Objective type Assessment of the teaching media prepared

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Unit	Time (hours) T	P	Learning outcomes	Content	Teaching/ learning activities	Assessment methods
VI	5	3	Describe the purpose, scope, principles in selection of evaluation methods and barriers to evaluation. Explain the guidelines to develop assessment tests. Develop skill in construction of different tests. Identify various clinical evaluation tools and demonstrate skill in selected tests.	**Assessment/evaluation methods/ strategies** ➢ Purposes, scope and principles in selection of assessment methods and types ➢ Barriers to evaluation ➢ Guidelines to develop assessment tests *Assessment of knowledge:* ➢ Essay type questions ➢ Short answer questions (SAQ) ➢ Multiple choice questions (MCQ – single response & multiple response) *Assessment of skills:* ➢ Clinical evaluation ➢ Observation (checklist, rating scales, videotapes) ➢ Written communication – progress notes, nursing care plans, process recording, written assignments ➢ Verbal communication (oral examination) ➢ Simulation ➢ Objective structured clinical examination (OSCE) ➢ Self-evaluation ➢ Clinical portfolio, clinical logs *Assessment of attitude:* ➢ Attitude scales *Assessment tests for higher learning:* ➢ Interpretive questions, hot spot questions, drag and drop and ordered response questions	Lecture-cum-discussion Exercise on constructing assessment tool/s	Short answer Objective type Assessment of tool/s prepared
VII	3	3	Explain the scope, purpose and principles of guidance. Differentiate between guidance and counseling. Describe the principles, types, and counseling process. Develop basic skill of counseling and guidance.	**Guidance/academic advising, counseling and discipline** *Guidance* ➢ Definition, objectives, scope, purpose and principles ➢ Roles of academic advisor/ faculty in guidance *Counseling* ➢ Difference between guidance and counseling ➢ Definition, objectives, scope, principles, types, process and steps of counseling ➢ Counseling skills/techniques – basics ➢ Roles of counselor ➢ Organization of counseling services	Lecture-cum-discussion Role play on student counseling in different situations Assignment on identifying situations requiring counseling	Assessment of performance in role play scenario Evaluation of assignment

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Unit	Time (hours) T	P	Learning outcomes	Content	Teaching/ learning activities	Assessment methods
			Recognize the importance of preventive counseling and develop skill to respond to disciplinary problems and grievance among students.	➢ Issues for counseling in nursing students *Discipline and grievance in students* ➢ Managing disciplinary/grievance problems–preventive guidance & counseling ➢ Role of students' grievance redressal cell/committee		
VIII	4	2	Recognize the importance of value-based education. Develop skill in ethical decision making and maintain ethical standards for students. Introduce knowledge of EBT and its application in nursing education	**Ethics and evidence-based teaching (EBT) in nursing education** *Ethics – Review* ➢ Definition of terms ➢ Value based education in nursing ➢ Value development strategies ➢ Ethical decision making ➢ Ethical standards for students ➢ Student-faculty relationship *Evidence based teaching – Introduction* ➢ Evidence based education process and its application to nursing education	Value clarification exercise Case study analysis (student encountered scenarios) and suggest ethical decision-making steps Lecture- cum-discussion	Short answer Evaluation of case study analysis Quiz – MCQ

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3 CHAPTER

Curriculum Planning

- Definitions of Curriculum
- Types of Curriculum
- Curriculum Design-Components
- Approaches used for Curriculum Development
- Curriculum Development-Factors Influencing Curriculum Development
- Facilitators and Barriers in Curriculum Development
- Writing Learning Outcomes/Behavioral Objectives
- Course Plan
- Unit Plan
- Lesson Plan

LEARNING OBJECTIVES

At the end of this chapter, students will be able to:

- Define curriculum
- Enlist the types of curriculum
- Define curriculum design
- Discuss approaches used for curriculum development
- Explain the characteristics of learning outcomes/behavioral objectives
- Illustrate with examples of writing effective behavioral objectives
- Provide steps in developing course plan, unit plan, and lesson plan

INTRODUCTION

The term *curriculum* was derived from the Latin word *currere,* meaning "to run"—has been translated to mean "course of study" (Wiles and Bondi, 1989). Simple meaning of Curriculum is **planned** learning experiences offered in a single program. The four crucial elements of curriculum are:

1. **Aims, goals, objectives, or outcome statements**—what do we want this curriculum to achieve, what would we expect to be the outcomes as a result of participating in the implementation of this curriculum?
2. **Content, domains, or subject matter**—what will we include or exclude from our curriculum?
3. **Methods or procedures**—what teaching methods or approaches will we use to achieve these goals or outcomes?
4. **Evaluation and assessment**—how will we know when we have achieved them?

DEFINITIONS OF CURRICULUM

A curriculum usually contains a statement of aims and of specific objectives; it indicates some selection and organization of content learning and teaching, whether because the objectives demand them or because the content organization requires them.

- **Curriculum** is defined as "a course; specifically, a regular course of study or training, as at a school or university".

—OED Online (2016)

- "Curriculum is a tool in the hands of the artist (the teacher) to mold his material

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(the pupil) to his ideal (objective) in his studio (the school)." —***Cunningham***

- A curriculum is the formal plan of study that provides the philosophical underpinnings, goals, and guidelines for delivery of a specific educational program.
- "Curriculum is a body of prescribed experiences under school supervision, designed to provide an individual with best possible training and experience to fit him for the society of which he is a part or to qualify him for a trade or profession."
  —***Carter V Good (1973)***
- Curriculum can be defined as *a planned educational experience* encompasses a breadth of educational experiences, from one or more sessions on a specific subject to a year-long course, from a clinical rotation to an entire training program.

TYPES OF CURRICULUM

There are various types of curricula. **Box 3.1** describes the various types of curricula.

Competency-based Curriculum

Nursing is a professional discipline, it is suggested that a competency approach should be used to formulate the program

Box 3.1 Types of curriculum.

