



**BHARTIYA SKILL
DEVELOPMENT UNIVERSITY**

DIDACTIC UNITS

Compiled by:

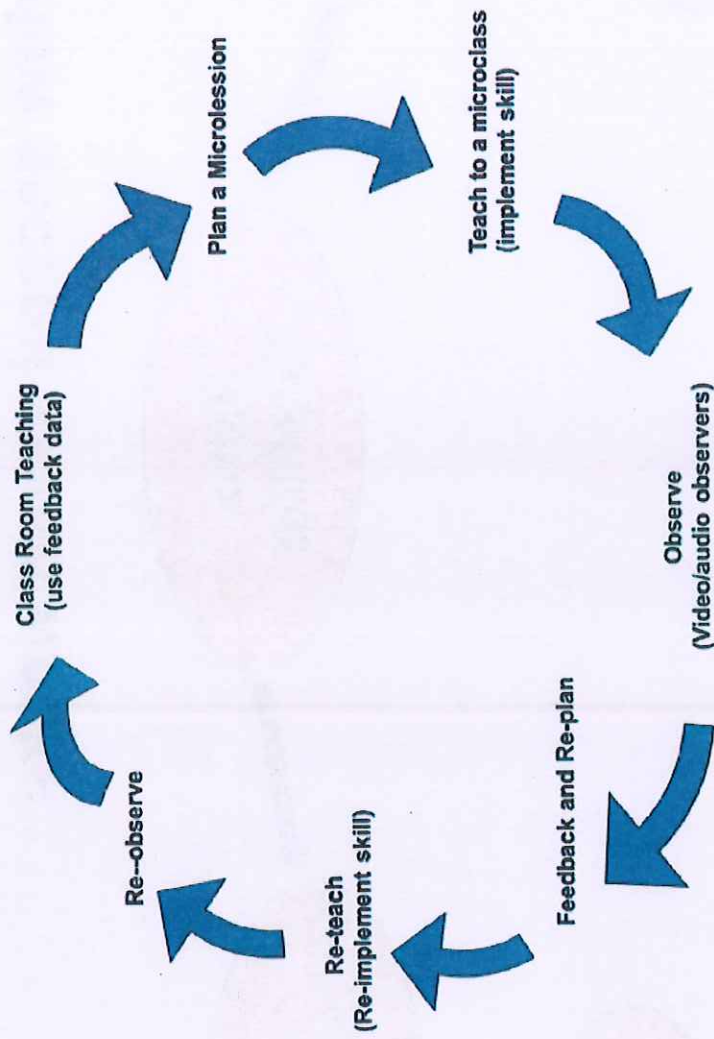
Dr. phil. Mine Dal

Honorary Dean, Head of CTL - Centre for Teaching and Learning

2024-2025

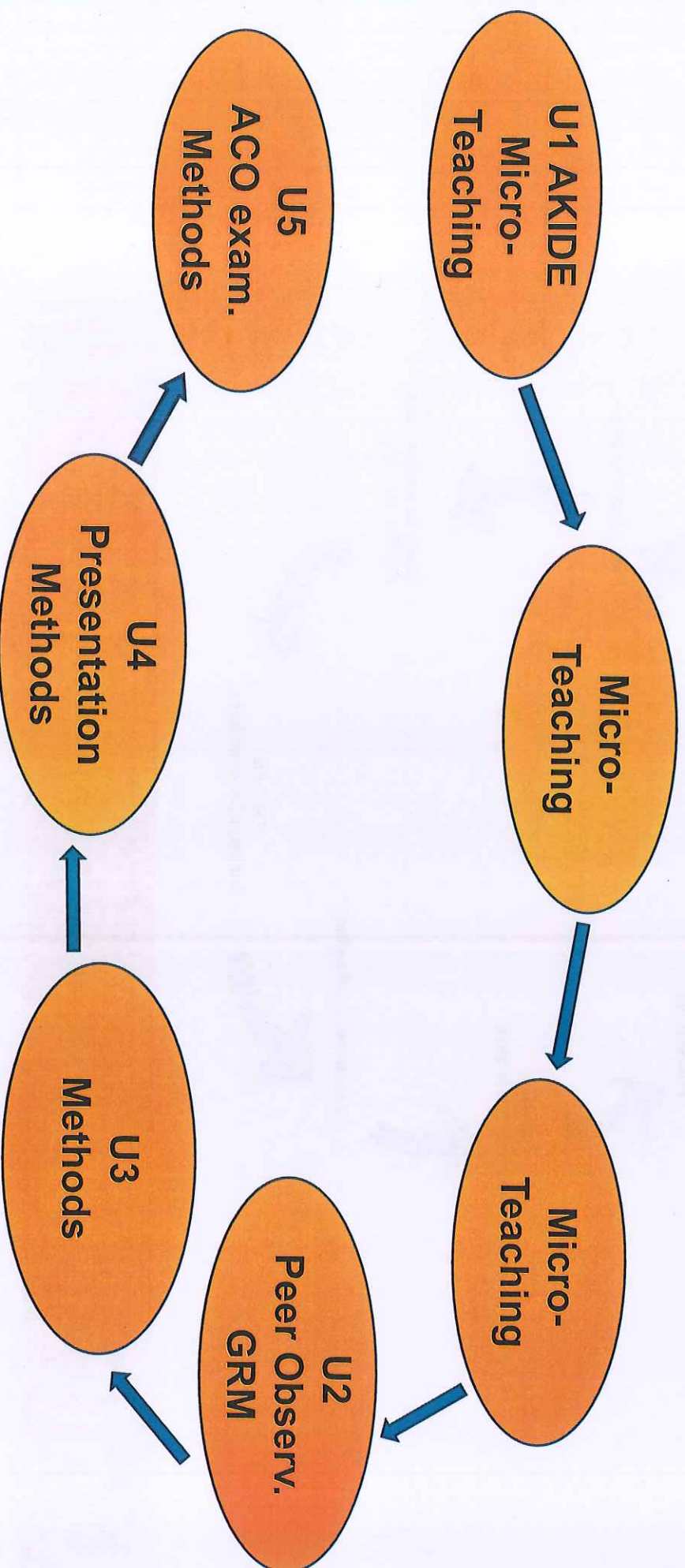
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Unit 1_2

Topic overview second seven weeks



Today's goals

- **Question** the own teaching-learning process
- **Differentiate** activ and passive learning process
- **Recall** AKIDE
- **Formulate** an AO
- **Analyze** the steps of micro-teaching
- **Evaluate** micro-teaching / AO

Steps of today's lesson

- **Key competences**
- **Lesson phases according to AKIDE**
- **Micro-Teaching**

Task 1

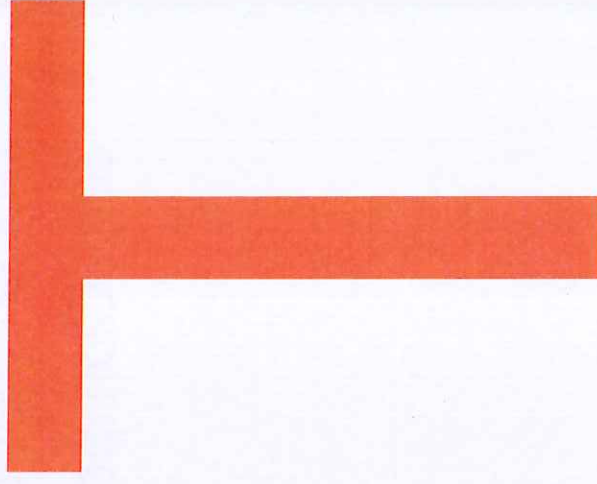
Task: Please read in script Unit 1_2, page2-3. It's a self-analysis. Chose the right answers for your own role as a teacher (almost always – often – rarely) . We will not reflect on the answers in the plenary. It's just a short reflexion for yourself, of your teaching.

