

# National Curriculum of Pakistan 2022-23

## Training of Trainers (ToT) General

### Participant Handbook



**NATIONAL CURRICULUM COUNCIL (NCC) SECRETARIAT**  
MINISTRY OF FEDERAL EDUCATION AND PROFESSIONAL TRAINING  
GOVERNMENT OF PAKISTAN



# Training of Trainers (TOT) General

## Participant Handbook

Full Name: .....

School Name: .....

Subject: ..... Grade .....

Level: .....

City/Division/Cluster: .....

Training Dates: .....

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This Handbook is designed to be used as a training log to note down important points during the training or to engage participants in the practice of self-reflection. This handbook contains the following to achieve this purpose:

- **The Unit planner:** to provide a clear outline of each Unit's content and handouts.
- **Personal Goal Setting:** Personal goal setting at the start of the training will provide a sense of direction, motivation, and focus, ensuring that participants are actively engaged in the learning process and can apply newly learned knowledge and skills effectively.
- **Unit Details:** Each Unit's objectives and the required handouts.
- **Self-Reflection Questions for each Unit:** These self-reflection questions will encourage participants to think critically about their role as a trainer, recognize their strengths, and identify areas for growth. Engaging in regular self-reflection will help them become more effective and confident in their role as a trainer.
- **Action Plan:** The purpose of providing an action plan at the end of the training is to empower participants with a concrete and personalized roadmap for applying their learning and implementing the knowledge and skills acquired during the training program.
- **Training Notes:** An empty space is provided that can freely be utilized by participants during the training to take notes of important points.
- **Resource Recommendation:** Participants can list down all the additional resources suggested by the trainers or peers for future use and for self-learning.

### Personal Goal setting:

Before the start of training, set one personal development goal as a trainer that you would like to achieve during these training sessions.



## Unit-1

# Andragogy

### Objectives

By the end of Unit 1 the participants will be able to:

- differentiate between Andragogy and Pedagogy
- decipher principles of Andragogy, Pedagogy and Heutagogy
- discuss and analyze parameters of adult learning and highlight the role of a facilitator
- apply Learning Models

### Handouts

Please consult following handouts for this Unit:

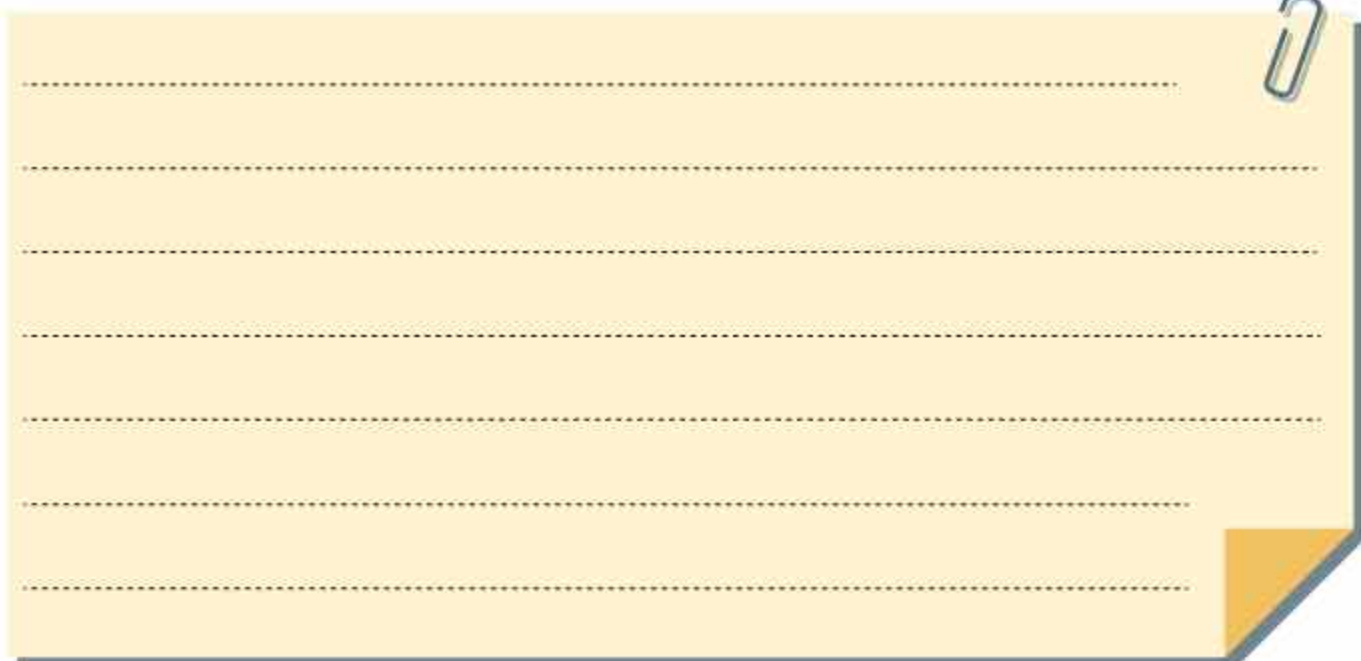
- Human Bingo
- Jigsaw Reading
- Training Notes

(Please use this space to note down important points)



## Self-Reflection Questions

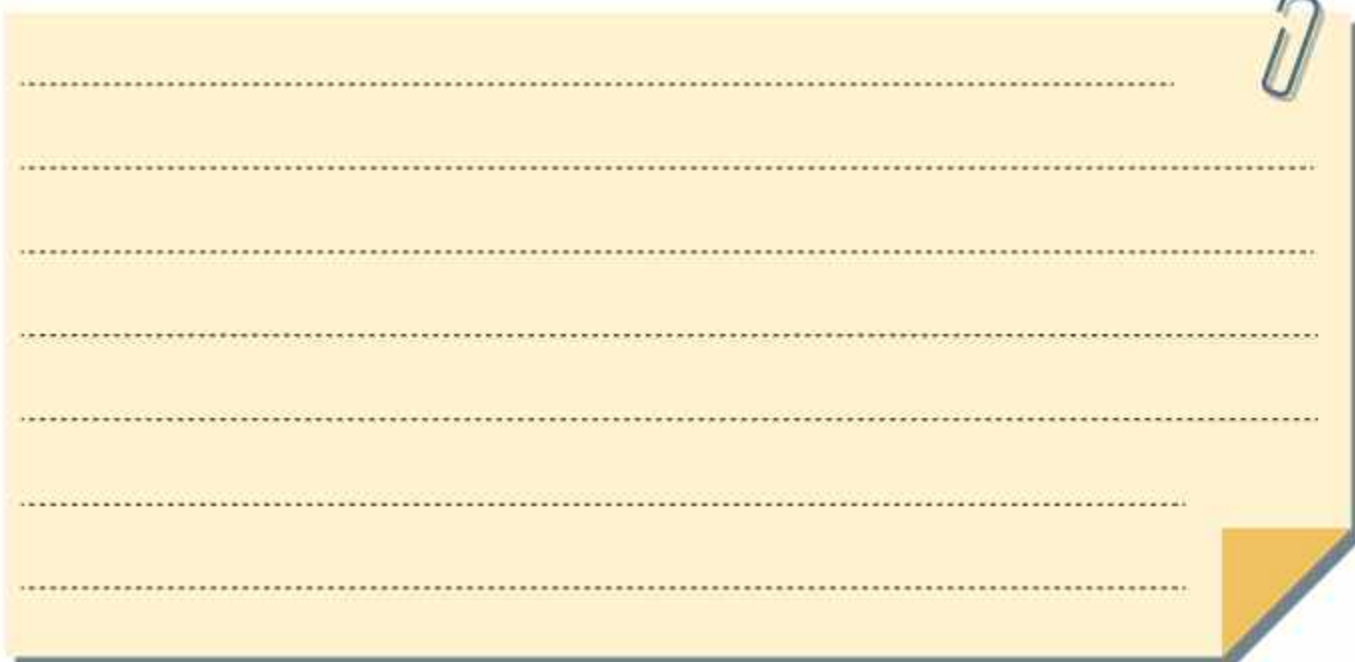
**What were the key takeaways from the session?** (Reflect on the main concepts, techniques, or strategies covered in this training session. Identify the most significant insights or learnings that you believe will positively impact your future training endeavors.)



**How did I effectively engage as a participant during this session?** (Consider the methods and activities used to keep the participants engaged in the learning process. Assess which approaches worked well and how you can apply the same in your training sessions.)



**How would you conduct the same training session differently, as a result of your experience in the Training of Trainers (ToT)?** Reflect on the changes you would make in terms of content, delivery, and engagement strategies to enhance the overall effectiveness and impact on the participants' learning experience.



## Unit-2

# Active Learning

### Objectives

By end of this Unit, participants will be able to:

- understand the concept of active learning
- explore active learning strategies
- apply active learning strategies in practice

### Handouts

Please consult following handouts for this session:

- application of Bloom's Taxonomy
- Task 5 - Toolkit

### Training Notes

(Please use this space to note down important points)





## Self-Reflection Questions

**What were the key takeaways from the session?** (Reflect on the main concepts, techniques, or strategies covered in this training session. Identify the most significant insights or learnings that you believe will positively impact your future training endeavors.)