Traditional curriculum: "Subject-centered curriculum"
- It is a statement of subjects of study with indications of their extent and time limit
- Each subject is separate entity and its nature and score is clearly defined
- All stress is on intellectual attainment of child rather than on values of studies for the personal and social development

Activity curriculum
- It emphasizes on learning by doing or learning through activities
- In activity curriculum, subject matter is translated in terms of activities and knowledge is gained as an outgrowth and product of those activities
- Activity is used as medium for imparting the requisite knowledge, skills, and attitudes

Experience curriculum
- A curriculum which gives rich and varied experiences of knowledge, skills, attitudes, and appreciation is called the experience curriculum
- Experience is the product of education process
- Teaching is considered as a bipolar process in which both the teacher and student must share educational experience and there must be a constant interaction between them

Basic curriculum
- Basic curriculum has been constructed around three integrally related centers: (1) physical environment, (2) social environment, and (3) craft to bring about an all-round development of child
- All the subjects and activities are coordinated with these centers in order to give much needed unity to school curriculum

Undifferentiated curriculum
- It is a curriculum which does not aim at specialized study of various subjects
- There is undifferentiated/fused curriculum at primary and junior secondary school stages which lays stress on the formation of worthwhile habits, skills, and virtues

Hidden or covert curriculum
- The hidden curriculum consists of values and beliefs taught through verbal and nonverbal communication by the faculty
- Faculty may be unaware of what is taught through their expressions, priorities, and interactions with students, but students are very aware of the "hidden agendas" of the curriculum, which may have a more lasting influence than the written curriculum
- The hidden curriculum includes the way faculty interact with students, the teaching methods used, and the priorities set ***(Bevis, 2000; Posner, 1992)***

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Null curriculum
According to Bevis:
- The null curriculum represents content and behaviors that are not taught. Faculty need to recognize what is not being taught and focus on the reasons for ignoring those content and behavior areas
- Examples include content or skills that faculty think they are teaching but are not, such as clinical reasoning. All components and relationships need to be evaluated, when faculty review curricula

Competency curriculum
- It consists of competencies
- Assessment and certification of achievement of the competencies is sequentially integrated into each year of the curriculum culminating with a competency transcript upon graduation
- Recently, Indian Nursing Council (INC) has revised syllabus based on competency-based curriculum

Formal curriculum (written or overt)
- It comprises those things in textbooks, and content and concepts in the district curriculum guides. However, those "formal" elements are frequently not taught
- The curriculum-in-use is the actual curriculum that is delivered and presented by each teacher

Core curriculum
- Core means all the essential things required for all the subjects
- This type of curriculum develops in integration, serves the needs of the students and promotes active learning, and relates to life and learning

outcomes of nursing programs. Competence is the ability to deliver a specified professional service. Competency-based curriculum is learner-centered and adaptive to the changing needs of students, teachers, and society. Competency-based curriculum emphasizes on the complex outcomes of a learning process (i.e., knowledge, skills and attitudes to be applied by learners) rather than mainly focusing on what learners are expected to learn about in terms of traditionally-defined subject content. It implies that learning activities and environments are chosen so that learners can acquire and apply the knowledge, skills and attitudes to situations they encounter in everyday life. According to UNESCO, competency-based curricula are usually designed around a set of key competences/competencies that can be cross-curricular and/or subject bound.

Curriculum is the vehicle through which a country empowers its citizens with the necessary knowledge, skills, attitudes, and values that enable them to be socially and economically engaged and empowered, for personal and national development. Most of countries are applying combined use of the content-based and outcome-based approaches in curriculum design and development. Recently in 2020, Indian Nursing Council (INC) has proposed revised BSc Nursing syllabus based on competency-based curriculum **(Figs. 3.1A and B)**.

CURRICULUM DESIGN

Curriculum design is the purposeful and deliberate process of organizing curriculum elements within a class or course in a logical pattern. In other words, it is a way for teachers to plan instruction. When teachers design curriculum, they identify what will be done, who will do it, and what schedule to follow.

Curriculum design includes the courses selected, their sequencing, the relationships between and among courses, and associated curriculum policies. The design encapsulates the curriculum foundations and ought to present a picture of conceptual unity.

Features of Effective Curriculum Design

- The design must be congruent with the institution and school's mission and purpose, and with faculty values and beliefs.

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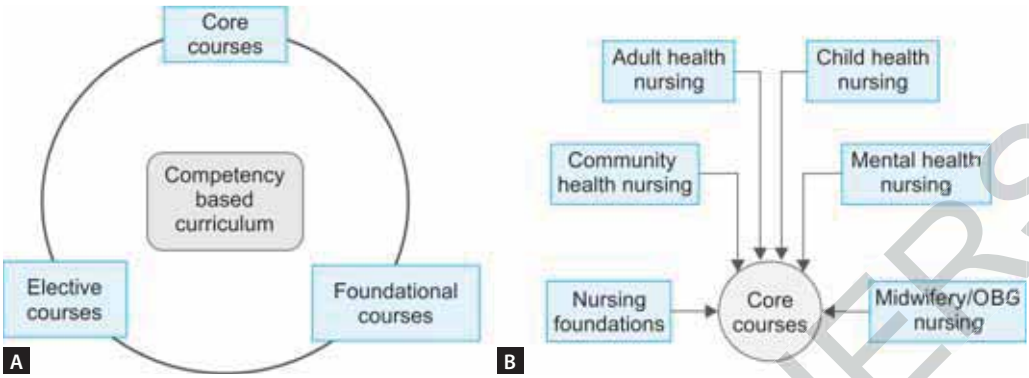

Figs. 3.1A and B: Competency-based curriculum.
Source: Indian Nursing Council. Syllabus: Revised basic BSc Nursing. [online] Available from http://www.indiannursingcouncil.org/pdf/BSCSyllabus_2019-20.pdf [Last accessed December, 2020].

- Effective curriculum design shares some common qualities. Examples of features include: scope, sequence, continuity, articulation, and balance.
- It should be directed and oriented to student learning, and reflect the curriculum concepts, goals or intended outcomes, and context of nursing practice.
- Curriculum developers need a clear sense of purpose and commitment to completing the task of design in a timely fashion.

Nursing curricula typically employ five curriculum designs for ordering or constructing knowledge. **Box 3.2** highlights various designs used in nursing curriculum and their implication in nursing.