Interaction pattern: Individual work

Location: Classroom

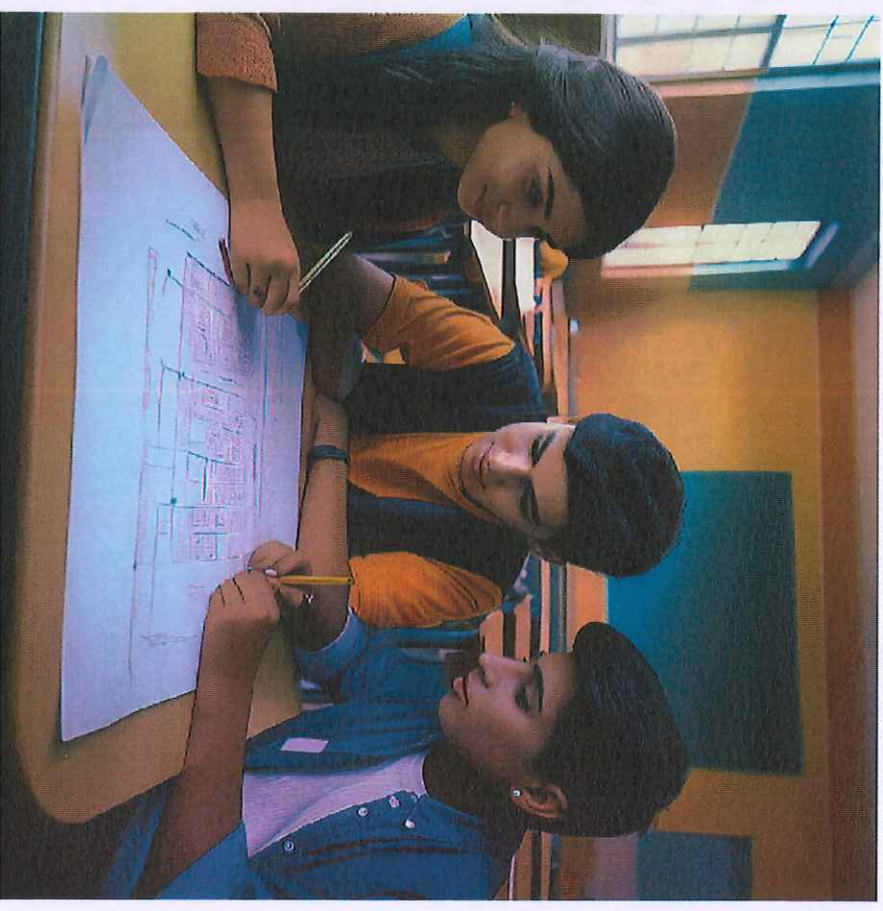
Product: Marked answers

Time: 5 minutes

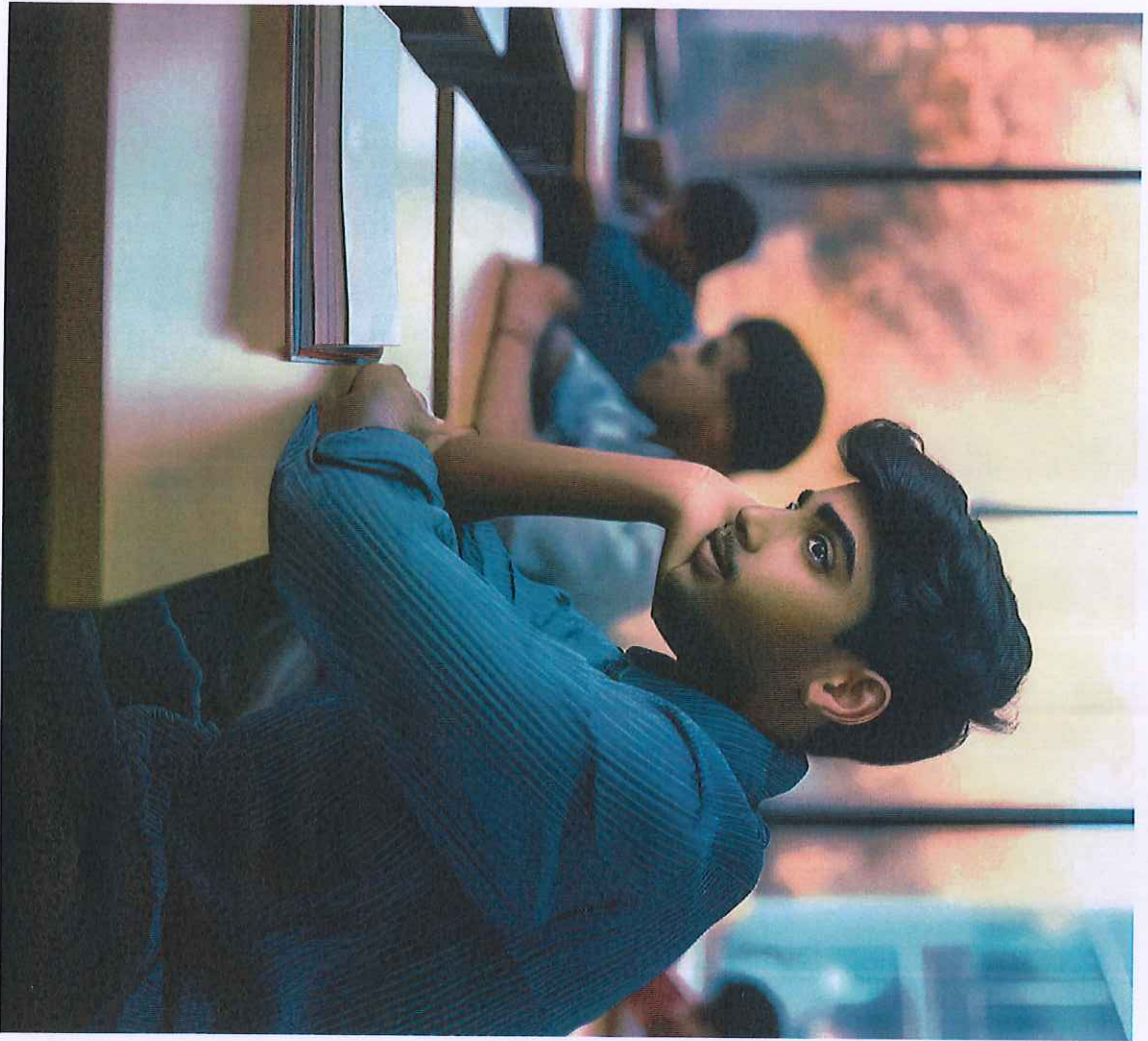


Today's key competencies

- Action Competence
- Methodological Competence
- Social Competence
- Self-Competence







Effective teaching-learning arrangements:

- active, well-structured learning phases
- meaningfully structured individual work
- well-guided partner work
- well-organized small group work



AKID E

Task 2

Task:

Please talk with your partner about your experiences with AKIDE. How did you create your event architecture according to AKIDE? Talk about your experiences. Show your partner concrete examples from your lessons about the A and K. How long do these phases last? etc. Compare it with your own lesson plannings.