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**How did I effectively engage as a participant during this session?** (Consider the methods and activities used to keep the participants engaged in the learning process. Assess which approaches worked well and how you can apply the same in your training sessions.)



A large yellow rectangular box with a folded bottom-left corner, containing ten horizontal dashed lines for writing.

**How would you conduct the same training session differently, as a result of your experience in the Training of Trainers (ToT)?** Reflect on the changes you would make in terms of content, delivery, and engagement strategies to enhance the overall effectiveness and impact on the participants' learning experience.



## Unit-3

# Bloom's Taxonomy

### Objectives

By the end of this Unit, participants will be able to:

- understand the basic concepts of Bloom's Taxonomy, including its hierarchical structure and the different cognitive level
- analyse the relationships between the cognitive levels and how they build upon one another.
- apply Bloom's Taxonomy to classify and create learning objectives and activities for different educational tasks and assessments.

### Handouts

Please consult the following handouts for this session:

- Task 2A: Simple to Complex
- Bloom's Taxonomy Reading handout

### Training Notes

(Please use this space to note down important points)



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### Self-Reflection Questions

What were the key takeaways from the session? (Reflect on the main concepts, techniques, or strategies covered in this training session. Identify the most significant insights or learnings that you believe will positively impact your future training endeavors.)



A large light yellow notepad with horizontal dashed lines for writing. The bottom right corner is folded over, showing a darker yellow layer.



**How did I effectively engage as a participant during this session?** (Consider the methods and activities used to keep the participants engaged in the learning process. Assess which approaches worked well and how you can apply the same in your training sessions.)



A yellow notepad with a blue border and a folded bottom-right corner. It contains ten horizontal dashed lines for writing.

**How would you conduct the same training session differently, as a result of your experience in the Training of Trainers (ToT)?** Reflect on the changes you would make in terms of content, delivery, and engagement strategies to enhance the overall effectiveness and impact on the participants' learning experience.



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## Unit-4

### Objectives

By end of this Unit, participants will be able to:

- recognize the significance of effective lesson planning in optimizing student learning outcomes and promoting a well-organized and engaging classroom environment
- familiarize the components of a comprehensive lesson plan
- develop skills in creating clear and measurable learning objectives

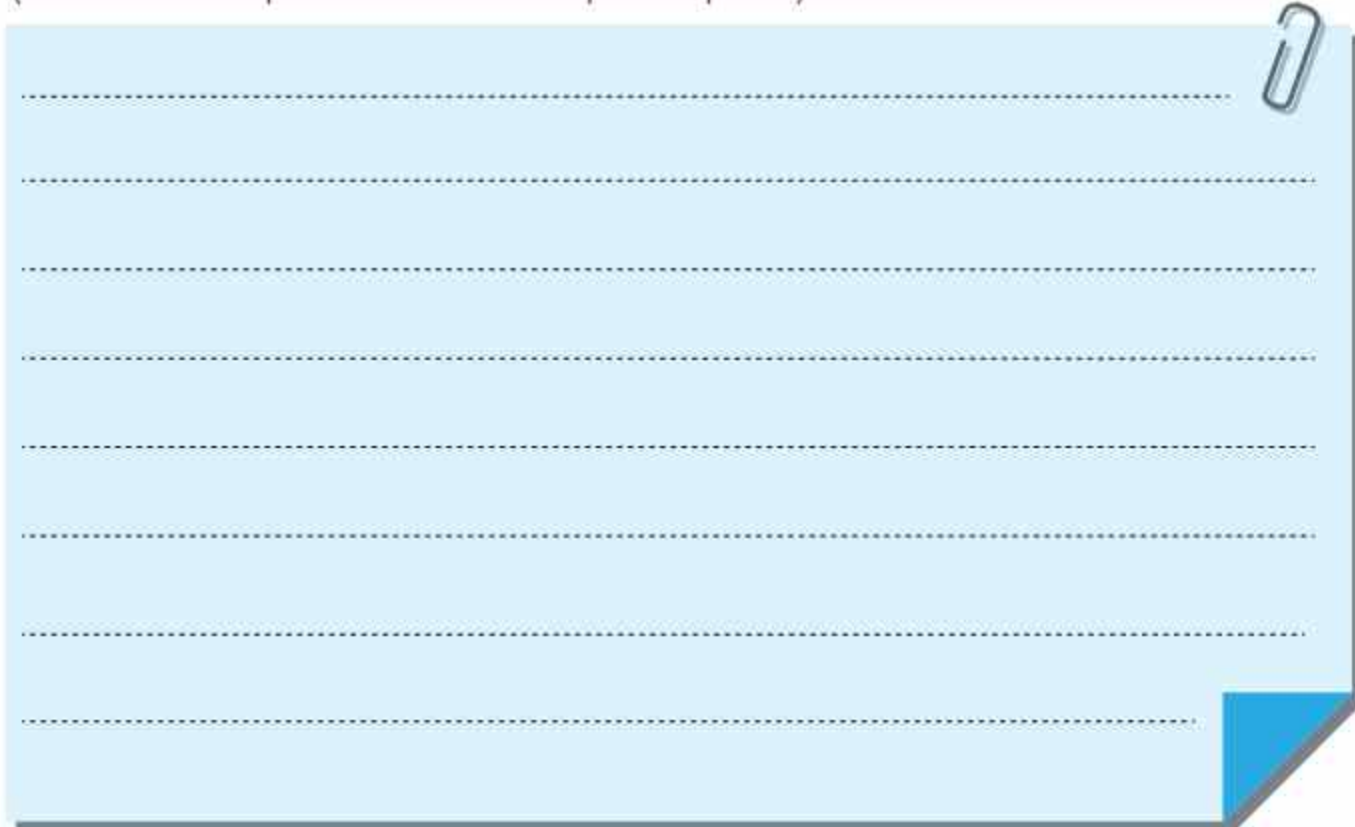
### Handouts

Please consult the following handouts for this session:

- Lesson Planning Component Placement Task
- Sample Lesson Plans Subject wise - English, Urdu, Science and Computer Science

### Training Notes

(Please use this space to note down important points)



### Self-Reflection Questions

**What were the key takeaways from the session?** (Reflect on the main concepts, techniques, or strategies covered in this training session. Identify the most significant insights or learnings that you believe will positively impact your future training endeavors.)



Handwriting practice area with five sets of dashed lines on a yellow background.

**How did I effectively engage as a participant during this session?** (Consider the methods and activities used to keep the participants engaged in the learning process. Assess which approaches worked well and how you can apply the same in your training sessions.)



Handwriting practice area with five sets of dashed lines on a yellow background.

**How would you conduct the same training session differently, as a result of your experience in the Training of Trainers (ToT)?** Reflect on the changes you would make in terms of content, delivery, and engagement strategies to enhance the overall effectiveness and impact on the participants' learning experience.



Handwriting practice area with five sets of dashed lines on a yellow background.

## Unit-5

# Reflective Techniques

### Objectives

By end of this Unit, participants will be able to:

- understand the concept and importance of reflective practice.
- explore different models and frameworks of reflective practice
- collect and analyze evidence.
- appreciate collaborative reflection they were given in training layout

### Handouts

Please consult the following handouts for this session:

- Brookfield's Lenses of Reflection
- Rolfe's Model of Reflection
- Schon Reflective Practice