Box 3.2 **Curriculum designs.**

- **Building blocks design**
  - In this design, a clearly defined body of knowledge or skills is organized into a pyramid-like arrangement
  - The base is made up of foundational knowledge
  - The middle portion of the pyramid is composed of increasingly specialized material
  - The apex contains in-depth, specialized knowledge. The sequence is prescribed and deviation is not allowed

  Implication in nursing
  - The base in 1st year of nursing course is made up of foundational knowledge from humanities and science in which nursing concepts, procedures, and professional ethics are learned
  - As nursing students proceed from 1st year to 4th year, knowledge and skills are built in a stepwise fashion and students can learn from simple to complex and specialized knowledge only when there is a basis of prior knowledge
- **Branching design**
  - It is a variation of the building blocks design
  - The endpoints of learning are known in advance
  - The curriculum starts with foundational knowledge, and then there is some choice within prescribed areas beyond the common experiences

  Implication in nursing
  - A variety of placements for a practicum represent a branching design, e.g., medical surgical clinical area is branched into various subspecialties
- **Spiral design**
  - In this design, the same knowledge areas are repeatedly revisited at higher levels of complexity

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- Students are encouraged to go beyond factual recall to an application of knowledge and skills
- There can be some flexibility depending on curriculum designer

Implication in nursing

- It is based on principle of reinforcement and integration proceeding from simple to complex. Students visit medical surgical clinical area in 2nd year, again in 3rd year, and also in 4th year. Students who repeat a placement they have previously experienced are in a spiral situation; they are returning to the same practice area with more knowledge and experience and should be able to deepen their understanding of the clients and situations they encounter. This increases students' competency with each visit

➢ **Specific tasks or skills design**

- In this design, specific knowledge and experiences are intended to assist students to achieve predetermined competencies
- There can be flexibility in the content and the ordering of content

Implication in nursing

- Plans for psychomotor skills learning are reflective of a specific task or skills design

➢ **Process design**

- In this design, there is a fluid organization of knowledge
- The emphasis is on the process to be learned, and content is the medium through which specified processes are addressed

Implication in nursing

- Process design is most evident in the use of strategies such as narrative pedagogy, or flipped classrooms. Professional practice experiences are also examples of a process design: students learn the processes of nursing and interprofessional practice by engaging in the professional activities

Approaches used for Curriculum Development

Curriculum approach is the way of dealing with a curriculum, a way of doing/creating/designing/thinking about a curriculum. It can be:

- **Subject-centered approach:** It focuses on particular subject or discipline.
- **Child-centered approach:** Children take command of their own learning and teacher acts as facilitator.
- **Teacher-centered approach:** Teacher plays an important role in the development of the student.

A Six-Step Approach for Curriculum Development

The six-step approach is a theoretical approach to curriculum development developed by physician educators at ***Johns Hopkins University Faculty Development Program for Clinical Educators***. It is logical, systematic, dynamic, and interactive. Progress on one step influences progress on another (as illustrated by the bidirectional arrows in **Figure 3.2**).

- **Step 1:** Problem identification and general needs assessment
- **Step 2:** Targeted needs assessment
- **Step 3:** Setting goals and objectives
- **Step 4:** Educational strategies
- **Step 5:** Implementation
- **Step 6:** Evaluation and feedback

Step 1: Problem Identification and General Needs Assessment

First step begins with the identification and critical analysis of a health care need or other problem.

- What is the health or learning problem?
- Whom does the problem affect?
- What does the problem affect?
- How big is the problem?
- What is currently being done about it?
- Is there existing medical curricula?
- Does anyone else have the same problems?
- How are they resolving them?
- Where are sources of possible solutions?

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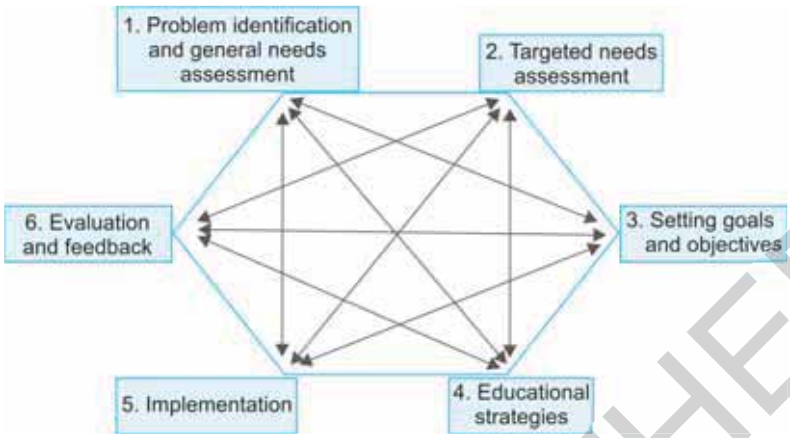

Fig. 3.2: A six-step approach to curriculum development.
Source: Kern D, Thomas P, Howard D, Bass E. Curriculum Development for Medical Education: A Six-Step Approach. Baltimore and London: The Johns Hopkins University Press; 2016.

Step 2: Targeted Needs Assessment
It is a process by which curriculum developers apply the knowledge learned from the general needs assessment to their particular learners and learning environment. This step involves assessing the needs of one's targeted group of learners and their medical institution/learning environment, which may be different from the needs of learners and medical institutions in general. It enables desired integration of a specific curriculum into an overall curriculum. It also develops communication with and support from stakeholders and aligns one's curriculum development strategy with potential resources.

- Describes the learners and their environment
- Learners previous training and existing proficiencies
- Past and current performance
- Attitudes
- Learning styles
- Environment past or current curricula

Step 3: Setting *Goals and Objectives*
A goal or objective is defined as an end toward which an effort is directed. Once the needs of targeted learners have been identified, goals and objectives for the curriculum can be written, starting with broad or general goals and then moving to specific, measurable objectives. Objectives may include cognitive (knowledge), affective (attitudinal), or psychomotor (skill and behavioral) objectives for the learner; process objectives related to the conduct of the curriculum; or even health, health care, or patient outcome objectives.

Step 4: Educational Strategies
It provides the means by which a curriculum's objectives are achieved. They involve both content and methods. Content refers to the specific material to be included in the curriculum. Methods are the ways in which the content is presented. Use multiple feasible educational strategies for curriculum development.

Step 5: Implementation
It is the step that converts a mental exercise to reality. It involves the implementation of both the educational intervention and its evaluation. It has several components:

- Obtaining political support
- Identifying and procuring resources
- Identifying and addressing barriers to implementation
- Introducing the curriculum (e.g., piloting the curriculum on a friendly audience

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before presenting it to all targeted learners, phasing in the curriculum one part at a time)
- Administering the curriculum and refining the curriculum over successive cycles.