Interaction

pattern:

Partner work

Location:

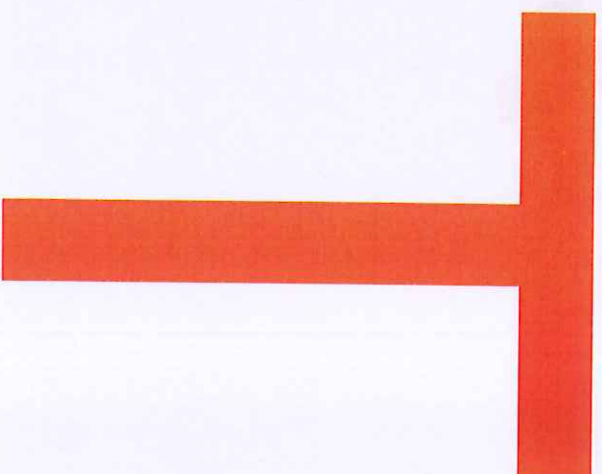
Classroom

Product:

Keywords

Time:

20 minutes



A **K** **I** **D** **E**

AKIDDE

1. Step: Knowledge activating

Activating Prior Knowledge (> 0.93) - HATTIE

Helps students process and connect new information by building on what they already know.

Methods for activating prior knowledge

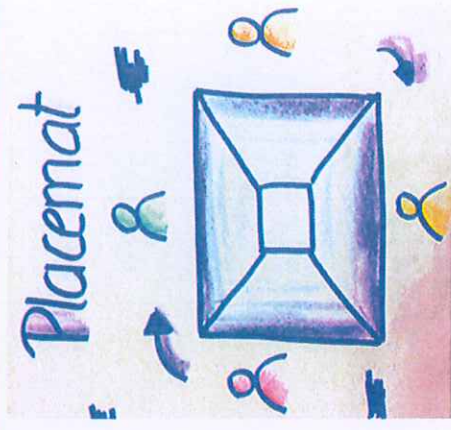
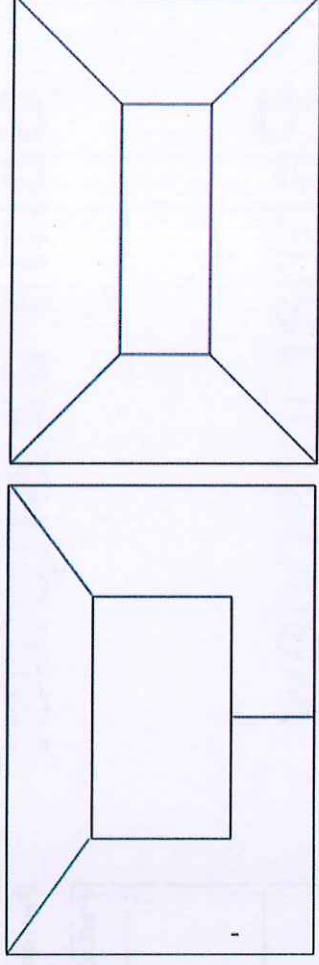
Some examples:

- Placemat
- Partner interview
- Brainwriting
- Structure-building technique
- Traffic light
- etc.

Methods for activating prior knowledge

Some examples:

Placemat



Methods for activating prior knowledge

Some examples:

Partner interview on the topic of ...

| Person A asks these questions | Person B asks these questions |
|-------------------------------|-------------------------------|
| 1. | 2. |
| 3. | 4. |
| 5. | |

Partner interview

Methods for activating prior knowledge

Some examples:

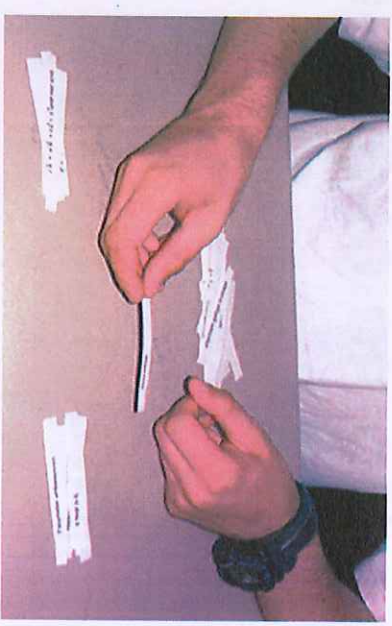
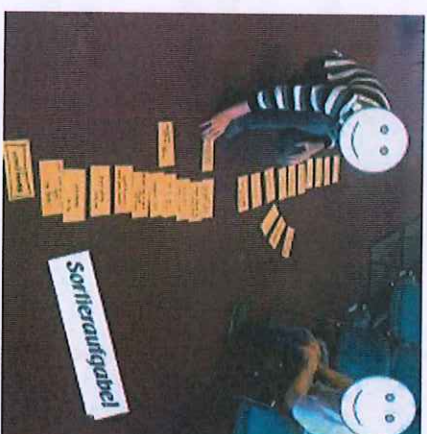
Brainwriting

| | <i>Idea 1</i> | <i>Idea 2</i> | <i>Idea 3</i> |
|-----------------|--|--|-------------------------------------|
| <i>Person A</i> | PERSON A WRITES AN IDEA HERE... | ANOTHER IDEA FROM PERSON A | ANOTHER IDEA FROM PERSON A |
| <i>Person B</i> | PERSON B WRITES AN IDEA HERE... | PERSON B IDEA MAY BUILD UPON PERSON A'S | OR BE A COMBINATION OF IDEAS |
| <i>Person C</i> | PERSON C WRITES AN IDEA HERE... | THEY COULD BUILD UPON OTHER IDEAS | OR BE A COMPLETELY NEW ONE |

Methods for activating prior knowledge

Some examples:

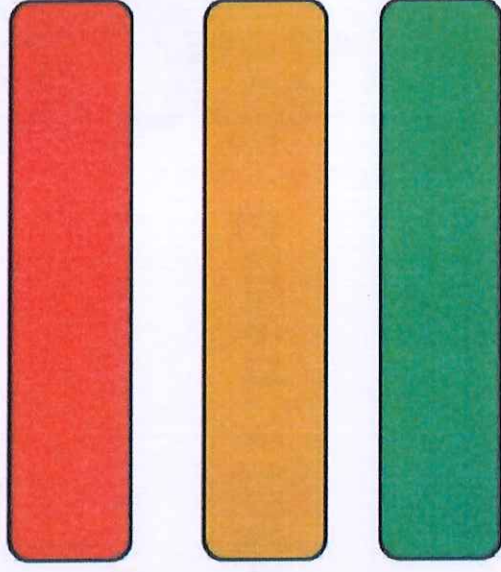
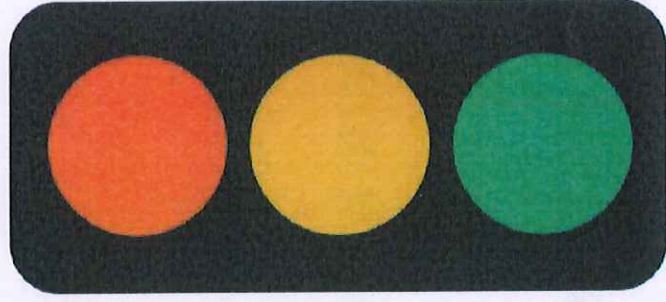
Structure-building technique



Methods for activating prior knowledge

Some examples

Traffic light



An 85-year-old female patient does not want to be washed..



Red: I'm putting off the action because...

Yellow: I am trying to persuade the patient because...

Green: I let the patient have her way because...

Raise hand: Other solutions because...



AKID E

2. Step: Advance Organizer

AKIDE

1. Step:

Activating prior knowledge > recalling **existing** knowledge in order to **prepare** learners mentally for new knowledge

2. Step:

Advance Organizer > gives learners a **preview and structure** to better understand the **new** material.

Both approaches are complementary and can be used together to increase learning success.

Advance Organizer

preview and structure to better absorb new content

max. 5-10 minutes!

According to the cognitive motivation theory: „If I believe that I can do it, I will try harder than if I think that my effort is not worthwhile.“

Advance Organizer

The form of an AO should **always** be appealing. Your presentation should be lively.

Your **facial expressions** should not always be serious and demanding, but **friendly and inviting**.

Learning can also be **fun!** If you enjoy teaching, **show it!** Show your enthusiasm. Otherwise, the best solution for you might be to change your job.

Task 3

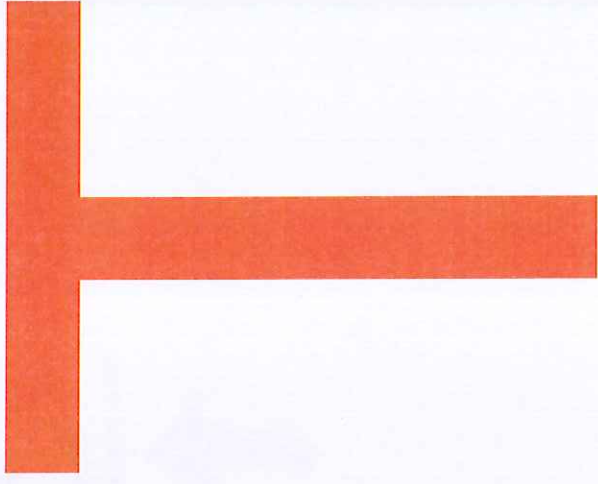
Task: Please talk with your partner about your experiences with AO. Show your partner concret examples from your own lessons. After that, find in script Unit 1_2, page 9-14 your faculty. Compare it with your own lesson plannings.

Interaction pattern: Partner work

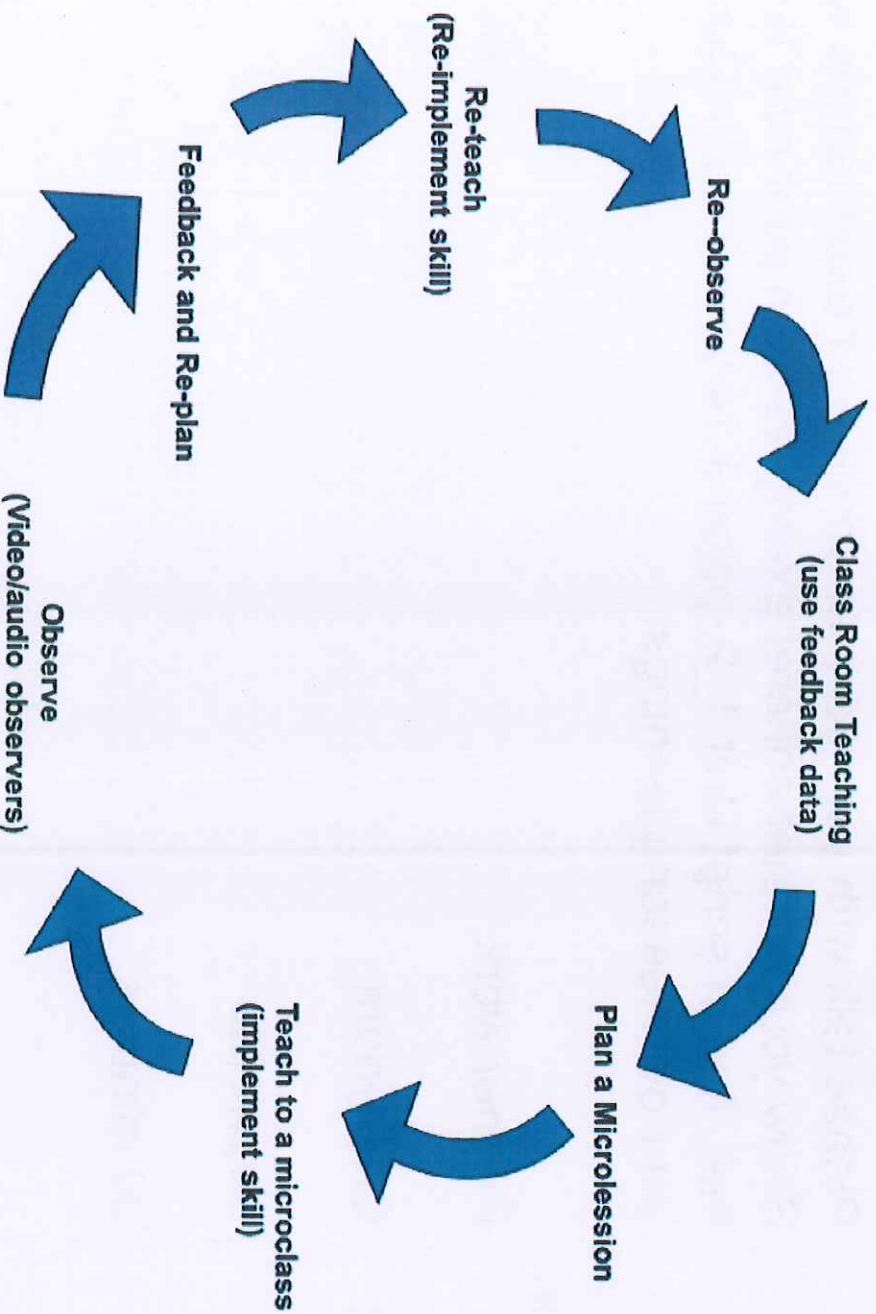
Location: Classroom

Product: Keywords

Time: 30 minutes



Micro-Teaching





The Benefits of Micro-Teaching

Effect size: 0,88

- 01 Focuses on specific teaching skills.
- 02 Provides constructive feedback.
- 03 Encourages reflective practice.
- 04 Enhances teaching confidence.
- 05 Supports skill mastery.