### Training Notes

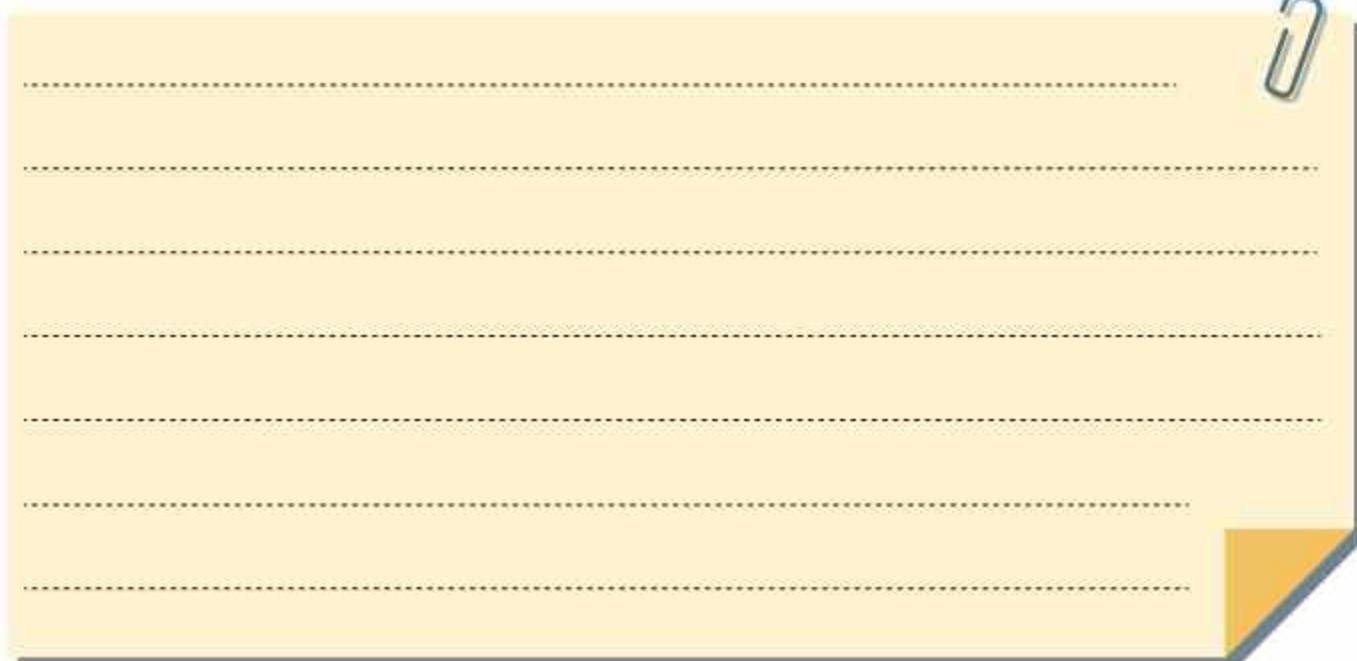
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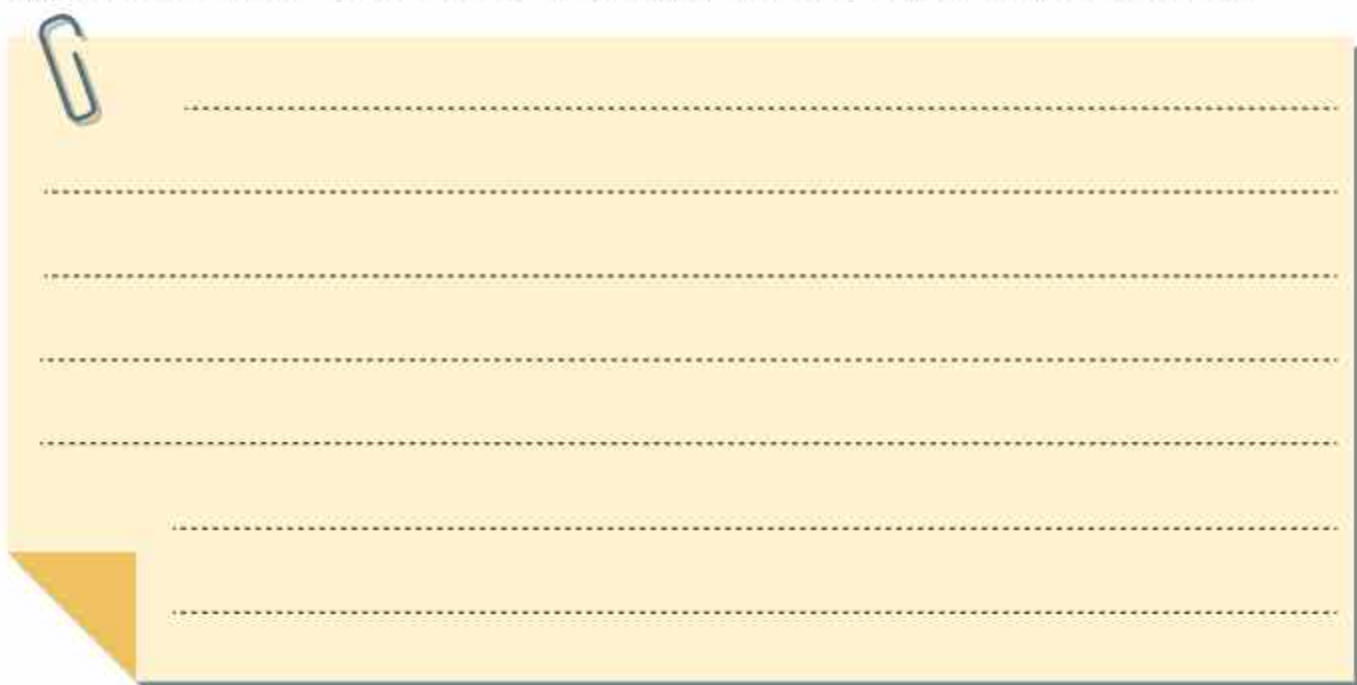


## Self-Reflection Questions

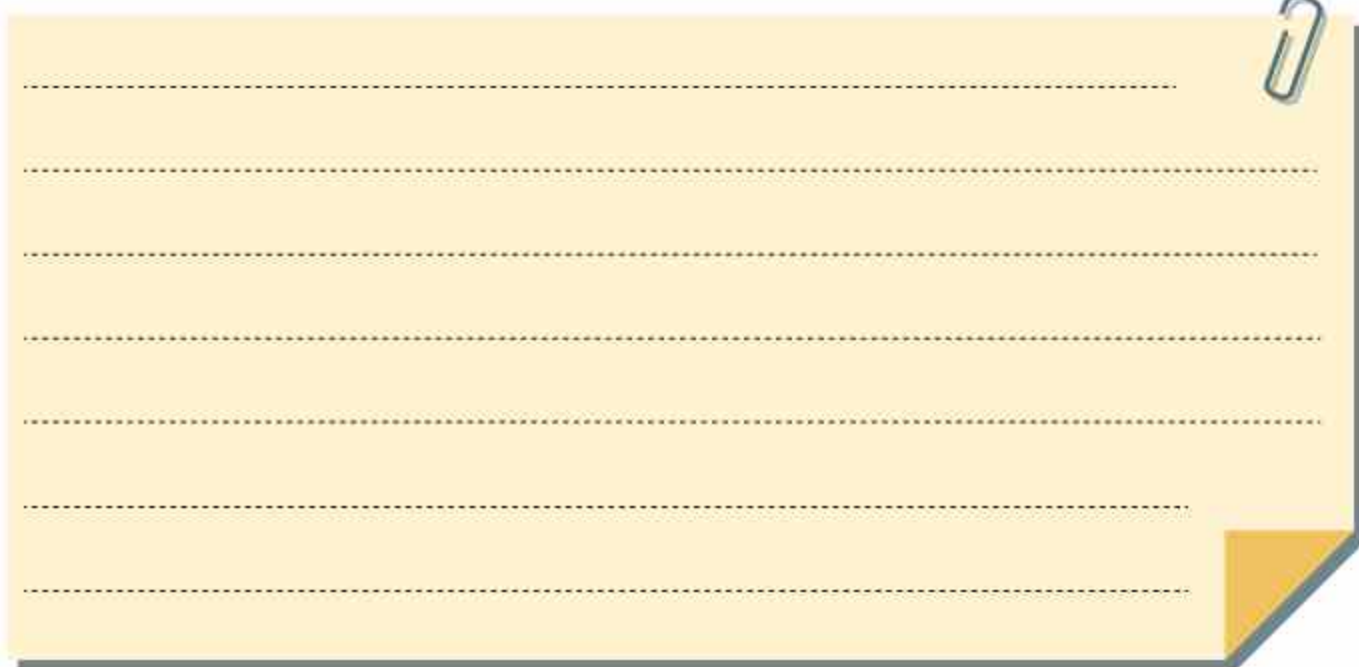
**What were the key takeaways from the session?** (Reflect on the main concepts, techniques, or strategies covered in this training session. Identify the most significant insights or learnings that you believe will positively impact your future training endeavors.)



**How did I effectively engage as a participant during this session?** (Consider the methods and activities used to keep the participants engaged in the learning process. Assess which approaches worked well and how you can apply the same in your training sessions.)



**How would you conduct the same training session differently, as a result of your experience in the Training of Trainers (ToT)?** Reflect on the changes you would make in terms of content, delivery, and engagement strategies to enhance the overall effectiveness and impact on the participants' learning experience.



## Unit-6

# Training Toolkit

### Objectives

By end of this Unit, participants will be able to:

- identify and analyze effective communication and presentation skills, such as active listening, clear articulation, and non-verbal communication techniques.
- design and develop some training materials e.g., handouts, visual aids, and digital resources, that enhance learning and support the training objectives
- acquire and practice techniques for facilitating group discussions and addressing challenging situations during training sessions

### Handouts

No Handouts for this session.

### Training Notes

(Please use this space to note down important points)



Lined area for writing reflections.

## Self-Reflection Questions

**What were the key takeaways from the session?** (Reflect on the main concepts, techniques, or strategies covered in this training session. Identify the most significant insights or learnings that you believe will positively impact your future training endeavors.)



Lined area for writing reflections.

**How did I effectively engage as a participant during this session?** (Consider the methods and activities used to keep the participants engaged in the learning process. Assess which approaches worked well and how you can apply the same in your training sessions.)



