UNIT 2: INSTRUCTIONAL OBJECTIVES

UNIT STRUCTURE

2.1 Learning Objectives

2.2 Introduction

2.3 Meaning of Instructional Objectives

- 2.3.1 Importance of Instructional Objectives
- 2.3.2 Difference between Instructional Objectives and General Objectives

2.4 Taxonomy of Instructional Objectives

- 2.4.1 Taxonomy of Instructional Objectives in Cognitive Domain
- 2.4.2 Taxonomy of Instructional Objectives in Affective Domain
- 2.4.3 Taxonomy of Instructional Objectives in Affective Domain

2.5 Let Us Sum Up

2.6 Further Reading

2.7 Answer to Check Your Progress

2.8 Possible Questions

2.1 LEARNING OBJECTIVES

After going through this unit, you will be able to:

- Comprehend the instructional objectives
- Explain the significance of instructional objectives
- Understand the taxonomy of instructional objectives in various domains.

2.2 INTRODUCTION

In the first unit of this block, you have learned about educational technology or use of technology in education. We know that teaching is a very systematic and purposeful task. Use of technology in the classroom or education makes it more effective and fruitful. By a teacher has to take special care and caution while applying it as he/she has to follow some instructional objectives. In your previous semester, course 4 (Method and

Technique of Teaching and Teaching Practical) you have come across the term "taxonomy" of educational objectives. Here in this unit, we will discuss about the instructional objectives and the taxonomy of instructional objectives used by a teacher in the classroom to transact the class. Let's start with the concept or meaning of instructional objectives.

2.3 MEANING OF INSTRUCTIONAL OBJECTIVES

Whenever, we make our mind to go or to travel somewhere, first thing that comes to our mind is the place or destination. We decide a particular place or destination because of its significance like Delhi for Taj Mahal or Goa for the Beach or Ootty for its natural beauty. This implies before reaching the particular place, we determine some goals in our mind to visit those place of significance. We determine some objectives in our mind in terms of sightseeing or fooding as well as lodging. Likewise, when a teacher enters into a class, he doesn't enter alone. He enters with a detailed plan and some objectives. Teaching as we know is the process of imparting instruction of a particular lesson, unit or sub-units with the help of different tools, methods and skills. While imparting the lesson, the teacher has to place before the students some definite and very specific objectives within a specified classroom period and resources in hand. These objectives are known as Instructional Objectives. The primary objectives of these objectives are to -bring desired changes in the behaviour of students.

The term instructional objective in relation to the teaching of a particular subject may be defined as a group of statements formulated by a teacher for describing what the pupils are expected to do or will be able to do once the process of classroom instruction is over. Instructional objectives are quite narrow, specific, definite, clear and practically well attainable in comparison to the general aims and objectives of teaching a subject. Instructional objectives have the specific feature that these are always stated in terms of the expected or desired changes in the behaviour of the learners and are also considered quite measurable in terms of their evaluation as the instructional output. They are definite, tangible and precise. These

objectives are pre-determined and formulated in such a way that their attainment becomes quite practicable through the usual classroom teaching within stipulated period of fixed duration.

In the words of R.H. Dadis, learning objectives or instructional objectives are the description of the behaviour expected of a learner after instruction.

2.3.1 Importance of Instructional Objectives

As discussed above, instructional objectives are immediate, specific and attainable goals of education. These objectives are those goals towards which pupil progress. Instructional objectives are an intent communicated by a statement describing a proposed change in a learner--a statement of what the learner is to be likely when he/she has successfully completed a learning experiences. As learning is an inferred event, hence, it must be determined what behaviour or performance will constitute sufficient evidence that the desired ability exists. These are the objectives upon which, the success of the classroom transaction and success of learning relies on because the learning stands for modification of behaviour of the learners through experiences. These objectives are an essential part of total teaching -learning process. The following points will help you to realize the importance of instructional objectives-

- Instructional objectives give direction and guide the educational efforts.
- These are the objectives which suggest the teacher in general strategies and specific activities for their attainment. Different set of objectives usually generates different strategies.
- Instructional objectives acts as a director for both teachers and students in performing the educational activities.
- These instructional objectives serve a diagnostic -prescriptive function. On the basis of these objectives, teacher can assess where they are, how much progress has been made on the part

of the learners and they can act as well as plan accordingly.