Why choose Micro-Teaching?



Key Advantages

Targeted Skill Development

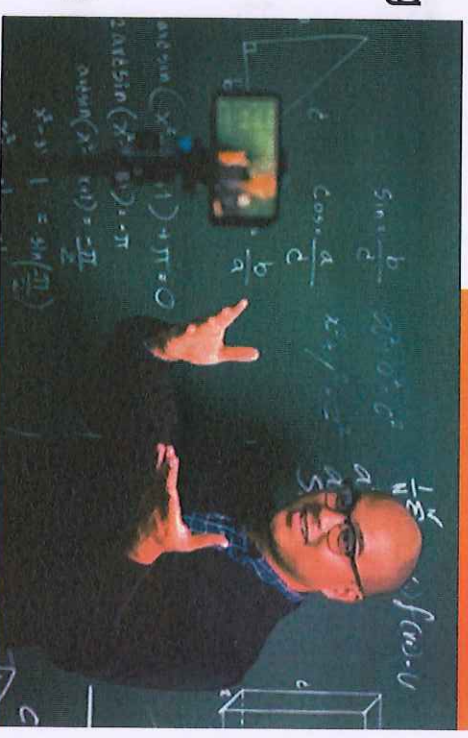
Microteaching focuses on honing specific teaching abilities, making training highly effective and manageable.

Constructive Feedback

Educators receive immediate, actionable feedback, enabling them to refine their techniques efficiently.

Reflective Practice

Encourages teachers to self-evaluate and improve their instructional methods based on observations.



Micro-Teaching Success Stories

Skill Confidence

Many educators report increased confidence in their teaching abilities after microteaching sessions.

Engagement Boost

Students are more engaged in lessons delivered by teachers trained with microteaching.

Improved Outcomes

Teachers achieve better classroom management and student outcomes through microteaching practices.



Micro-Teaching

Micro-teaching offers the opportunity to present an instance of what and **how you teach** and to get **feedback from other teachers** about how your teaching is received.

It can also be used as a **chance to try new teaching strategies** in a safe non-judgemental laboratory environment.

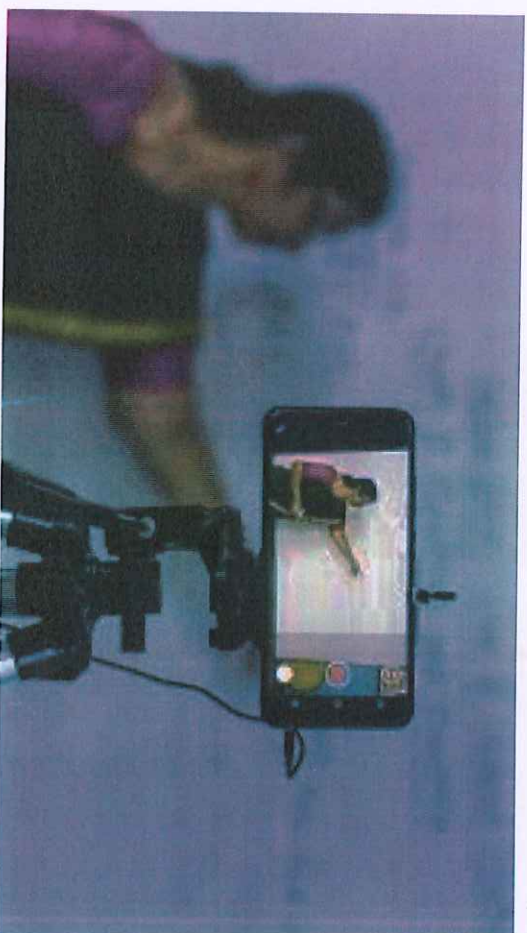
Micro-Teaching

The goal of micro-teaching is to give you **confidence, support and feedback** so you can improve your teaching methods.

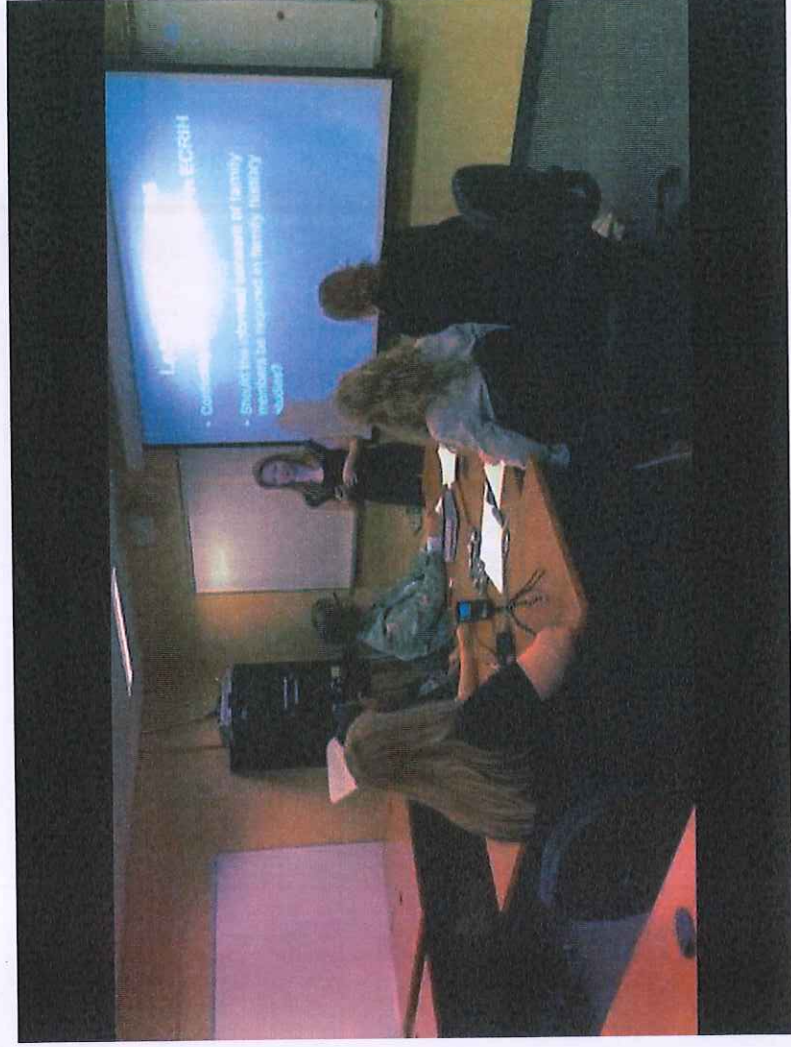


Micro-Teaching

The lesson is video recorded for either individual or peer review.