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**How would you conduct the same training session differently, as a result of your experience in the Training of Trainers (ToT)?** Reflect on the changes you would make in terms of content, delivery, and engagement strategies to enhance the overall effectiveness and impact on the participants' learning experience.



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## Training Observations Guidelines

When observing a training session, whether it's a classroom, workplace, or any other type of educational or developmental setting, it's important for the observer to focus on specific elements to provide valuable feedback and insights. Five essential things for a training observer to keep in mind while taking session observations:

### 1. Learning Objectives and Goals:

- Understand the training's intended outcomes and goals. What are participants expected to learn or achieve during the session? and Assess whether the session's content aligns with these objectives and if the trainer communicates them effectively to participants.

### 2. Participant Engagement and Interaction:

- Observe how engaged participants are in the training. Are they actively participating, asking questions, and sharing experiences?
- Note the level of interaction between the trainer and participants and among participants themselves. Effective training often involves active discussions and group activities.

### 3. Trainer Delivery and Communication:

- Pay attention to the trainer's communication skills. Is the trainer clear, articulate, and easy to understand?
- Observe the trainer's body language, tone of voice, and use of visual aids or technology. Effective trainers use a variety of methods to convey information.

### 4. Content Relevance and Structure:

- Evaluate the organization and structure of the training content. Is it well-organized and logically presented?
- Consider whether the content is relevant to the participants' needs and if it addresses their questions and concerns.

### 5. Assessment and Feedback:

- Look for methods of assessment and feedback within the training session. Are there opportunities for participants to demonstrate their understanding or skills?
- Assess how the trainer provides feedback to participants and whether it is constructive and supportive.

In addition to these essentials, it's important for the observer to remain objective, take thorough notes, and be prepared to provide constructive feedback after the observation. The goal of training observation is to identify areas of improvement and to support the ongoing development of both trainers and participants.

## Training Observation Notes

Please use this space to observe the training sessions conducted by your peers.









## Unit-7

# Critical Thinking

### Objectives

By end of this Unit, participants will be able to:

- analyse the usefulness and importance of Critical thinking
- explore and analyze a few critical thinking strategies
- evaluate the significance of different CT strategies in promoting independent learning
- propose when, where and how they can use CT learning skills

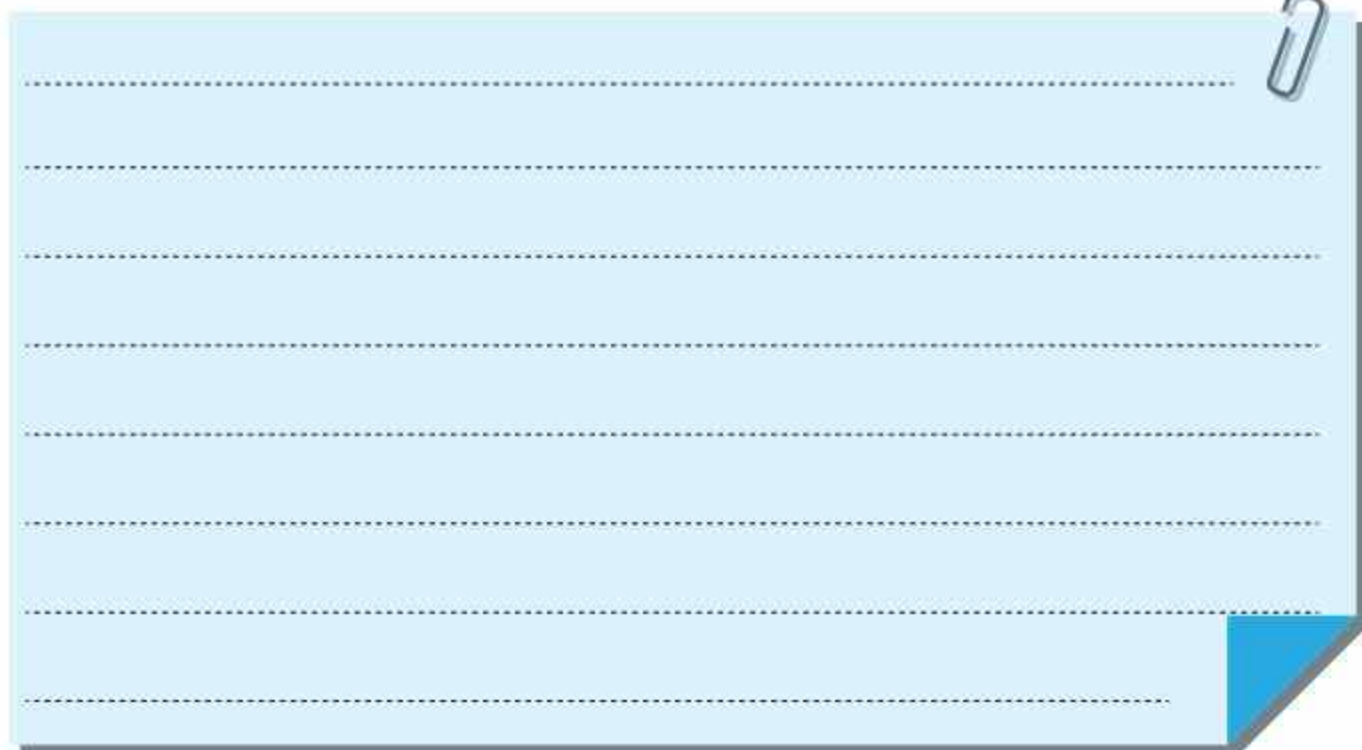
### Handouts

Please consult following handouts for this session:

- CT Diamond 9
- Effective Questioning for Meaningful Engagement
- Retrieval Teaching Grid

### Training Notes

(Please use this space to note down important points)



## Self-Reflection Questions

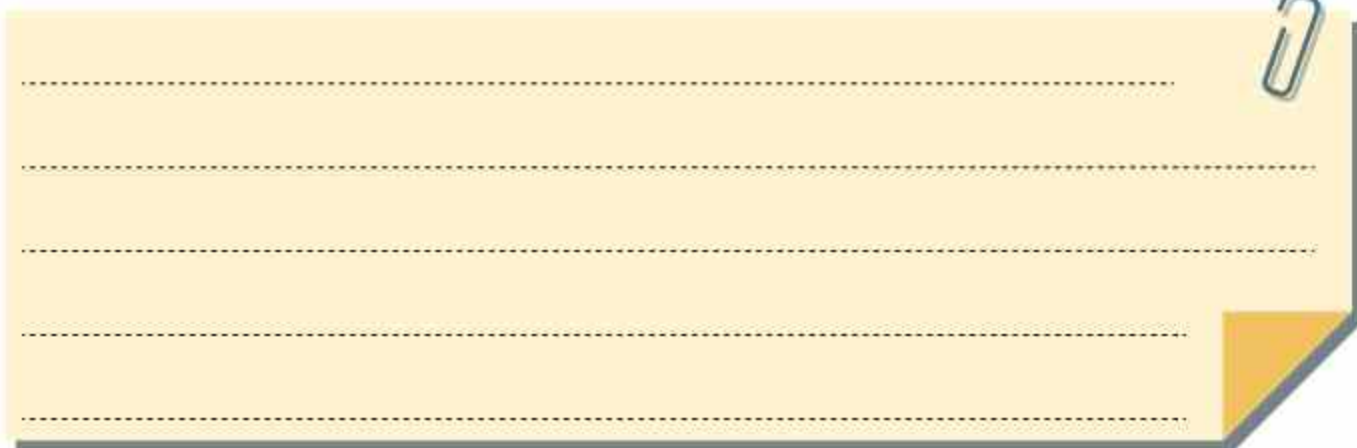
**What were the key takeaways from the session?** (Reflect on the main concepts, techniques, or strategies covered in this training session. Identify the most significant insights or learnings that you believe will positively impact your future training endeavors.)



**How did I effectively engage as a participant during this session?** (Consider the methods and activities used to keep the participants engaged in the learning process. Assess which approaches worked well and how you can apply the same in your training sessions.)