- Instructional objectives also aids in collecting data about the students' progress. It dictate to a great extent way in which we collect status data.
- Instructional objectives are essential for evaluation process as without these objectives, it is even impossible to evaluate an educational efforts.
- Instructional objectives serve a communication function to. It serves not only to communicate what is being done, but also to what end.



CHECK YOUR PROGRESS

Q 1: Why instructional objectives are important?

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2.3.2 Difference between Instructional Objectives and General Objectives

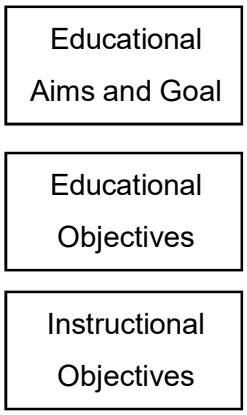
Though many times, instructional objectives and general objectives of teaching are used simultaneously, but, they are actually not the same. General objectives of teaching are known as long-ranged ultimate goals. Whereas instructional objectives are time specific within a specific place and resources in hand. The following table will help you to grasp the difference between the two-

General Objectives/ Educational Objective	Instructional Objectives
Realization of general objectives may require long period or with the completion of schooling by the students.	Instructional objectives are time and period specific.

General objectives of teaching a subject are derivation of the aims of teaching that subject. For proper realization of it, aims are broken into some definite, functional units. It implies the broad nature of General objectives.	Instructional objectives are narrow and specific in comparison to the general objectives.
Attainment of general objectives is long way process. General objectives are broad-based, lofty and difficult to achieve.	Attainment of instructional objectives are quite possible within the educational structure and means.
General objectives are not stated in behavioural term. They are broad based objectives of education. As such they are known as Educational Objectives.	Instructional objectives are always stated in terms of expected pupils' behaviour or desired behavioural changes. Therefore they are termed as teaching-learning objectives or behavioural objectives.
The purpose of general objectives are all –round development of each students.	The purpose of these objectives are to provide statements of skills, concepts and the behaviour and the learners are expected to demonstrate after going through particular instruction.

Though there are differences between the general and instructional objectives, they are interrelated. General objectives are broad and instructional objectives are a part of it. Classroom instructional objectives mare submerged in the reservoir of general objectives of teaching a subject at a particular school stage that in turn, are further submerged in the ocean of general aims and goals of teaching the subject.

The following diagram will help you to understand this interrelationship-



2.4 TAXONOMY OF INSTRUCTIONAL OBJECTIVES

The word "Taxonomy" is not new to you. The taxonomy stands for a system of classification. Whenever we talk about the taxonomy of instructional objectives, Taxonomy of Bloom comes first. Blooms' taxonomy presents a system of classification of the instructional objectives. Benjamin Bloom had designed the taxonomy in order to help teachers and instructional designers to classify instructional objectives. The taxonomy of educational and instructional objectives has been worked out on the assumptions that the teaching-learning process may be conceived as an attempt to change the behaviour of the pupils with respect to some subject matter or learning experiences. The taxonomy of the educational objectives should be set up on the basis of considering the philosophical, psychological and scientific principles. Here, it is important to mention here that, behaviour is divided into three domains-cognitive (knowing), affective (feeling) and psychomotor (doing). The taxonomy of educational and instructional objectives has also been considered to be belonging these three domains.

The taxonomy related to cognitive domain has been presented by Benjamin Bloom and his associates namely-M.D Englehart, E. J Furst, W.H. Hill (Bloom et.al 1956). The second one related to affective domain was developed by David Krathwohl, Bloom and Masia (Krath Wohl et.al 1964). The psycho-motor domain was developed by Harrow (1972) and Simpson (1966). Benjamin Bloom was the pioneer of this taxonomy of instructional objectives and hence it is popularly known as Bloom's Taxonomy of instructional objectives.

The main aim of taxonomy of instructional objective is to provide a structure in order to categorise the instruction as well as the instructional assessment.

2.4.1. Taxonomy of Instructional Objectives in Cognitive Domain

Taxonomy of objectives in the cognitive domain given by Bloom and his associates tries to provide the most difficult but highly promising task of classifying instructional objectives on a continuum from the simple to the relatively complex. It helps the teachers to keep him reminded that are indeed many and important high mental processes beyond the acquisition of knowledge on the part of his/her students/ learners.