Micro-Teaching



- 1. Choose an interesting topic**
- 2. Plan - give your session a clear structure (time!)**
- 3. Practice - make sure that your session flows well**
- 4. Be inspired by others - think back to when you have observed some successful teaching**

Micro-Teaching

The work instructions and materials in micro-teaching correspond to the requirements **of real teaching**.

It is not allowed to go to the meta-level, in the sense of:

“Here I would do a partner work” or “In reality, the lecture would go on for another half an hour, but I’ll stop at this point.” Such “cuts” devalue the micro-teaching, **because the trainees remain at the level of their drafts.**

Task 4

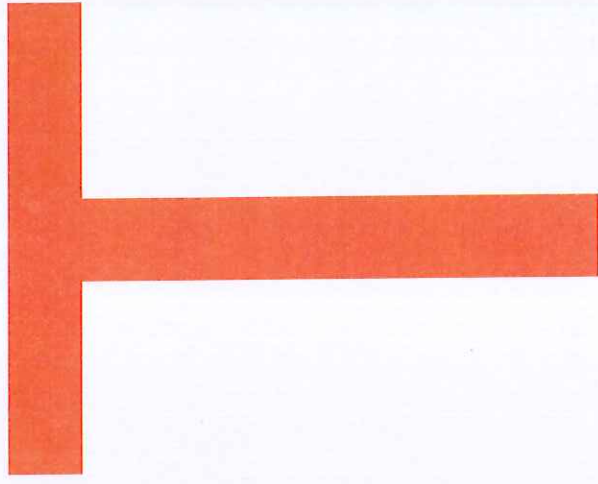
Task: Please find the multiple choice test 'Micro-Teaching and Advance Organizer' on the GoogleDrive folder. Choose the right answers.

Interaction pattern: Individual work

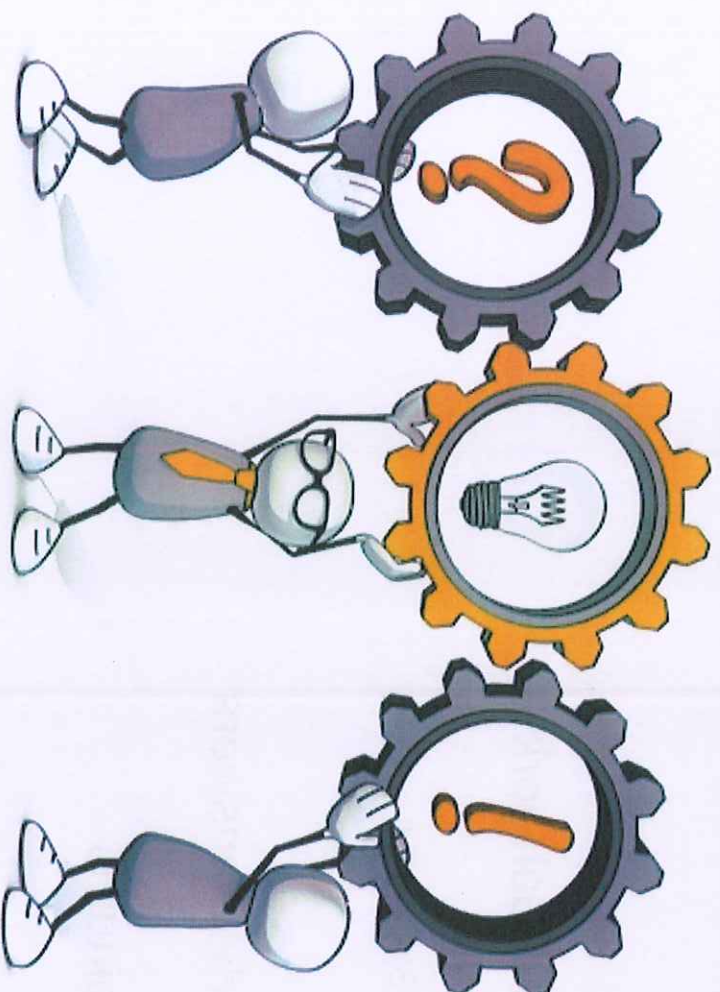
Location: Classroom

Product: Marked answers

Time: 5 minutes



Time for statements, reflections, questions



Task 5

Task: Create for one of your lessons a **5-10 minutes** microlesson, with **GOST and AO**. You will present it in a group of 3, 4, in a micro-teaching session

Interaction pattern:

Individual work

Location:

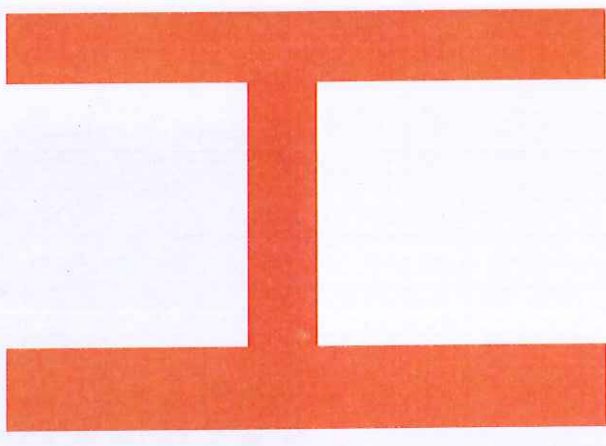
Private

Product:

5-10 min. presentation

Time:

Recommended: 30 min.



Group Da

| Date | Name |
|-------------|--|
| 24.2.25 / 1 | Sunil Anand, Pancham Kumar, Sheetal Kumar Jain 09:00 – 10:30 |
| 24.2.25 / 2 | Vipin Pahuja, Satyendra Singh, Abhishek Sharma 10:45 – 12:30 |
| 03.3.25 / 1 | Aman Sharma, Rikky Kumari, Priyanka Rathore 09:00 – 10:30 |
| 03.3.25 / 2 | Nikita Singh, Yatendra Singh Hada, Ubed UI Haque 10:45 – 12:30 |
| 07.4.25 / 1 | Praveen Kumar Sharma, Kuldip Singh, Avneet, Pranjali Maheshwari 09:00 – 11:15 |
| 07.4.25 | Evaluation – Feedback, all faculty members, Group Da 11:30 – 12:30 |