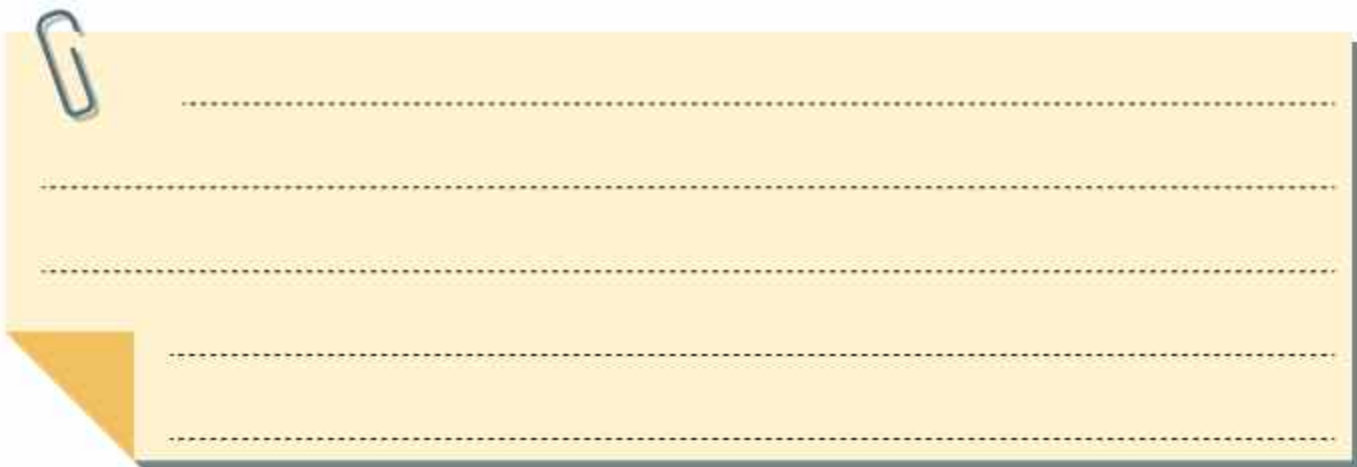


**How would you conduct the same training session differently, as a result of your experience in the Training of Trainers (ToT)?** Reflect on the changes you would make in terms of content, delivery, and engagement strategies to enhance the overall effectiveness and impact on the participants' learning experience.



## Action Plan

Please plan an action agenda to effectively use your knowledge and skills as a trainer.  
**How am I planning to use the knowledge and skills acquired during this training?**



**In what ways can I incorporate feedback received from peers and trainers into my training session?** (Consider the feedback you received from fellow participants and trainers during the TGT. Analyze how you will integrate this feedback into your training session and the impact it will have on enhancing your session's delivery as a trainer.)



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**What aspects of my facilitation style do I want to refine or develop further?** (Assess your strengths and areas for improvement as a trainer. Identify specific aspects of your facilitation style that you would like to refine to conduct training as a trainer and how you plan to do so.)



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## Resource Recommendation

(List down all helpful resources for further acquisition of knowledge recommended by your Peer or trainer)



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## Annexure-A

### Ice Breaker: Human Bingo

|  |  |  |   |
|--|--|--|---|
| Has taught in more than one country                              | Speaks a foreign language fluently                                       | Has attended a professional development conference in the past year          | Has experience teaching at multiple grade levels                        |
| Has experience teaching in a high-needs or low-income school     | Has developed and implemented a successful classroom management strategy | Has experience working with parent or community involvement initiatives      | Has organized or led a professional development workshop for colleagues |
| Has participated in a teacher exchange or job shadowing program  | Has implemented culturally responsive teaching practices                 | Has experience using formative assessment strategies effectively             | Has experience teaching in an inclusive or special education setting    |
| Has implemented differentiated instruction in their classroom    | Has experience mentoring or coaching other teachers                      | Has published an article or book related to education                        | Has received an award or recognition for their teaching                 |
| Has integrated technology effectively in their teaching practice | Has experience with teaching online or hybrid classes                    | Has a specialization in a specific subject area (e.g., mathematics, science) | Has implemented project-based learning in their classroom               |

|                        | <b>PEDAGOGY</b><br>CHILDREN'S LEARNING   | <b>ANDRAGOGY</b><br>ADULTS LEARNING  | <b>HEUTAGOGY</b><br>SELF-DIRECTED LEARNING  |
|------------------------|--|--|---|
| DEPENDENCE             | The learner is a dependent personality. Teacher determines what, how, and when anything is learned.                                    | Adults are independent. They strive for autonomy and self-direction in learning. | Learners are interdependent. They identify the potential to learn from novel experiences as a matter of course.<br><br>They are able to manage their own learning.  |
| RESOURCES FOR LEARNING | The learner has few resources — the teacher devises transmission techniques to store knowledge in the learner's head.                  | Adults use their own and other's experience.                                     | Teacher provides some resources, but the learner decides the path by negotiating the learning.  |
| REASONS FOR LEARNING   | Learn in order to advance to the next stage.   | Adults learn when they experience a need to know or to perform more effectively. | Learning is not necessarily planned or linear.<br><br>Learning is not necessarily based on need but on the identification of the potential to learn in novel situations.  |
| FOCUS OF LEARNING      | Learning is subject centered, focused on the prescribed curriculum and planned sequences according to the logic of the subject matter. | Adult learning is task or problem centered.                                      | Learners can go beyond problem solving by enabling pro-activity. Learners use their own and others' experiences and internal processes such as reflection, environmental scanning, experience, interaction with others, and pro-active as well a problem-solving behaviors. |

|                     |   |   |   |
|---------------------|---|---|---|
| MOTIVATION          | Motivation comes from external sources — usually parents, teachers, and a sense of competition. | Motivation stems from internal sources — the increased self-esteem, confidence and recognition that come from successful performance. | Self-efficacy, knowing how to learn, creativity, abilities in novel as well as situations, and working  |
| ROLE OF THE TEACHER | Designs the learning process, imposes material, is assumed to know best.                        | Enabler or facilitator, climate of collaboration, respect and openness  | Develop the learner's capability. Capable people:<br>Are creative<br>Have a high degree of self-efficacy<br>Apply in novel as well as familiar situations<br>Can work well in |



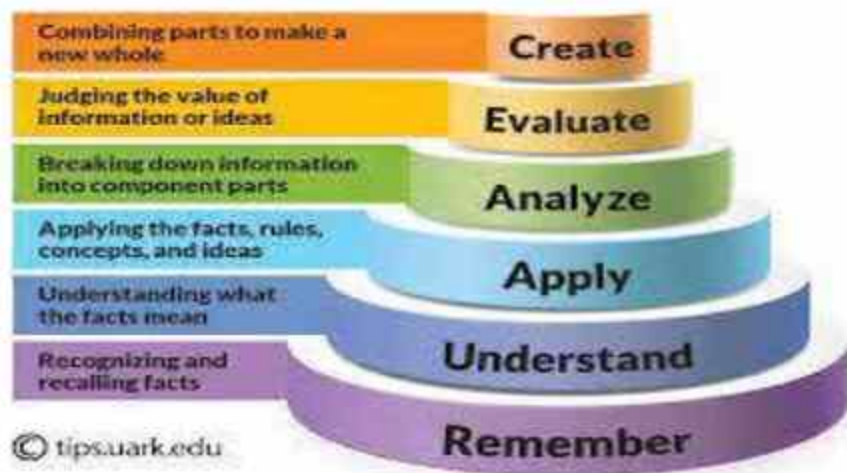
## Annexure-B

### Hand out Task 4 a: Application of Bloom's Taxonomy

#### Introduction

Bloom's taxonomy was developed to provide a common language for teachers to discuss and exchange learning and assessment methods. Specific learning outcomes can be derived from the taxonomy, though it is most commonly used to assess learning on a variety of cognitive levels. The table below defines each cognitive level from higher- to lower-order thinking.

The goal of an educator's using Bloom's taxonomy is to encourage higher-order thought in their students by building up from lower-level cognitive skills. Behavioural and cognitive learning outcomes are given to highlight how Bloom's taxonomy can be incorporated into larger-scale educational goals or guidelines. The key phrases can be used to prompt for these skills during the assessment process.



#### Learning Outcomes

Learning outcomes are what you want your students to learn, as a result of a specific lesson or more general scale of the entire course. Learning outcomes target knowledge, skills, or attitudes for change. Bloom's taxonomy specifically targets these by seeking to increase knowledge (cognitive domain), develop skills (psychomotor domain), or develop emotional aptitude or balance (affective domain). Learning outcomes might be identified by someone outside the teacher, such as state-wide or departmental standards. The taxonomy provides a basis for developing sub-goals and assessment methodology to meet these goals. It is important to note that learning outcomes are goals, and are not the activities performed to achieve those goals. Outcomes can be categorized into broad, global outcomes that may take many years to achieve and provide direction for education, educational goals that guide curriculum development over the weeks or months it takes to complete a specific course, and instructional goals that narrowly focus on the daily activities, experiences, and exercises used in a specific lesson plan.

## Applications of the Taxonomy

Taxonomies are developed to provide a framework for organizing a continuum along an underlying structure. Bloom's taxonomy primarily provides instructors with a focus for developing their course learning outcomes. There are a number of reasons why a teacher would want to use Bloom's taxonomy. Initially, it can be used to increase one's understanding of the educational process. Teachers can see and understand complex cognitive development and how lower-level skills build into higher-order thinking (e.g., recalling facts and comprehending previous problems allows a student to apply their experience to similar problems). Using this understanding facilitates the prioritizing of material and can steer the organization of lessons to maximize class time. For example, lower-level skills (e.g., memorizing factual knowledge) can be developed before higher-level skills are introduced (e.g., analysis of relationships). Current educators frequently face a confusing array of standards and curriculum requirements. Bloom's taxonomy offers a guiding framework for breaking these criteria down into accessible chunks which can be used to direct day-to-day lesson plans and can be easily compared to their own goals for the class. Just as different levels require different instructional delivery methods, they also require different assessment methods. Bloom's taxonomy can be used as a checklist to ensure that all levels of a domain have been assessed and align assessment methods with the appropriate lessons and methodologies. In this way, the taxonomy also makes it easier for you to maintain consistency between assessment methods, content, and instructional materials and identify weak areas.