Step 6: Evaluation and Feedback

The main aim of evaluation is to assess the effectiveness of a specific curriculum or the relative merits of different educational approaches. This step includes:
- Individual evaluation—to assess the performance of individuals.
- Program evaluation—to assess the performance of curriculum.
- Formative evaluation—to provide ongoing feedback so that the learners or curriculum can improve.
- Summative evaluation—to provide a final "grade" or evaluation of the performance of the learner or curriculum.

CURRICULUM DEVELOPMENT

- Curriculum development is a set of practices aimed at introducing planned changes in search of better achievements.
- Curriculum development is a process that continuously strives to find newer, better and more efficient means to accomplish the task of educating the next generation.
- Curriculum development is the process of designing a formal plan of study that provides the philosophical underpinnings, goals, and guidelines for the delivery of a specific educational program.

—Keating (2011)
- Curriculum development refers to designing new programs and evaluating/revising existing programs. ***—Kim (2012)***
- Curriculum development in nursing education is a scholarly and creative process intended to create learning opportunities that will build students' professional knowledge, skills, values, identity, and confidence so that graduates will practice nursing professionally, that is, safely and competently in changing social and health care environments, thereby contributing to the health and quality of life of those they serve.

—Carroll L Iwasiw

Steps in Curriculum Development

There are five steps in the development of the curriculum:
- **Step 1:** Formulating the statement of philosophy of the school or college or university
- **Step 2:** Establishment of purposes and objectives of the school or college or university
- **Step 3:** Selection of learning experience to achieve the purposes and objectives
- **Step 4:** Effective organization of the selected learning experiences
- **Step 5:** Evaluation of the total program

Step 1: Formulating the Statement of Philosophy

The philosophy of the college/school serves as a framework within which the organization, school or college or educational program can function with the purpose and objective.

Step 2: Establishing Purposes and Objectives

The term "purposes" refers to describe the overall goals of the total education program and the term "objective" refers to the breakdown of purposes into the specific goals which can be used to pinpoint the content. The reason for formulating objectives is to indicate what changes in behavior it is hoped to bring about in the students as a result of the courses being offered.

Step 3: Selection of Learning Experiences

A learning experience is something in which the student actively participates and which results in a change of behavior. The selection

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of learning experiences is broadly speaking, deciding on what will be the contents of the curriculum. The teacher should select only experiences which will result in desirable outcomes in both the hospital and community health field. The kind of learning experiences which the student will require will depend on the objectives of the curriculum.

Step 4: Organization and Integration of Experiences and Content

After the content knowledge and learning experiences have been selected carefully in relation to the desired objectives, they must be organized in the curriculum. Criteria which can serve as guides for the effective organization of the content (subject matter) and learning experiences in curriculum are continuity, sequence, and integration (CSI).

Step 5: Evaluation of the Curriculum

The final step in the curriculum process is the coming to conclusions about the success or failure of the educational enterprise by means of some measurement or assessment of change in behavior.

Curriculum Development of Nursing in India

Indian Nursing Council is regulatory body of nursing in India. Curriculum development takes place at two levels, i.e., macrocurriculum and microcurriculum.

1. **Macrocurriculum:** The overall design or blueprint of the program, done by a Curriculum Committee.
2. **Microcurriculum:** The course outlines and unit plans, usually developed by the individual teacher.

After need identification, a core committee is developed for curriculum development. Curriculum coordinator is a leader of core committee. Core committee consists of various stakeholders, i.e., nurse administrators, experts from various specialties, doctors, parents, students, etc. Stepwise process of curriculum development has same steps that of nursing care plan, i.e., assessment, planning, implementation, and evaluation (as illustrated in **Flowchart 3.1**).

Factors Influencing Curriculum Development

Factors affecting curriculum development have been shown in **Figure 3.3**.

1. **Philosophical factors:** Philosophy is a powerful determinant of curriculum development. Philosophical components include principle of philosophy of education, national goals, and schools of thought such as idealism, naturalism, pragmatism, and existentialism. Depending on different type of curriculum, curriculum will different based on each philosophy, as depicted in **Table 3.1**.
2. **Sociological factors:** Schools are the social institutions specially set-up for the transmission of the culture by society. Schools seek to discharge this function through the curriculum. Sociological approach to education demands that we should bear in mind the needs, requirements, imperatives, and aspirations of the community for which the curriculum is being prepared. It should be dynamic, flexible, and revisable to be progressive with changing times. This approach considers not only the needs of the society, but it also recognizes the needs of the children. Sociological considerations that guide the curriculum development are:
   - Core values and needs of Indian society
   - Changing values of the people
   - Demands of modernization
   - Good family life, ways of life
   - Faith, beliefs, and attitude of people
   - Cooperation
   - Media explosion
   - Population explosion