Group Dd

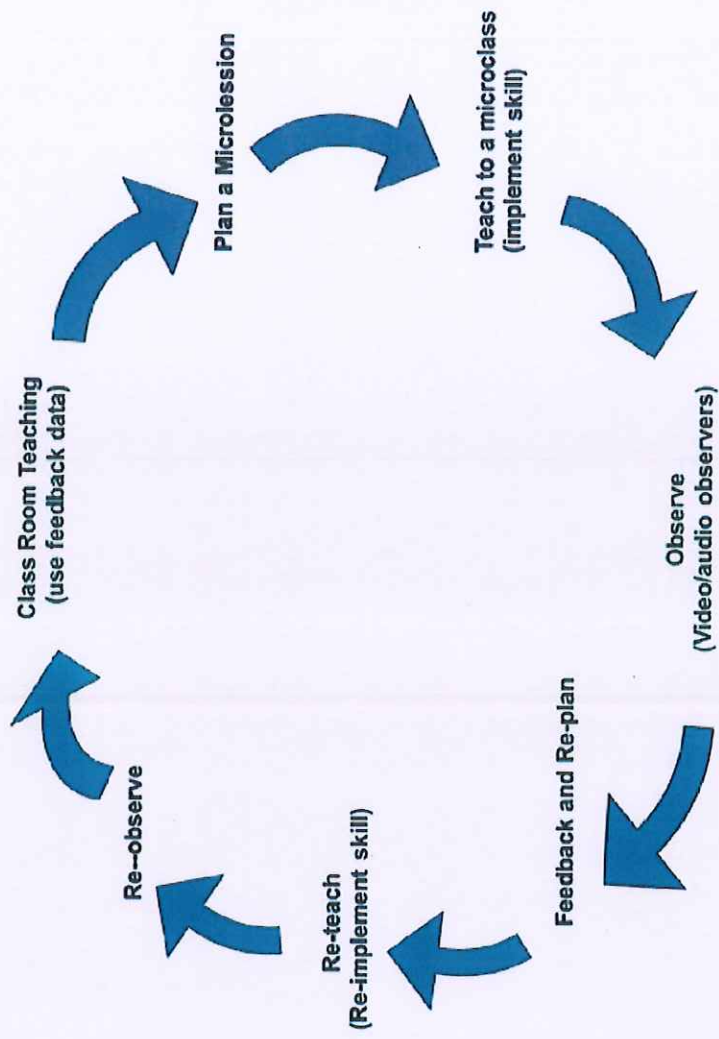
| Date | Name |
|----------------|---|
| 06.3.25 / 1 | Dinesh K. Choudhary, Sunil K. Kumawat, Ankit Prajapat, Vinay K. Verma / 09:00 – 10:45 |
| 06.3.25 / 2 | Mukesh K. Khakhal, Pradeep S. Chouhan, Munendra Koli, Sangeetha Noval 10:50 – 12:30 |
| 03.4.25 | Evaluation – Feedback, all faculty members, Group Dd 09:00 – 10:30 |

And what about today's goals?

- **Question** the own teaching-learning process
- **Differentiate** activ and passive learning process
- **Recall** AKIDE
- **Formulate** an AO
- **Analyze** the steps of micro-teaching



Thank you for your attention!

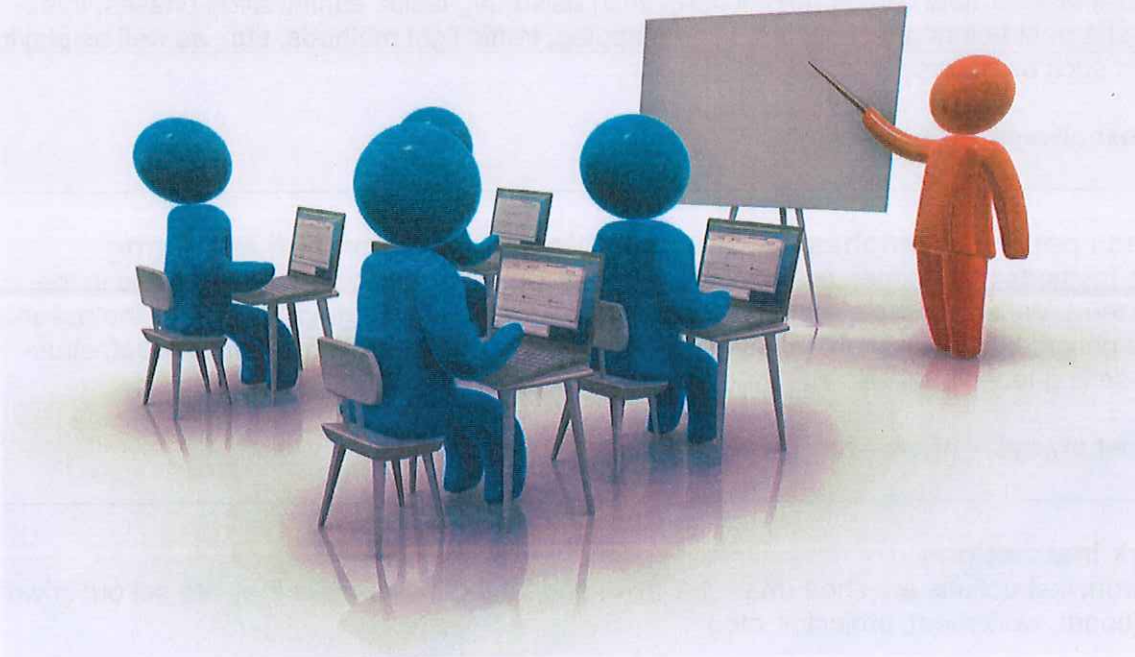




Methods for Activating Prior Knowledge

Advance Organizer

Micro-Teaching



Self-analysis

In the form of a self-analysis, you can assess how good your own way of designing teaching-learning processes is.

Duration of plenary phases

Maximum length 15 to 20 minutes (if presented in a compact way, only about 10 minutes). After that, change to the smallest possible social form, such as individual work, partner work or groups of three.

almost always – often – rarely

Extent of active learning

All activating phases in individual work, partner work, small groups together make up at least 50% of the total teaching time.

almost always – often – rarely

I attach particular importance to the organization of prior knowledge

I use methods that activate the knowledge, skills and strategies that learners bring with them. Special task formats can be helpful here, such as sorting tasks, confirmation phases, think-pair-share, structuring techniques, mind mapping, traffic light methods, etc., as well as playful forms such as quizzes.

almost always – often – rarely

I place particular emphasis on sustainable consolidation and anchoring

I use methods that deepen and anchor what has been learned so that it is available in the long term. Varied practice is crucial. Special task formats can be helpful, such as the assurance phase, think-pair-share, multi-interview, partner interview, learning tempo duet, structure-setting technique, etc.

almost always – often – rarely

Work instructions

My work instructions are short (max. 1-2 min.) and for extensive tasks they are set out in writing (board, worksheet, projector, etc.).

almost always – often – rarely

Behavior while tasks are being completed

If the situation allows, I use the time to observe individual learners closely, to give them feedback and to advise them. This does not mean simply walking around and observing in general. I keep a list of my contacts so that I can observe and advise all learners equally while they are working on the task.

almost always – often – rarely

Enthusiasm

It is clear to me that the topic/subject/my profession is important to me.

almost always - often – rarely

Structuring and comprehensibility

I clearly highlight the essentials.

almost always - often – rarely

I explain technical terms in simple terms.

almost always - often – rarely

I reduce the extent of question-developing procedures. When I ask questions, I make sure that they are mainly questions for reflection, open questions and less questions for gathering knowledge. I give learners enough time to think.

almost always – often – rarely

My explanations are multi-coded

I use pictures and graphics.

almost always – often – rarely

I use examples.

almost always – often – rarely

I draw comparisons.