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### Extended reading:

#### Update to Bloom's Taxonomy (2001)

Originally, Bloom's taxonomy was one-dimensional with an exclusive focus on the knowledge domain. The current updated version developed by Anderson and Krathwohl (2001) reorganizes, and highlights the interactions between, two dimensions: cognitive processes and knowledge content. Anderson and Krathwohl identify two reasons for updating the original handbook. They emphasize a refocusing of educational outcomes back to the original handbook, which was ahead of its time and can still offer assistance to modern educators and to incorporate new findings in psychology and education into the framework. In their revision, cognitive processes are presented as verbs and the knowledge content are presented as nouns. Along with exchanging the levels of Evaluation and Synthesis (which they rename to Creation), Anderson and Krathwohl redefine the knowledge dimension to include four types:

- **Factual Knowledge:** Basic elements of a discipline that a student must know and be able to work with to solve problems including basic terminology and specific details and elements.
- **Conceptual Knowledge:** Interrelationships between basic factual knowledge that demonstrate how elements work together, for example, classifications and categories, principles and generalizations, and theories, models, and structures.
- **Procedural Knowledge:** How something is done including the methods of inquiry, skills, algorithms, techniques, and methods needed to investigate, apply, or analyze information.




- Metacognitive Knowledge: Awareness and knowledge of one's own cognition including strategies for learning, contextual and conditional knowledge about cognitive tasks, and self-knowledge.

#### References:

Bloom, B. S. (1969). *Taxonomy of educational objectives: The classification of educational goals : Handbook I, Cognitive domain*. New York: McKay.

Anderson, L. W., Krathwohl, D. R., & Bloom, B. S. (2001). *A taxonomy for learning, teaching, and assessing: A revision of Bloom's taxonomy of educational objectives*. New York: Longman.

  
**15 mins**

## Task 5..... Toolkit **5 W 1 H**

**What**

---

<insert your text here>

**Why**

---

<insert your text here>

**Where**

---

<insert your text here>



**When**

---

<insert your text here>

**Who**

---

<insert your text here>

**How**

---

<insert your text here>

## Annexure-C

### Day 1 Session 2 Task 2 A:

While working in the assigned group, go through the list of words or tasks and place them in order of complexity,

Moving from “Simple to Complex”.

- Define Explain Compare Infer
- Deduce Predict Evaluate Critique
- Justify Synthesize Hypothesize Theorize
- Interpret Assess Create Formulate
- Design Investigate Experiment Discover
- Conceptualize Appraise Identify Recognize
- Recall Memorize Describe List
- Reflect Argue Debate Propose
- Contrast Classify Categorize Analyze
- Generate Innovate Solve Troubleshoot

Complex

Simple



**Day 1 Session 2 Task 2 A : While working in the assigned group, go through the list of words or questions and place them in order of complexity, Moving from “Simple to Complex”.**

- |  |  |
|--|--|
| What does ...look like?                            | What is your opinion?  |
| What do you know about?                            | When did it happen?  |
| Where does...come from?                            | Can you think of something similar?                            |
| What would you have done?                          | What could you use this for?                                   |
| What might have happened next?                     | What would you recommend?                                      |
| What would you do differently?                     | What went well?  |
| Can you see a pattern?                             | What evidence can you find?                                    |
| How could you group/sort/classify the information? | Can you explain how/what/why?                                  |
| Can you give a reason for...?                      | What are the key features?                                     |
| Why did this happen?                               | What makes you think that?                                     |
| Can you identify a pattern?                        | what evidence can you find?                                    |
| What evidence supports your view?                  | Can you write your own...? Can you think of a better way to..? |

|       |                |
|-------|----------------|
| _____ | <b>Complex</b> |
| _____ |                |
| _____ |                |
| _____ |                |
| _____ | <b>Simple</b>  |
| _____ |                |

## Bloom's Taxonomy

**Bloom's taxonomy** is a set of hierarchical placements used for classification of educational learning objectives into levels of complexity and specificity. Educators have typically used Bloom's taxonomy to inform or guide the development of **assessments** (tests and other evaluations of student learning), curriculum (units, lessons, projects, and other learning activities), and instructional methods such as questioning strategies. The model was named after Benjamin Bloom.

Bloom's Taxonomy, originally developed by Benjamin Bloom in 1956, has been a cornerstone of education for decades, providing a hierarchical framework to categorize learning objectives and outcomes. In 2001, a group of educational psychologists led by Lorin Anderson revisited and revised the taxonomy to better align with modern educational practices and theories. The Revised Bloom's Taxonomy reflects the changing landscape of education and places greater emphasis on active learning, critical thinking, and real-world application.

The Revised Bloom's Taxonomy retains the six levels of cognitive skills present in the original taxonomy but reorganizes them and changes the names of the levels to emphasize action-oriented verbs. The levels, in ascending order of complexity, are **Remember, Understand, Apply, Analyze, Evaluate, and Create**. Each level represents a different type of cognitive activity, from basic recall to the generation of new ideas.

**At the Remember level**, learners are expected to recall facts and information. This involves the retrieval of previously learned knowledge. Examples of action verbs associated with Remember are "define," "identify," "list," and "recite." In the classroom, teachers might use activities such as flashcards, quizzes, and memory games to reinforce and assess students' understanding of key concepts.

**The Understand level** focuses on comprehension and the ability to explain ideas or concepts. Learners demonstrate their grasp of the material by interpreting information in their own words, summarizing content, and paraphrasing. Action verbs such as "explain," "describe," "summarize," and "predict" are associated with this level. To promote understanding, educators may engage students in discussions, concept mapping, or storyboarding activities.

**The Apply level** involves the use of knowledge and understanding in new situations. Learners apply concepts, principles, and procedures to solve problems and accomplish tasks. This level emphasizes practical application and real-world relevance. Action verbs at this level include "apply," "solve," "use," and "demonstrate." Teachers can encourage application by presenting students with authentic scenarios that require the application of learned concepts and skills.

Moving up the taxonomy, we reach **the Analyze level**. Here, learners examine information, identify patterns, and break down complex ideas into their constituent parts. Analyzing involves critical thinking and the ability to draw connections. Action verbs associated with Analyze are "analyze," "differentiate," "organize," and "compare." To foster analysis, educators might ask students to dissect and analyze texts, data, or case studies.

**At the Evaluate level**, learners assess the quality, credibility, or value of information, arguments, or strategies. They make judgments based on criteria and evidence, formulating well-reasoned opinions or critiques. Action verbs used at the Evaluate level include "evaluate," "justify," "critique," and "assess."



Teachers can encourage evaluation by presenting students with controversial issues or complex problems, requiring them to weigh evidence and make informed decisions.

**The highest level of the Revised Bloom's Taxonomy is Create.** At this stage, learners generate new ideas, designs, or solutions. Creating involves originality and innovation. Action verbs such as "design," "compose," "construct," and "invent" are associated with this level. Teachers can promote creativity by allowing students to engage in project-based learning, artistic expression, or problem-solving tasks that require unique and novel approaches.

The Revised Bloom's Taxonomy aligns with modern educational principles, emphasizing active learning, critical thinking, and the application of knowledge in authentic contexts. Its application in education offers several advantages.

Firstly, the revised taxonomy encourages a learner-centered approach to education. By focusing on active engagement and higher order thinking skills, educators foster deeper understanding and retention of knowledge.

Secondly, the Revised Bloom's Taxonomy promotes the development of essential 21st-century skills. In today's rapidly evolving world, students need more than just the ability to memorize facts; they must be able to apply knowledge to solve complex problems, analyze information critically, and create innovative solutions. The revised taxonomy equips learners with these skills, preparing them for success in both their academic and professional lives.

Furthermore, the Revised Bloom's Taxonomy supports the integration of technology in the classroom. Digital tools and resources can be effectively utilized to facilitate active learning, collaborative activities, and creative projects. For example, online simulations, virtual reality, and multimedia presentations can be used to enhance students' understanding and application of concepts.

The revised taxonomy also enhances the design of assessments. Traditional exams that focus solely on recall and rote memorization may not fully capture students' abilities. By incorporating a variety of assessment methods that target different levels of the taxonomy, educators can gain a more comprehensive view of students' learning outcomes and progress.

In conclusion, the Revised Bloom's Taxonomy is a valuable framework that reflects the changing landscape of education and aligns with modern educational practices. By emphasizing active learning, critical thinking, and the application of knowledge in real-world contexts, the revised taxonomy equips learners with essential skills for success in the 21st century. Its application in education supports learner-centered approaches, fosters creativity and innovation, and prepares students to become lifelong learners and informed global citizens. As education continues to evolve, the Revised Bloom's Taxonomy remains a dynamic tool for educators to enhance the quality and effectiveness of teaching and learning.