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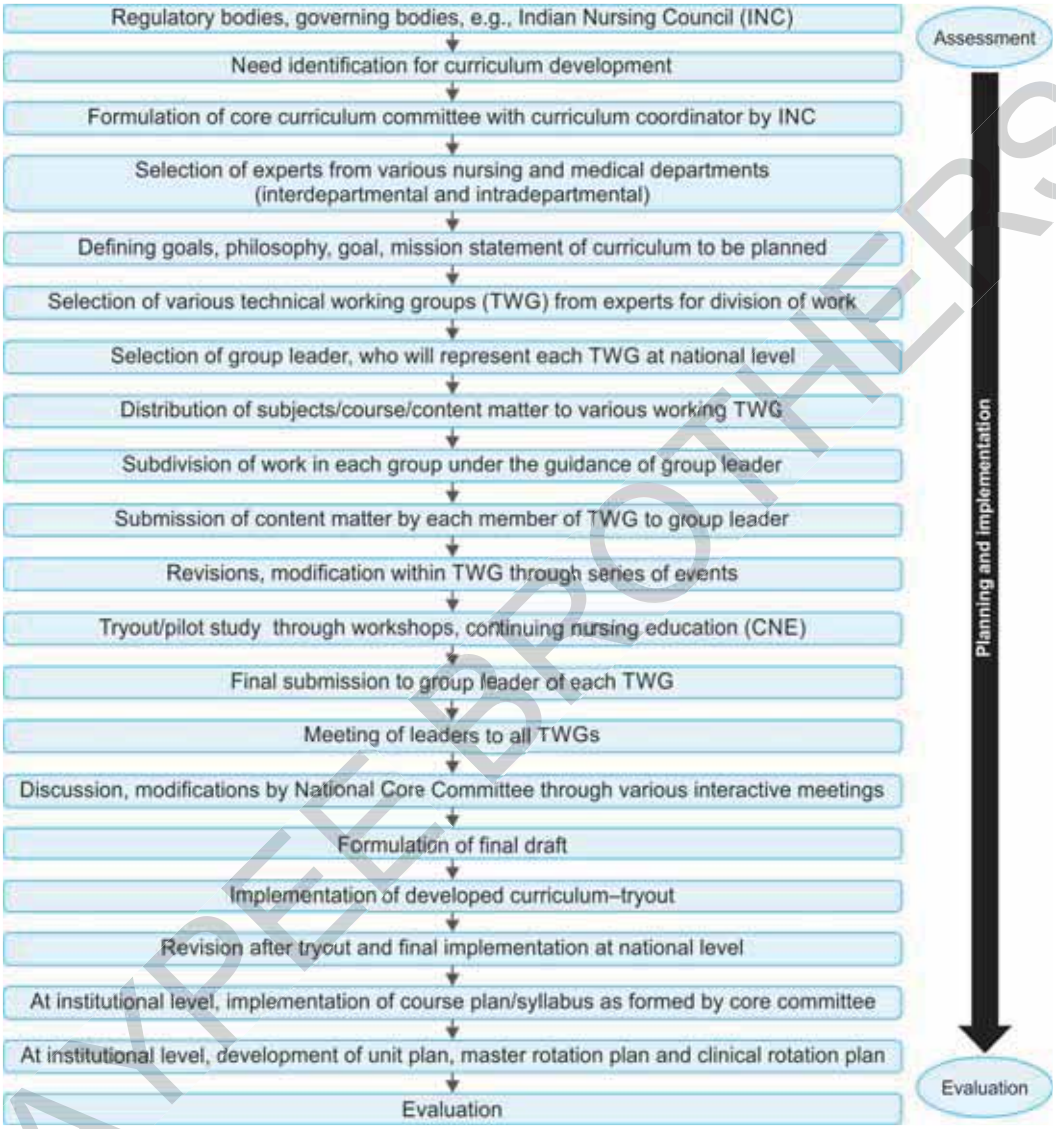
Flowchart 3.1: Stepwise process of curriculum development.



- Regional and national imbalance
- Economic efficiency.

3. **Psychological factors:** Psychological determinants of curriculum focus on understanding psychology of a child. Various psychological determinants are as follows:
   - Knowledge of the nature of the learner and the learning process and the conditions facilitating optimum learning
   - Knowledge of growth and development
   - Knowledge of intelligent development capacities

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Fig. 3.3: Factors affecting curriculum development.

TABLE 3.1: Different types of curriculum—based on philosophy.

Naturalistic philosophy	*Pragmatic philosophy*	*Basic curriculum*
Child centeredness In child-centered curriculum, the child is the center of the educative process. Hence, the curriculum, the methods of teaching, and the whole of school environment become the child-centered and child-oriented	**Need centeredness** It gives the recognition of the interests of children in the process of education. It emphasized the importance of building the curriculum around the needs of children	**Activity centeredness** In basic curriculum, knowledge is acquired and facts are stored. Education to be imparted by means of educational activities and experiences organized by the pupils themselves, which demand the active participation of the students

- Interests of the learner
- Curriculum to be child centered, learning experiences should be provided in accordance with the mental development of learner, i.e., ability grouping.

4. **Scientific factors:**
   - Science and technology, information and technology
   - To achieve complete development of an individual and to prepare for complete living, i.e., human activities
   - Self-preservation
   - Self-protection
   - Social and political protection
   - Proper utilization of leisure time.
5. **Political factors:** Democratic values of Social Justice, Equity, Socialism, Rights and Duties, Fraternity.
6. **Environmental factors:** Pollution, earthquake, ozone layer depletion, spread of pandemic diseases such as Corona, e.g., due to corona outbreak curriculum was technology based, rather than regular classroom teaching.
7. **Historical factors:** Country's historical background, culture, and tradition.

Facilitators and Barriers in Curriculum Development

Curriculum development is a tedious process. It is not an easy job to formulate effective curriculum. There are various barriers in curriculum development. **Box 3.3** enlists various barriers

Box 3.3 **Barriers and facilitators in curriculum development.**

Barriers in curriculum development

- **Time:** Lack of sufficient time for instruction—hours/day, days/year
- **Process:** Setting of unattainable curriculum goals and inadequate content of curriculum
- **Needs of public:** Threat to change current social system. Public discomfort with certain topics and long-standing traditions
- **Needs of student:** Not knowing enough about student learning—what students can and cannot learn under various circumstances
- **Motivation:** Lack of motivation in teachers and readiness in student to accept the teaching approaches on new curriculum
- **Perception:** Lack of perception of a need to change and lack of ability to progress
- **Faculty unpreparedness:** Lack of in-service training on new curriculum to teachers and staff development methods
- Lack of support from the management
- **Resources:** Shortage of teaching-learning resources and suitable instructional materials
- **Government policies:** Lack of adequate financial support from the policy makers
- **Competition**
- Other factors such as overcrowded classrooms, quality and quantity of the teachers, workload of teachers, and methods of teaching

(Contd...)

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(Contd...)

Facilitators in curriculum development

- A facilitative visionary leader who knows how to balance pressure and support
- An organizational culture and climate conducive to change an environment that openly values change and creativity
- Evolutionary planning and coordinating of resources
- Creating space for staff to reflect and deliberate on their conceptions of teaching and concerns about the new program
- Providing individualized and targeted staff training and development
- Acceptance and openness to innovations
- Monitoring and checking progress
- Continued assistance and support (Hord, 1992)

in curriculum and also facilitators that help in curriculum development.

Writing Learning Outcomes/ Behavioral Objectives

Writing goals and objectives is an important skill in curriculum development. Well-written goals and objectives define and focus a curriculum. They provide direction to curriculum developers in selecting educational strategies and evaluation methods. Writing objectives serves other education reform goals, including curriculum alignment, cooperative learning, and restructuring.

EDUCATIONAL OBJECTIVES

Educational objectives are the learner centered desirable outcomes of intended actions through the mode of action.

Definitions of Educational Objectives

- The result sought by the learner at the end of the educational program, i.e., what the students should be able to do at end of a learning period that they could not do beforehand. ***—JJ Guilbert***
- Objectives are the behaviors to be displayed by a learner', aims are for the teacher and the objectives are for the learners to achieve through the support and guidance of the teacher.