Taxonomy of instructional objectives in the Cognitive Domain

- Knowledge
- Comprehension
- Application
- Analysis
- Synthesis
- Evaluation

Let's explain the Taxonomy of instructional objectives in the Cognitive Domain in details-

- **Knowledge:** It represents the lowest level of the instructional objectives belonging to cognitive domain and primarily aims for the acquisition of the knowledge concerning like-specific facts, terminology, methods and processes, generalized principles, theories and structure. The knowledge objectives mainly call for recall and recognition level of one's memory and therefore their evaluation is primarily made through a simple recall or multiple type questions.
  - Knowledge of specifics
  - Knowledge of Terminology

- Knowledge of specific facts
- Knowledge of ways and means of dealing with specifics
- Knowledge of conventions
- Knowledge of trends and sequence
- Knowledge of classification and categories
- Knowledge of criteria
- Knowledge of methodology
- Knowledge of universal and abstractions in a field
- Knowledge of principles and generalization
- Knowledge of theories and structures

- **Comprehension:** The comprehension is based upon knowledge. If there is no knowledge, there will be no comprehension. On the ladder of the acquisition of cognitive abilities, its level is little higher than knowledge specifically, it means the basic understanding of the facts, ideas, methods, processes, principles or theories. As a result, what is communicated to a learner he may-
  - Translate (Translation)or summarize the communicated knowledge in his own words
  - Interpret (interpretation) i.e. cite example, discriminate, classify , verify or generalize
  - Extrapolate(Extrapolation) i.e., estimate or understand the use of knowledge and extend it to other subjects and fields
- **Application:** Knowledge is useful only when it is possible to be applied. The application of an idea, principles or theory made be made possible only when it is grasped and understood properly. Therefore the category of application automatically involves both the earlier categories, i.e., knowledge and comprehension. Under this instructional objectives, the learner is required to acquire the ability to make use of the abstract or generalize ideas, principles in the particular and concreate situation.

- **Analysis:** Analysis refers to an understanding at a higher level. It is a complex cognitive process that involves knowledge, comprehension as well as application of an idea, facts, principles or theory. Through the realization of this instructional objectives, the learner is expected to acquire the necessary skills in drawing inferences, discriminating, making choices and selection and separating apart the different components or elements of a concept, object or principles. Taxonomy of instructional objectives under analysis includes-
  - Analysis of elements
  - Analysis of relationship
  - Analysis of organizational principles
- **Synthesis:** The objectives belonging to this category aims to help the learners acquire necessary ability to combine the different element or components of an idea, object, concept, principles to produce an integrated picture i.e., the figure of wholeness. As a result, he/she may be expected to propagate or present a theory or principles by combining the different approaches, ideas, or viewpoints. Synthesis calls for the creativity aspects of the cognitive abilities and hence, it may be considered definitely a higher level of learning involving knowledge, comprehension, application as well as analysis. Instructional objectives under the ladder of synthesis includes-
  - Production of unique communication
  - Production of plan or proposed set of operations
  - Derivation of a set of abstract relations
- **Evaluation:** The category of the instructional objectives aims to develop in the learners the ability to make proper value judgement about what has been acquired by him/ her in the form of knowledge, understanding, application, analysis and synthesis. It represents definitely the higher level of objectives belonging to cognitive domain and involves all the five categories that we have described earlier. As a result, the learner is expected

to take proper decision about the competitive value of the particular idea, object, principles or theories. He may arrive at an appropriate decision about the matter and methods by making use of all the cognitive abilities acquired through the earlier categories of cognitive objectives. Instructional objectives under the ladder of evaluation includes-

- Judgement in terms of internal evidence
- Judgement in terms of external criteria



CHECK YOUR PROGRESS

Q 2: What are the taxonomy of instructional objectives under cognitive domain?

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The following table will help you more on understanding taxonomy of instructional objectives in terms of behavioural pattern-

Table 1: Bloom's Taxonomy of Educational Objectives for Knowledge-Based Goals (Cognitive Domain)

Level of Expertise	Description of Level	Example of Measurable Student Outcome
1. Knowledge	Recall, recognition of terms, ideas, procedure, theories, etc.	When is the first day of Spring?
2. Comprehension	Translate, interpret, extrapolate, but not see full implications or transfer to other situations, closer to literal translation.	What does the summer solstice represent?
3. Application	Apply abstractions, general principles, or methods to specific concrete situations.	What would Earth's seasons be like if its orbit was perfectly circular?
4. Analysis	Separation of a complex idea into its constituent parts and an understanding of organization and relationship between the parts. Includes realizing the distinction between hypothesis and fact as well as between relevant and extraneous variables.	Why are seasons reversed in the southern hemisphere?