## Annexure-D

**Task:** Read the given Questions and try to group them on basis of similarity of purpose and place them under the suitable headings (A to F) given in the table below:

- A. Setting directions of learning**
- B. Setting the scene**
- C. Plan the specific learning activities**
- D. Allocating teachers Aids**
- E. Plan to check for understanding**
- F. Create a realistic timeline**

1. Going back to my list of learning objectives, what activity can I have students do to check whether each of those has been accomplished?
2. What do I want them to understand and be able to do at the end of class?
3. What do I want them to take away from this particular lesson?
4. What will I do to introduce the topic?
5. What is the topic of the lesson?
6. What do I want students to learn?
7. Is the task appropriately challenging for the students' developmental level?
8. Does the task provide opportunities for differentiation to meet the needs of diverse learners?
9. Will the task engage students and maintain their interest throughout the process?
10. How can the task be made more enjoyable and meaningful?
11. What questions will I ask students to check for understanding?
12. What will I have students do to demonstrate that they are following?
13. What resources and materials are needed to complete the task?
14. Are the resources readily available and accessible to all students?



15. how much time each of the activities will take, then plan some extra time for each
16. How will I check whether students know anything about the topic or have any preconceived notions about it?
17. What are some commonly held ideas (or possibly misconceptions) about this topic that students might be familiar with or might espouse?

| Headings  | Qs nos |
|---|--------|
| <b>a. Setting directions of learning</b>        |        |
| <b>b. Setting the scene</b>                     |        |
| <b>c. Plan the specific learning activities</b> |        |
| <b>d. Allocating teachers Aids</b>              |        |
| <b>e. Plan to check for understanding</b>       |        |
| <b>f. Create a realistic timeline</b>           |        |

# Sample Lesson Plan Computer Science

## Instructional Unit Integrating Technology -- Day 1

## Grade VI

### Content

With the help of the instructional software application Kidspiration, students will be able to identify passages that indicate setting, characters, problem (events), and solution in a story. They will be able to see what makes up a story and why it is considered one by using technology.

### Objectives

Begin to identify simple story elements in narrative text, such as

- problem
- setting (time and place)
- events
- characters
- sense of story events (beginning, middle, and end).

Begin to become familiar with a variety of narrative genre including

- stories
- nursery rhymes
- poetry
- songs.

### Technology Standards/Benchmarks:

- Students understand that technology is a tool to help complete a task.
- Students understand that technology is a source of information, learning, and entertainment.

### Materials Needed

1. The book, "Where the Wild Things Are" by Maurice Sendak.
2. Classroom computer with Kidspiration software that can be projected onto the wall for everyone to see
3. A monster shaped cutout for each student. Printed on each "When I feel \_\_\_\_\_, I \_\_\_\_\_ and then \_\_\_\_\_."

### Introduction

As a group, with the students sitting on a carpet in a circle, introduce the book "Where the Wild Things Are" to the children. Read the author and title; show the cover and first few pages of the book. Ask the children what they think the story might be about.

### Development of Lesson (Procedures)

1. Read the book, inviting those students who may know it well to read along whenever they want to.
2. Ask, or suggest, if this is a "good story," an "interesting story," a "well-written story." Explain that we will now look at the elements, or parts of what makes up a "good story".
3. Using the Kidspiration software on the computer, create a diagram that includes all the components of a "good story". Put the title and author of the book in the center and branch off from that "Setting". Explain that the setting is where and when the story takes place and branch off from setting where the story took place. For each response refer back to the book saying "how does it tell us that?" and help the students remember a passage or a phrase. Repeat the process for "Characters," "Problem," "Events" and "Solution."

4. Tell the students that you're going to leave the chart up on computer for now, that it helps for our reading and writing to know what makes up a good story.

#### **Accommodations/ Adaptations**

For the student having trouble understanding the book, co-teacher, can assist teachers with helping the student. They could be there to go through each page and describe every word, idea, and picture in full detail. The book could be provided on tape, video, and as a big book with larger words and pictures if it is available for any student. The ESL student would have a translator or be able to read/listen to the book in another language. Print outs of the chart could also be provided for any student needing it.

#### **Evaluation/ Assessment**

Remind the students that Max was feeling wild and that caused a problem and other events to happen in the story. Ask: what are some other ways we can feel? Single out a response. Say: Could we take that feeling and make up a story like Mr. Sendak did? Ask: What do we need for a good story? When responses have included Setting, Characters, Problem, Events and Solution, begin with a second diagram using Kidspiration with these titles, and brainstorm ideas for each.

#### **Closure**

Ask again when Max was feeling wild, what did he do (acted wild, yelled at his mother, wore his wolf suit, etc.)? Have the students fill out their own bulletin board cut-out, a picture or shape stating: "When I Feel (emotion), I (action) and then (this happens)." They are putting together in a very simple way, the beginning elements of an original story. Either now, or when the bulletin board is up, you can individually ask students to come up with an idea for a solution. A simpler activity would be to limit this to "when I feel wild, I \_\_\_\_\_".

#### **Lesson Extensions**

Students could take this idea home with them and ask family members the same question: "When I feel (emotion), I (action) and then (this happens)." Have students think of other individuals (superheroes, monsters, characters in their favorite stories) that act out when they feel a certain emotion. Do these individuals do the right thing? Students would be given the opportunity to use Kidspiration in the classroom or as an extra credit assignment at home to create their own web diagram on a story of their choosing.



## Sample Lesson Plan English

|                    |            |                          |                       |
|--------------------|------------|--------------------------|-----------------------|
| <b>Class</b>       | 7th        | <b>Strength of Class</b> | 40 Students           |
| <b>Duration</b>    | 40 Minutes | <b>Number of Periods</b> | 1 Period              |
| <b>Average Age</b> | 14 Years   | <b>Date</b>              |                       |
| <b>Subject</b>     | English    | <b>Topic</b>             | Morning in the desert |

|                            |  |
|----------------------------|--|
| <b>Topic</b>               |  |
| Morning in the desert      |  |
| <b>General Objectives</b>  | <p>By the end of class, the students will be able to:</p> <p>Develop speaking, reading, and listening skills</p> <p>Get knowledge about the deserts life</p> <p>Communicate their ideas, feelings, and expressions</p>                                       |
| <b>Specific Objectives</b> | <p>After the teaching of this lesson the students will be able to:</p> <p>Know about the cholistan, chador and toba.</p> <p>Understand about the role of water in daily routines.</p> <p>Know how the women carrying water jars in the cholistan desert.</p> |
| <b>Teaching Aids</b>       | Textbook, Whiteboard, marker, charts, duster, diagrams etc...  |
| <b>Teaching Method</b>     | The teacher will explain the different aspects of lesson by using the textbook, demonstration and lecture method.  |
| <b>Introduction</b>        | In the beginning of the class teacher will welcome the class warmly then start the topic and tell the students about the life in the desert and tell them about the importance of the water.   |
| <b>Presentation</b>        | The Teacher will explain the term as a model then reading and will write the difficult words with Urdu meanings and synonyms on board.   |
| <b>Activity</b>            | Discuss the silent features of women carrying water jars in the cholistan desert.  |
| <b>Reviews</b>             | After the complete lecture the teacher will ask some questions to the students about their today lesson and take some reviews from them.   |
| <b>Home Task</b>           | At the end of the discussion the teacher will asked the students to write the theme and moral lesson in their notebooks.   |



## Sample Lesson Plan Science

### Lesson Plan Title : Growing Bacteria

#### Age Range:

Grade 6 through Grade 8 (Middle School)

#### Overview and Purpose:

Bacteria grow all around us. Learning about it can be fun and fascinating. In this lesson students will observe the growth of bacteria over a week's period.

#### Objective:

The student will be able to

- \*identify areas in the classroom where bacteria are growing.

- \*observe and record the growth of bacteria growing in Petri dishes for one week.

#### Resources:

Q-tips

Petri dishes with agar

Science journal

#### Activities:

Explain that the students are going to swab their Petri dishes with material from different places in the classroom and illustrate the growth of bacteria over the next week. Brainstorm with the students some places where they think bacteria are growing in their classroom (i.e. the trash can, on the floor in the corner, between their toes).

Have them swab some of the areas and rub the Q-tip on the Petri dish. Label the dishes and check them each class period. Have the students illustrate the growth of the bacteria in the same Petri dish all week.

When the experiment is over, ask the students to tape the dishes closed and dispose of them in the trash. They should not open them.

#### Closure:

An extension of this lesson would be to have the students research the type of bacteria that is growing and create a poster about it. They could also do a second experiment using common household cleaners. They could return to the areas and swab then again before and after they use a cleaner on them to see if that affects the bacteria growth.