Criteria for Writing Educational Objectives

- Educational objectives should always be expressed in terms of individual student performance.
- Educational objectives should always specify the conditions under which the students' must perform.
- Educational objectives should specify minimal acceptable level of performance.
- Educational objectives should use only verbs that are observable and measurable.

Table 3.2 depicts how to write criteria statement of educational objectives with example.

Types of Educational Objectives (Table 3.3)

Bloom' Benjamin's has put forward a taxonomy of educational objectives, which provides a practical framework within which educational objectives could be organized and measured. In this taxonomy Bloom divided educational objectives into three domains. These are:

1. Cognitive domain
2. Affective domain, and
3. Psychomotor domain.

TABLE 3.2: Criteria statements.

Criteria statements	*Example*
Objectives must be stated in terms of expected student behavior (not teacher behavior)	As a result of the lesson, each student will able to
Objectives must specify the conditions under which the students are expected to perform	The staff nurses will be able to perform PPE, following an in-service seminar on COVID-19 management
Objectives should specify minimal acceptable level of performance	"With 80% accuracy" or "without error"
Objectives should use only verbs* that are observable and measurable	Identify, list, explain, name, describe, and compare

*Bloom's Taxonomy of Learning Objectives is valuable resource for action verbs.

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Cognitive Domain

Cognitive domain is the part of human learning that involves changes in intellectual skills, such as assimilation of information. Cognitive objectives are instructional objectives that stress knowledge and intellectual abilities, and skills **(Table 3.4)**.

Examples of questions for cognitive domain are annexed (Refer to **Annexure 1** for sample of questions to formulate questions using cognitive domain).

TABLE 3.3: Example of objectives.

Cognitive	By the end of the curriculum, student will be able to list complication of diabetes mellitus
Affective	By the end of the curriculum, there will have been a statistically significant increase in how primary care nurses rate the importance and effectiveness of smoking cessation counseling by primary care nurses
Psychomotor	During the curriculum, ≥80% of staff nurses will have demonstrated in role-play a smoking cessation counseling technique that incorporates the attached five steps

Affective Domain

Affective domain is the part of human learning that involves changes in interests, attitudes, values, feelings, and emotions **(Table 3.5)**.

Psychomotor Domain

Psychomotor domain is the part of human learning that involves motor skills. It deals with the development of manual or physical competencies and is the domain that teacher use most often in developing competencies related to clinical practice **(Table 3.6)**.

TABLE 3.4: Cognitive domain (changes in knowledge).

Bloom's Original Taxonomy (memorizing tip: KCAASE)	
Domain	***Verbs***
Knowledge: Retrieval of previous learned material	Recognize, identify, notice, distinguish, aware, detect, locate, select, compare, adjust, listen
Comprehension: The ability to grasp or understand the meaning from the material	Identify, describe, compute, associate, position, sort, acknowledge, express, respond, select, convert
Application: The ability to use learned material, or to implement material in new and concrete situation	Change, demonstrate, discover, modify, operate, predict, prepare, solve
Analysis: The ability to break down or distinguish the parts of materials into its components so that its organizational structure may be better understood	Diagram, discriminate, distinguish, infer, outline, relate, separate
Synthesis: The ability to put parts together to form coherent or unique new whole	Categorize, combine, create, devise, design, generate, plan, reconstruct, rearrange, revise, explain
Evaluation: The ability to judge, check, and even critique the value of material for a given purpose	Appraise, control, compare, criticize, justify, interpret, discriminate, contrast
Bloom's New Taxonomy	
Remember: Retrieve information from long-term memory	Define, list, label, select, locate, match
Understand: Comprehend meaning and interpret information	Explain, describe, interpret, summarize, predict
Apply: Carry out or use a procedure or concept in a given situation	Solve, apply, use, calculate, relate, change
Analyze: Separate material or concepts into component parts and determine the relationships among the parts and to the overall structure	Compare, classify, differentiate
Evaluate: Making judgment based on criteria	Reframe, critique, support, assess
Create: Build something new from diverse elements	Design, compose, create, formulate, develop

Source: Atkinson SP (2012). Adaptation of Dave's psychomotor domain. [online] Available from https://spatkinson.wordpress.com/tag/daves-taxonomy [Last accessed December, 2020]. Atkinson SP, Oermann MH, Gaberson KB. Evaluation and Testing in Nursing Education, 4th edition. New York, NY: Springer; 2014.

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TABLE 3.5: Affective domain.
(It refers to changes in appreciations, attitudes, emotions, interests, and values)—**RR VOC**

Original affective taxonomy (Krathwohl, Bloom, and Masia, 1964)		*Atkinson's (2012a) modified taxonomy*	
Levels	***Associated verbs***	***Levels***	***Associated verbs***
Receiving: Aware, willing to hear, sensitive to ideas	Accept, ask, attend, listen (for), listen to, recognize	**Receive:** Ability to learn from others	Attend, ask, concentrate, feel, focus, read, retain
Responding: Attend and react to a particular situation	Answer, comply, conform, discuss, examine, react, respond, seek clarification	**Respond:** Ability to participate responsively, respectfully, and actively as appropriate to the context	Cite, perform, interpret, help, provide, react, seek to clarify, question, write
Valuing: Attach worth to particular ideas, phenomena, or behaviors	Choose, demonstrate, explain, initiate, justify, refute, support	**Value:** Ability to associate personal and collective values with contextual experiences and express value judgments	Argue, challenge, confront, criticize, debate, justify, persuade, refute
Organization: Organizing values into priorities by contrasting different values, resolving conflicts between them, and creating a unique value system	Adhere, balance, arrange, display, defend, formulate, generalize, integrate, resolve	**Organize:** Ability to structure, prioritize, and reconcile personal and others' value systems	Arrange, build, contrast, defend, develop, formulate, modify, prioritize, reconcile, relate
Characterization by a value set: Having a value system that consistently controls own behavior	Act, display, internalize, perform, practice, question, resolve, verify	**Internalize:** Ability to articulate one's own value and belief systems and operate consistently within them	Act, display, influence, solve, practice

Source: Atkinson SP (2012). Adaptation of Dave's psychomotor domain. [online] Available from https://spatkinson.wordpress.com/tag/daves-taxonomy [Last accessed December, 2020]. Atkinson SP, Oermann MH, Gaberson KB. Evaluation and Testing in Nursing Education, 4th edition. New York, NY: Springer; 2014.