5.Synthesis	Creative, mental construction of ideas and concepts from multiple sources to form complex ideas into a new, integrated, and meaningful pattern subject to given constraints	If the longest day of the year is in June, why is the northern hemisphere hottest in August?
6. Evaluation	To make a judgment of ideas or methods using external evidence or self-selected criteria substantiated by observations or informed rationalizations.	What would be the important variables for predicting seasons on a newly discovered planet?

1.4.2. Taxonomy of Instructional Objectives in Affective Domain

The taxonomy of objectives in the affective domain arranged from the lowest to the highest level of function are-

- Receiving (Attending)
- Responding
- Valuing
- Organizing
- Characterization by a value or value complex

Further elaboration will help you to understand the taxonomy of objectives in the affective domain.

- **Receiving (Attending):** It represent the initial category of the objectives belonging to affective domain. For the inculcation of certain interest, attitudes, values or ideas, it is essential that the learner is made to receive or attend the desired ideas, events or ideas. This category points out towards this necessity and takes into consideration three types of sequential activities as follows-
  - The learner is sensitized or made aware of the existence of certain stimuli.
  - Then the desired intention and willingness for receiving or attending the stimuli is created in the learner.
  - Efforts are made for the control of the attention of the learner,

he may be trained to pay selective attention and sustain it for a desired period

- **Responding:** It represents the second level of instructional objectives belonging to affective domain. Once a learner receives and attends to a particular idea, events or thing, he must be made to respond to it as actively as possible. The responses here do not confine itself in just paying attention or arousal of a simple intention or desired of getting a thing, as in the first category of receiving, but manifest themselves in the active behaviour like obeying, answering, reading, discussing, recording, writing and reacting to a stimulus.
- **Valuing:** When one attends as well as responds to a particular thing, idea or events, he is naturally briefed towards value judgement about the thing, idea or events, therefore this category of valuing depends upon both the former categories i.e., receiving and responding. Here the learner is expected to imbibe a definite value pattern towards different ideas, events or objects. In practice, the objectives belonging to this category are usually concerned to the development of typical value patterns and attitudes.
- **Organizing:** This category of objectives is concerned with the construction of relatively enduring value structure in the learner by organizing and synthesising the different value patterns imbibed by him from time to time. Ultimately, this category of objectives leads the learner to form a set value structure or philosophy of life.
- .**Characterization by a value or value complex:** It is the highest level in the categories of the objective belonging to the affective domain. Up to this stage, the learner is able to imbibe all the essential effective behaviour i.e., various interest, attitudes, values, value patterns, a permanent value structure and therefore all the earlier categories are automatically involved in the objectives of these category. At this stage, the learner is

destined to imbibe typical characteristics of his individual character i.e., lifestyle of his own. In fact it is the end point or ultimate goal of education.

The following table will help you more on understanding taxonomy of instructional objectives in terms of behavioural pattern-

Table 2: Bloom's Taxonomy of Educational Objectives for Skills-Based Goals (Affective Domain)

Level of Expertise	Description of Level	Example of Measurable student outcome
1.Receiving	Demonstrates a willingness to participate in the activity	When I'm in class I am attentive to the instructor, take notes, etc. I do not read the newspaper instead.
2.Responding	Shows interest in the objects, phenomena, or activity by seeking it out or pursuing it for pleasure	I complete my homework and participate in class discussions.
3.Valuing	Internalizes an appreciation for (values) the objectives, phenomena, or activity	I seek out information in popular media related to my class.
4.Organization	Begins to compare different values, and resolves conflicts between them to form an internally consistent system of values	Some of the ideas I've learned in my class differ from my previous beliefs. How do I resolve this?
5.Characterization by a Value or Value Complex	Adopts a long-term value system that is "pervasive, consistent, and predictable"	I've decided to take my family on a vacation to visit some of the places I learned about in my class