## CLASS VI MATHEMATICS

### Sample Lesson Plan

|                 |  |      |          |       |    |
|-----------------|--|------|----------|-------|----|
| Name of Teacher |  | Date | 6.3.2023 | Class | VI |
|-----------------|--|------|----------|-------|----|

|       |                            |          |        |
|-------|----------------------------|----------|--------|
| Topic | Equations and Inequalities | Duration | 80 min |
|-------|----------------------------|----------|--------|

|                   |  |
|-------------------|--|
| Attainment Target | Begin to use conventional linear algebra to construct and solve simple linear equations (single variable only) – in real life contexts |
|-------------------|--|

|                   |  |
|-------------------|--|
| Learning outcomes | Students will be able to use conventional linear algebra to construct and solve simple linear equations (single variable only) – in real life contexts |
|-------------------|--|

| Time   | Content and teacher activity  | Learner activity  | Learning materials and resources  | Formative assessment   |
|--------|---|---|---|--|
| 70 min | How are you explaining and illustrating the topic?  | What are the learners doing to help them understand the topic?    | What resources will you use that will support the teaching and learning activities? | What resources will you use that will support the teaching and learning activities? How do you plan to assess learning as it is happening? |
| 10 min | <p>Start with a problem:</p> <p>• Use a model to solve the problem.</p> <p>Three people go out to buy 6. They decide to share the 6.2 bill evenly. How much does each person pay?</p> <p>• When equation does the model represent? Explain how this represents the problem.</p> | Students will write the answer of the given questions.            |   | By monitoring in classroom and getting the answer from the students of the given question, checking notebooks on spot                      |
| 3 min  | The teacher will write down and explain the target & objectives on the board.   | Students will understand & note down the target learning outcome. | SOW   | Attention and concentration of students towards the topic.   |

| Time   | Content and teacher activity   | Learner activity   | Learning materials and resources | Formative assessment   |
|--------|--|--|----------------------------------|--|
| 12 min | Teacher will ask the students to watch the video and ask the question by making pauses at some points:<br><a href="#">Grade 6 Math: Solving Word Problems involving Algebraic Equations - YouTube</a>                    | Students will participate in discussion.   | D1 textbook,<br>Youtube          | Student's feedback on every step of solution of problems & participation in solution of problem.                         |
| 20 min | Teacher will explain the concept by using linking model on page 122 of D1 and worked example of page 124.  | Students will be appreciated for active participation and giving relevant answers. Students will discuss their answers and justify them. |                                  | On spot checking of note books / monitoring of students work, high achievers will be encouraged to help in peer learning |
| 25 min | The teacher will ask the students to note down the questions and solve them. The teacher will move around in the classroom and try to help particularly the struggling students. The questions will be written on board. | Students will be asked to solve Exercise 5C page 124 Q 1-6   |                                  |  |
| 10 min | Wrap up:<br><b>THEATER</b> A theater has 1200 seats. Each row has 20 seats. Write and solve an equation to find the number of rows in the theater.   | Students will find the question for the answer.  | One question quiz                | The Teacher will make sure that students have clearly understood the concept and will do the correction if required.     |

How did you make the lesson inclusive?

By involvement, asking randomly from every student including struggling students.

By making students participate actively by coming to the board confidently.

Lesson Evaluation: Include what you feel went well and what you would like to improve.

Notes

## Annexure-E

### Rolfe's Framework for Reflective Practice:

| S No | What<br>Describe an<br>experience | So What<br>focus on analyzing and making sense of<br>the experience | Now What<br>identify actions for future<br>improvement |
|------|-----------------------------------|---|--|
|      |                                   |   |  |
|      |                                   |   |  |
|      |                                   |   |  |
|      |                                   |   |  |



### **Schön's Reflective Practice:**

**Looking back at your two days experience during the sessions, reflect and mention instances where you**

1. Had reflection-on-action (reflecting after an experience)
2. Had reflection-in-action (reflecting during an experience).

### Brookfield's Lenses of Reflection

| Task/Concept | The autobiographical lens<br>through which individuals can reflect on their teaching practice | Students' lens<br>students' perspectives | The colleagues' lens<br>colleagues' feedback | Theoretical lens<br>educational theories and research |
|--------------|---|--|--|---|
|              |   |  |  |   |
|              |   |  |  |   |
|              |   |  |  |   |
|              |   |  |  |   |
|              |   |  |  |   |

### CT Diamond 9 Activity

- **Identify the problem or question:** Clearly define the problem or question that requires critical thinking. Ensure that you have a clear understanding of what needs to be addressed.
- **Gather information:** Collect relevant information, data, and evidence related to the problem or question. Use reliable sources and consider multiple perspectives to gain a comprehensive understanding.
- **Analyze the information:** Examine the information and break it down into its components. Identify key ideas, arguments, and assumptions. Look for patterns, relationships, and inconsistencies within the information.
- **Evaluate the evidence:** Assess the credibility, reliability, and relevance of the evidence and sources. Consider the strengths and weaknesses of the arguments presented. Determine the validity of the information and whether it supports or challenges your initial assumptions.
- **Generate alternatives:** Generate multiple possible solutions or perspectives to the problem or question. Encourage creative and divergent thinking. Consider different approaches and viewpoints that may offer different insights or potential solutions.
- **Consider implications and consequences:** Evaluate the potential consequences or implications of each alternative. Consider short-term and long-term effects, both positive and negative. Assess the ethical, social, and practical implications of each option.
- **Make a reasoned judgment:** Based on the analysis and evaluation, make an informed and reasoned judgment or decision. Draw logical conclusions that are supported by evidence and reasoning. Be open to revising your judgment if new evidence or information emerges.
- **Communicate and take action:** Clearly communicate your judgment or decision, providing a rationale and supporting evidence. Implement the chosen solution or take appropriate action based on your critical thinking process.
- **Reflect on the process:** Reflect on the critical thinking process itself. Consider the strengths and limitations of your thinking and identify areas for improvement. Seek feedback and learn from the experience to enhance your critical thinking skills.

## Effective Questioning to ensure Questions promote meaningful engagement.

When using questioning in teaching and learning, several factors should be considered to ensure its effectiveness and promote meaningful engagement. These factors include:

1. **Purpose:** Clarify the purpose of the questions. Are they intended to assess understanding, provoke critical thinking, encourage discussion, or prompt reflection? Understanding the purpose helps guide the types of questions to ask and the desired outcomes.
2. **Alignment with Learning Objectives:** Ensure that the questions align with the intended learning objectives. Questions should address the content or skills being taught and provide opportunities for students to apply, analyze, evaluate, or create knowledge.
3. **Cognitive Level:** Consider the cognitive level of the questions. Questions can range from low-level recall to higher-level thinking skills. Balancing the types of questions used can promote both foundational knowledge and deeper understanding.
4. **Questioning Techniques:** Utilize a variety of questioning techniques, such as open-ended questions, probing questions, hypothetical questions, or questions that require justification. This variety encourages different types of thinking and engages students in diverse ways.
5. **Scaffolding:** Provide appropriate scaffolding based on students' readiness and abilities. Begin with easier questions to build understanding and gradually progress to more complex or challenging questions. Scaffolding helps students develop confidence and supports their learning progression.
6. **Wait Time:** Allow sufficient wait time after posing a question. This gives students time to process the question, formulate their responses, and gather their thoughts. Research suggests that increasing wait time leads to more thoughtful and elaborate student responses.
7. **Differentiation:** Differentiate questions based on students' needs and abilities. Provide opportunities for all students to participate and engage in meaningful ways. Adjust the complexity or level of questions to ensure they are appropriately challenging for each student.
8. **Encouraging Participation:** Create a safe and supportive classroom environment where students feel comfortable participating in discussions and answering questions. Use strategies like think-pair-share or small-group discussions to encourage collaboration and increase student participation.
9. **Question Sequencing:** Plan the sequence of questions strategically. Start with broad or introductory questions to activate prior knowledge, then progress to more focused or analytical questions. Consider sequencing questions to build on students' responses and encourage deeper thinking.
10. **Feedback and Reinforcement:** Provide constructive feedback and reinforcement after students respond to questions. This helps reinforce correct understanding, address misconceptions, and encourage further thinking and learning.



11. Cultural and Linguistic Considerations: Be mindful of students' cultural and linguistic backgrounds when formulating questions. Use inclusive language, consider diverse perspectives, and provide opportunities for students to express their ideas using different forms of communication.

By considering these factors, teachers can effectively use questioning as a powerful instructional tool to promote engagement, critical thinking, and deeper understanding in the classroom.

## Station 2 : Retrieval Teaching Grid

|  |   |   |  |
|--|---|---|--|
| What was date of receiving the conference email?     | What is the duration of the conference?         | What is the theme of the conference?      | What is the expected outcome of the conference ? |
| Are there any sub-themes along with the main themes? | What was the subject of initial email?          | Why you enrolled the conference?          | Which theme attracted you the most?              |
| How many sessions are designed for the conference?   | What are your expectations from the conference? | Who was the sender of the initial e-mail? | How many sessions are online?                    |



























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