TABLE 3.6: Psychomotor domain.
(It refers to the development of manipulative, sensory, and motor skills)—**IMPAN**

Dave's (1970) psychomotor Levels	*Atkinson's (2012b) psychomotor levels*	*Associated verbs*
Imitation: Observing and patterning behavior after someone else	**Imitate:** Ability to copy, replicate the actions of others following observation	Copy, follow, mimic, imitate, repeat, replicate
Manipulation: Performing certain actions by memory or following instructions	**Manipulate:** Ability to repeat or reproduce actions to a prescribed standard from memory or instructions	Demonstrate, execute, follow, implement, perform, manipulate, recreate
Precision: Performing a skill with control and independently of instruction	**Perfect:** Ability to perform with expertise and without intervention, and ability to demonstrate and explain to others	Be precise, complete, demonstrate, perform (accurately, smoothly), show
Articulation: Coordinating and adapting a series of actions in an appropriate sequence to achieve harmony and internal consistency	**Articulate:** Ability to perform actions in a nonstandard way, in different contexts, using alternative tools and instruments to satisfy need	Adapt, combine, construct, develop, integrate, modify, revise
Naturalization: Mastering a high-level performance until it becomes second nature, without needing to think much about it	**Embody:** Ability to perform actions in an automatic, intuitive, or unconscious way appropriate to the context	Alter, create, change, design, execute (effortlessly), invent

Source: Atkinson SP (2012). Adaptation of Dave's psychomotor domain. [online] Available from https://spatkinson.wordpress.com/tag/daves-taxonomy [Last accessed December, 2020]. Atkinson SP, Oermann MH, Gaberson KB. Evaluation and Testing in Nursing Education, 4th edition. New York, NY: Springer; 2014.

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LEARNING OBJECTIVES (FLOWCHART 3.2)

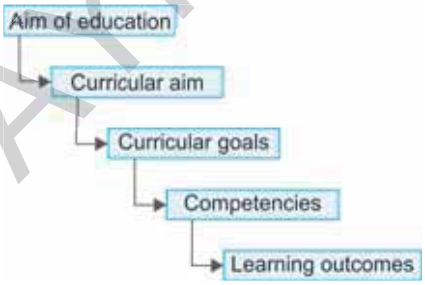
Introduction

A learning goal is a broad statement of an expected learning outcome of a course or curriculum. Learning objectives are drawn from the learning goals. Learning outcomes within nursing curricula are practice-oriented statements, integrating several domains of knowledge so that higher level functions, such as nursing care, can be carried out.

Definition of Learning Outcomes

- According to Adam (2004), learning outcome is a written statement of what the successful student/learner is expected to be able to do at the end of the module/course unit or qualification.
- According to Moon (2002), a learning outcome is a statement of what a learner is expected to know, understand and be able to do at the end of a period of learning and of how that learning is to be demonstrated.
- According to American Association of Law Libraries, learning outcomes are statements that specify what learners will know or be able to do as a result of a learning activity. Outcomes are usually expressed as knowledge, skills, or attitudes.

Flowchart 3.2: Flow of increasing specificity from the broader aims of education to specific learning outcomes.



- **Aims of education:** Aims are educational vision statements that give broad direction to all deliberate efforts of educational systems—curriculum development, institutional arrangements, funding and financing, people's capacities, and so on.
- **Curricular aim:** Curricular aims are statements that give broad directions to curriculum development and implementation.
- **Curricular goals:** Curricular goals are statements that give directions to curriculum development and implementation.
- **Competencies:** Competencies are specific learning achievements that are observable and can be assessed systematically.
- **Learning outcomes:** Learning outcomes are granular milestones of learning and usually progress in a sequence leading to the attainment of a competency. These LOs enable teachers to plan their content, pedagogy, and assessments towards achieving specific competencies.

Source: https://www.education.gov.in/sites/upload_files/mhrd/files/ncf_2023.pdf.

Writing Effective Learning Objectives

Each learning objective must answer the following questions:

- Who, will do, how much or how well, of what, by when?
- Identify content areas that the participants are expected to learn.
- Choose an action verb that is measurable and observable to specify the desired learner performance, followed by a description of the content.
- Use more complex or higher-order action verbs when appropriate.
- Avoid using action verbs such as "understand, know, learn, appreciate, believe, be familiar with, comprehend," etc.
- Each learning objective must be separate: Two separate actions (such as diagnosis and management) or topics (such as bronchospasm and hypotension) must not be combined.
- Specify the condition in which the action will occur. An example of a good way to begin the statement is: "Upon completion of this learning activity, participants should be able to. . .".

SMART learning objectives are:

- **Specific:** What action will be performed and by whom?
- **Measurable:** How will success be measured? Objectives should quantify the amount of change expected.

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- **Achievable:** Can this objective be achieved within a given time frame and with available resources?
- **Relevant:** Are the objectives aligned with the instructional method and assessment?
- **Time-bound:** When will this objective be achieved? Objectives should provide a time frame indicating when the objective will be met.

How to Write Learning Objectives? (Table 3.7)

Linking learning outcomes, teaching and learning activities, and assessment has been shown in **Table 3.8**.

TABLE 3.7: Writing learning outcomes.

Domain	*Examples of learning outcomes*
Cognitive domain	The student will be able to: ➢ Apply knowledge of infection control in the maintenance of patient care facilities ➢ List the criteria to be taken into account when caring for a patient with tuberculosis ➢ Differentiate between formal education and informal education ➢ Apply knowledge of infection control in the maintenance of patient care facilities ➢ Calculate fluid calculation of patient with 70% burns
Affective domain	The student will be able to: ➢ Value a willingness to work independently ➢ Relate well to pupils of all abilities in the classroom ➢ Display a willingness to communicate well with patients ➢ Participate in class discussions with colleagues and with teachers ➢ Display a professional commitment to ethical practice
Psychomotor domain	The student will be able to: ➢ Administer oral medications prescribed to patient ➢ Conduct breast self-examination on the breast model to identify abnormal findings ➢ Demonstrate CPR on manikin, dummy ➢ Perform colostomy care ➢ Design conceptual framework of the research study

TABLE 3.8: Linking learning outcomes, teaching and learning activities, and assessment.