2.4.3. Taxonomy of Instructional Objectives in Psycho-motor Domain

The psychomotor domain concerns things students might physically do. It was Simpson who first presented the classification of the objectives in the psycho-motor domain. Later it was modified by Harrow (1972) .Those given by Harrow are discussed below arranged from lowest to highest category in the psycho-motor domain

- **Reflex Movement:** Reflect movement may be considered as the involuntary motor responds to various stimuli in the environment. Examples of such reflects movement or actions are-jerking of hands, closing of eye lid, sketching of the arms etc. These movements represents the lowest level of psycho0motor domain. They are largely controlled by autonomous nervous system
- **Basic fundamental movements:** The fundamental movements are just a step ahead of the simple reflex movement. They are not inborn and innate as the reflex movement, but a child may be seen to demonstrate such movements from very early days of his life. His movement in the form of kneeling, creeping, stumbling, walking, jumping, moving hands and neck etc. may be called basic fundamental movements.
- **Perceptual abilities:** The development of motor abilities related to the phenomenon of perception belongs to this category of objectives. When some meaning is attached to sensation, it is termed as perception. As a result, the learner is able to derive useful meanings out of the exposure of their senses to various stimuli in the environment. Such type of behaviour is learned behaviour. It is always acquired through experience and systematic training.
- **Physical abilities:** For an effective motor behaviour there is an urgent need of the development of desirable physical abilities. If one has adequate physical stamina and abilities he may go ahead in the task of improving his psychomotor behaviour. Therefore this category of objectives aim to develop the various physical abilities of the learners like - Tolerance to stand against rough weather, to carry heavy load or running and object or machine etc.
- **Skilled movement:** Skilled movements are those complex bodily movements which help in performing skilled task. These movements can be acquired through an organized and

systematic learning process. Their acquisition requires an intelligent understanding and sufficient drill or practice work on the part of the learners. The art of dancing, driving, playing musical organs, skating, typing, swimming and tailoring represents such skill movements. The development of the abilities concerning such skilled movement depends upon the development of the motor abilities described under all the earlier four categories.

- **Non discursive communication:** This category represents the highest level of psycho-motor behaviour. The bodily movements are hereby integrated with inner feelings and effective behaviour of the learner. In this way, the non-discursive communication may be defined in terms of the overt behaviour activities related to communication of affective behaviour feeling or emotion. This communication may range from a simple behaviour expressed through posing or facial expression to a complex behaviour performed through a highly sophisticated classical dance, painting or acting.



CHECK YOUR PROGRESS

Q 3: What is non-discursive communication?

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The following table will help you more on understanding taxonomy of instructional objectives in terms of behavioural pattern-

Table 3: Bloom's Taxonomy of Educational Objectives for Skills-Based (Psycho Motor) Goals

Level of Expertise	Description of level	Example
1. Reflex movement	Involuntary motor response to various stimuli in the environment	Jerking of hands, closing of eyelid, stretching of the arms etc.
2. Basic fundamental movements	They are not inborn and innate as the reflex movements from very early days of his life	People's movement
3. Perceptual abilities	Exposure of the senses to various stimuli in the environment.	Catching,balancing distinguishing etc.
4. Physical abilities	Desirable physical abilities.	Tolerance to stand against rough weather, to carry heavy load
5. Skilled movement	Complex bodily movements which help in performing skilled task	The art of dancing, driving, playing musical organs, skating, typing, swimming
6. Non discursive communication	The bodily movements that are hereby integrated with inner feelings and effective behaviour of the learner.	Sophisticated classical dance, painting or acting.



2.5 LET US SUM UP

After going through the detailed discussion on this unit, we can summarize it as-

- Instructional objectives stands for those well-meaning definite statement that are used for expressing the instructional outcomes of a particular lesson/ subunit of a subject of the prescribed curriculum in behavioural terms, i.e., outlining the definite changes in the behaviour of the students through the study of the topic.
- An instructional objective is an ability or skill expressed in behavioural term.
- In the words of R.H. Dadis, learning objectives or instructional objectives are the description of the behaviour expected of a learner after instruction.
- These instructional objectives serve a diagnostic -prescriptive function. On the basis of these objectives, teacher can assess

where they are, how much progress has been made on the part of the learners and they can act as well as plan accordingly.

- General objectives of teaching are known as long-ranged ultimate goals whereas instructional objectives are time specific within a specific place and resources in hand.
- Though there are differences between the general and instructional objectives, they are interrelated. General objectives are broad and instructional objectives are a part of it.
- The taxonomy of educational and instructional objectives has been worked out on the assumptions that the teaching-learning process may be conceived as an attempt to change the behaviour of the pupils with respect to some subject matter or learning experiences.
- The behaviour is divided into three domains-cognitive (knowing), affective (feeling) and psychomotor (doing). The taxonomy of educational and instructional objectives has also been considered to be belonging these three domains.
- The taxonomy related to cognitive domain has been presented by Benjamin Bloom and his associates namely-M.D Englehart, E. J Furst, W.H. Hill (Bloom et.al 1956). The second one related to affective domain was developed by David Krathwohl, Bloom and Masia (Krath Wohl et.al 1964). The psycho-motor domain was developed by Harrow(1972) and simpson (1966).
- Taxonomy of instructional objectives in the Cognitive Domain-Knowledge, Comprehension, Application, Analysis, Synthesis and Evaluation

The taxonomy of objectives in the affective domain arranged from the lowest to the highest level of function are-Receiving (Attending), Responding, Valuing, Organizing, and Characterization by a value or value complex

- Taxonomy of Instructional Objectives in Psycho-motor Domain are-Reflex Movement, Basic fundamental movements, Perceptual abilities, Physical abilities, Skilled movement, Non discursive communication.

2.6 FURTHER READING

1) Mangal S.K & Mangal Uma (2009): Essentials of Educational Technology, PHI learning private Limited.

2) Patel R.N (1966): The concept of educational Technology.

3) Sharma A. R (2007): Educational Technology, Vinod Pustak Mandir, Agra2

2.7 ANSWERS TO CHECK YOUR PROGRESS

Ans to Q No 1: Instructional objectives are important because-

- Instructional objectives give direction and guide the educational efforts.
- These are the objectives which suggest the teacher in general strategies and specific activities for their attainment. Different set of objectives usually generates different strategies.
- Instructional objectives acts as a director for both teachers and students in performing the educational activities.
- These instructional objectives serve a diagnostic -prescriptive function. On the basis of these objectives, teacher can assess where they are, how much progress has been made on the part of the learners and they can act as well as plan accordingly.

Ans to Q No 2: The taxonomy of instructional objectives under cognitive domain are-

- Knowledge: It represents the lowest level of the instructional objectives belonging to cognitive domain and primarily aims for the acquisition of the knowledge concerning like-specific facts.
- Comprehension: The comprehension is based upon knowledge. If there is no knowledge, there will be no comprehension.
- Application: Knowledge is useful only when it is possible to be applied. The application of an idea, principles or theory made be made possible only when it is grasped and understood properly
- Analysis: Analysis refers to an understanding at a higher level. It is a complex cognitive process that involves knowledge, comprehension as well as application of an idea, facts, principles or theory.

- Synthesis: Synthesis calls for the creativity aspects of the cognitive abilities and hence, it may be considered definitely a higher level of learning involving knowledge, comprehension, application as well as analysis
- Evaluation: The category of the instructional objectives aims to develop in the learners the ability to make proper value judgement about what has been acquired by him/ her in the form of knowledge, understanding, application, analysis and synthesis.

Ans to Q No 2: Non-discursive communication refers to the highest level of psycho-motor behavior. The bodily movements are hereby integrated with inner feelings and effective behavior of the learner. In this way, the non-discursive communication may be defined in terms of the overt behavior activities related to communication of affective behavior feeling or emotion.



2.8 MODEL QUESTIONS

Short Questions (Answer each question in around 150 words).

Q 1: What is instructional objectives?

Q 2: State four importance of instructional objectives

Q 3: What are the purposes of instructional objectives?

Q 4: What is meant by Taxonomy of instructional objectives?

Q 5: Who presented the most popular taxonomy of instructional objectives?

Long Questions. (Answer each question in around 300-500 words)

Q 1: Differentiate between general objectives and instructional objectives.

Q 2: Discuss the Taxonomy of Instructional Objectives in Cognitive Domain with suitable examples.

Q 3: Discuss the Taxonomy of Instructional Objectives in affective Domain.

Q 4: Discuss the Taxonomy of Instructional Objectives in psycho-motor domain as given by Harrow.

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