Learning outcomes	*Teaching and learning activities*	*Assessment*
Cognitive ↓ Affective ↓ Psychomotor	➢ Lectures ➢ Tutorials ➢ Discussions ➢ Laboratory work ➢ Clinical work ➢ Group work ➢ Seminar ➢ Peer group presentation	➢ End of module examination ➢ Multiple choice tests ➢ Essays ➢ Practical assessment ➢ Fieldwork ➢ Clinical practice ➢ Presentation ➢ Project work

Course Planning

- **Course is** a building block of a program, consisting of a time-limited component, usually over one term (3 months), one semester (6 months) or 1 year, and usually ending with a summative evaluation. It is a recognized unit of learning within an overall curriculum. The courses prepare students to achieve the curriculum goals or intended outcomes.
- **Course design** refers to its configuration, encompassing all components (title, purpose, and description; goals/objectives or competencies; strategies to ignite learning; concepts and substantive content; classes; opportunities for students to demonstrate learning; and evaluation of student achievement), as well as the relationships between and among them.
- **Course design process** is the cyclical process of designing course, which includes discussions and decision making that lead to the configuration of a course. This process personalizes the evolving curriculum by giving faculty members a sense of ownership about the courses they create and may teach.

The steps in course planning have been shown in **Box 3.4**.

Refer to Annexure 2 for sample course plan.

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Box 3.4 Steps in course planning.

- **Block in course:** Course Title, Purpose, and Descriptions (Brief/Calendar and Expanded)
- **Formulate course goals or course competencies**
- **Course content:** Divide the course into logical units of about equal weight
- **Develop the units**
- **Strategies to promote learning:** Select appropriate teaching learning activities and resources
- **Opportunities for faculty to evaluate student achievement:** Select appropriate student assignment
- Choose appropriate Textbooks and other resources
- **Opportunities for students to demonstrate learning**
- **Write the course guide to be given to students**
- **Review**
- *Organize the course resources*

Source: Uys LR, Gwele NS. Curriculum Development in Nursing: Process and Innovations. London: Routledge, Taylor and Francis Group; 2005.

UNIT PLAN

Meaning of unit: Unit is the building block of a course.

- **According to Carter V Good,** unit may be described as an organization of various activities, experiences, and types of learning around a central problem or purpose developed comparatively by a group of pupils under teacher-leadership.
- **According to HC Morrison,** a unit consists of a comprehensive series of related and meaningful activities so developed as to achieve pupil's purposes, provide significant educational experiences, and result in appropriate behavioral changes.
- **Unit planning** may be defined as a scheme or plan chalked out for the teaching-learning experiences to be given in the whole session in a unit of teaching subject. Unit plan identifies specific topic and it consists of the name of the unit, objectives, topic, and teaching-learning method and time for each topic or activity.

The components of unit plan have been shown in **Box 3.5**.

Box 3.5 Components of unit plan.

- **Specific learning outcomes:** Based on the course learning outcomes
- **Task description:** Describe how the student will use this part of the course in practice
- **Content:** Identify which concepts, principles, skills, and attitudes should be addressed in this unit
- **Prerequisites:** Review of previous knowledge of students
- **Presentation:** Present the content matter in innovative method
- **Teaching method:** Choose appropriate teaching-learning activities
- **Evaluation:** Prepare questions or criteria to evaluate classroom activities
- **References:** Make a list of the references used to prepare the unit

Source: Uys LR, Gwele NS. Curriculum Development in Nursing: Process and Innovations. London: Routledge, Taylor and Francis Group; 2005.

Importance and Advantages of Unit Planning

- It helps in the proper coverage of the syllabus of that subject within available time and duration of the course as Syllabus is divided into units.
- It provides organization of subject matter and learning experiences into meaningful units.
- It makes both the students and the teacher clear about the goals and objectives of the content matter to be covered in the unit.
- Unit plan lays stress on the formulation of teaching-learning objectives of the unit in behavioral terms.
- In unit planning, a teacher is well informed about the type of methods and strategies used and the material and resources utilized for teaching learning of various subdivisions. It helps teachers to make adequate preparations for the utilization of proper methods and resource material for providing instructions.
- Planning of the activities and resources beforehand and division of the content

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REVIEW QUESTIONS

Multiple Type Questions

1. **All the learning activities which are planned and guided by the school, whether they are carried out in groups or individually, inside and outside the school, known as:**
   a. Curriculum
   b. Demonstration
   c. Lesson plan
   d. Supervision
2. **The blue print of what a teacher is going to teach in the classroom, is known as:**
   a. Course plant
   b. Lesson plan
   c. Master rotation plan
   d. Unit plan
3. **The development of an educational plan for a specific course of study comprising of several short subject course and each course with many interrelated units, known as:**
   a. Curriculum
   b. Course planning
   c. Lesson planning
   d. Unit planning
4. **Cognitive domain of Bloom's Taxonomy includes all, *except*:**
   a. Analysis
   b. Criticism
   c. Evaluation
   d. Synthesis
5. **Affective domain of Bloom's Taxonomy includes:**
   a. Receive
   b. Respond
   c. Value
   d. All of the above
6. **Which of following learning domain is skill domain?**
   a. Affective
   b. Attitude
   c. Cognitive
   d. Psychomotor

Answers

1. a **2.** d **3.** b **4.** b **5.** d **6.** d

Short Answer Type Questions

1. Write basic principles in writing course plan.
2. Write basic principles in writing lesson plan.
3. Enlist factors affecting curriculum development.

Essay Type Questions

1. Explain steps in curriculum development.
2. Explain Bloom's taxonomy in detail with examples.

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Jaspreet Kaur Sodhi MSc is presently working as Lecturer, Government College of Nursing, Rajindra Hospital, Patiala, Punjab, India. She has completed her Masters from College of Nursing, Christian Medical College, Ludhiana, Punjab. She has published research papers in various national and international journals. She is a lifetime member of various professional organizations, such as Trained Nurses Association of India (TNAI), Nursing Research Society of India, World NCD Federation, Indo-Pacific Academy of Forensic Nursing Science (INPAFNUS), and Medical Surgical Society of India. She was the national trainer for HIV-AIDS and Tuberculosis under Global Fund to Fight AIDS, Tuberculosis and Malaria (GFATM) Program. She has been Mentor and National Speaker for "Virtual Nationwide Training of Nurses on Capacity Building for Management of Children in COVID-19 Pandemic and Preparation against the Third Wave". She has participated as resource person and delegate in various workshops. She has attended Training of trainers on Simulation-based Nursing Education, Forensic Nursing, and Genetic Nursing. She is the author of *Comprehensive Textbook of Nursing Education for MSc Nursing.*

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