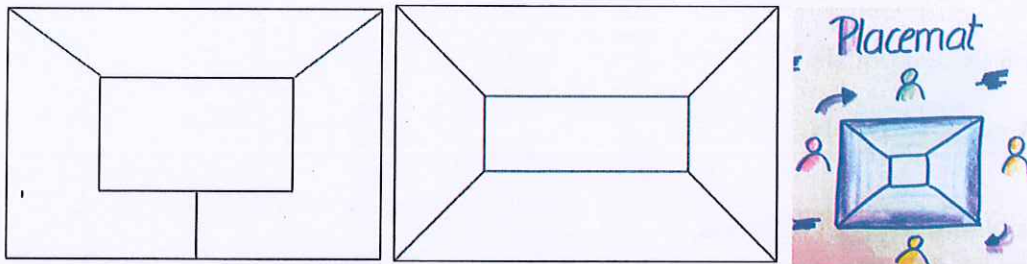
almost always – often – rarely

I report episodes, experiences, incidents.

almost always – often – rarely

Some Methods for Activating Prior Knowledge

Placemat



Partner Interview

Partner interview on the topic of ...

| Person A asks these questions | Person B asks these questions |
|-------------------------------|-------------------------------|
| 1. | |
| | 2. |
| 3. | |
| | 4. |
| 5. | |

What do I know already about this topic?

What do I want to learn?

2 – 3 Minutes Partner interview: Teacher has to create for that a sheet (A4)

1/2 of the questions should be questions about the upcoming topic.

Brainwriting

In **brainwriting** each student usually has **their own sheet of paper**. The procedure is as follows:

1. Phase 1: Individual writing

Each student begins with their own sheet of paper (or a digital alternative) and writes their ideas on a question or topic on it.

2. Phase 2: Passing on the sheets

After a set period of time (e.g. 3–5 minutes), each student passes their sheet of paper to the person on their left. The next student adds to or builds on the existing ideas.

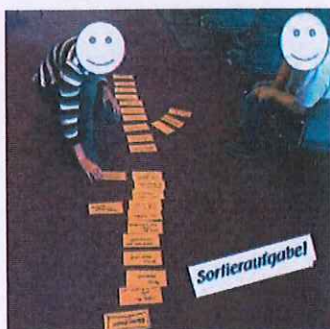
3. Repeat

This process is repeated several times so that each sheet of paper is worked on by several students and the ideas are constantly expanded.

4. Collection and discussion

At the end, all sheets of paper are collected, the ideas are compiled and discussed in plenary.

Structure-building technique



The structure-building technique used to organize prior knowledge is designed to encourage students to engage intensively with their existing knowledge and skills and to try to link the individual elements. This makes it easier for them to integrate the new content into their existing subjective structures, which ultimately increases understanding and demonstrably improves long-term retention. By observing the structures and listening, the teacher can see which elements are appropriately arranged and which links have been made in a comprehensible way. This enables the teacher

to assess the current level of knowledge and skills at the beginning of the curriculum unit and to align their didactic and methodological planning accordingly. Teacher writes the steps of a process or of a topic on presentation cards and mixes the set of cards well. Then asks the participants to put the cards in order on a table, on a pinboard or even on the floor ("Sort the cards so that the early process steps are as far to the left as possible" or "Sort the cards so that the particularly difficult/complex/noteworthy). Then teacher lets the groups 'check' the results among themselves (where are there discrepancies, where were cards placed differently and why do you think that is?). Last step: Discussion of the results in plenary.

Traffic Light

The **Traffic Light Method** can be effectively applied in the classroom to assess understanding, gather feedback, or facilitate decision-making. Here's how it can be used:

Steps to Apply the Traffic Light Method in the Classroom:

1. Preparation:
 - Provide students with colored cards (green, yellow, red) or markers.
 - Alternatively, use a whiteboard or digital tool with three sections representing the colors.
2. Define the Context:
 - Clearly explain what each color represents:
 - Green: "I understand," "I agree," or "Everything is fine."
 - Yellow: "I partially understand," "I am unsure," or "There are some issues."
 - Red: "I don't understand," "I disagree," or "I need help."
3. Pose a Question or Task:
 - Use the method for different purposes:
 - Understanding: "How well do you understand today's topic?"
 - Feedback: "Are you comfortable with the pace of the lesson?"
 - Decision-making: "Do you agree with the proposed solution?"
4. Student Response:
 - Students hold up the appropriate colored card or place a sticker on a chart.
 - For digital classrooms, use online tools (e.g., polls or traffic light icons) for students to select their response.
5. Analyze and Act:
 - Review the responses:
 - Green: Move forward confidently.
 - Yellow: Pause to clarify uncertainties or answer questions.
 - Red: Revisit the concept or provide additional support.
6. Reflection:
 - Discuss the results with students to ensure everyone feels heard and included.
 - Adjust your teaching strategy if needed.

Example Use Cases in the Classroom:

1. Quick Understanding Check:
 - After teaching a topic, ask: "Do you feel ready to move on?" Students show green, yellow, or red.
 - Tailor your next steps based on their feedback.
2. Group Work Evaluation:
 - During group projects, ask: "How confident are you in your group's progress?"
 - Use the responses to identify which groups may need guidance.
3. Behavior Reflection:
 - At the end of a lesson, ask: "How well did we follow our class rules today?"
 - Students use the colors to reflect on their behavior collectively.

Advantages:

- Simple, fast, and visual.
- Encourages honest feedback from students.
- Helps identify learning gaps in real-time.
- Increases student engagement and participation.

Supported by ChatGPT

Advance Organizer

Of course, an Advance Organizer – a presentation given by the teacher in a few minutes (5 to 10 min.) “at a stretch” – is clearly a form of teacher-centered instruction. But it is highly useful because experts use it to offer their knowledge, acquired over long periods of time, in a condensed but still understandable form, in order to make it easier for learners to find their way around at the beginning of a topic

According to the **cognitive motivation theory**, this in turn is related to the effort calculation: If I believe that I can do it, I will try harder than if I think that my efforts are not worthwhile. And the Advance Organizer is a fascinating way to create a basis in a short time on which self-directed forms of learning can take effect.

The Advance Organizer doesn't anticipate everything. It can't, because compressing fourteen 50-minute units into 5 to 10 minutes is completely impossible. What you can achieve, however, is a basic understanding of the subject matter. Most of the details haven't been determined yet, and there are numerous opportunities for learners to contribute their interests. Conversely, teachers should know which direction they want to go in, whether they are teaching at primary school or at a university. Letting yourself be surprised by the teaching-learning process from hour to hour probably does not always lead to the desired success. An Advance Organizer forces teachers to plan the teaching-learning process in a well-founded way. And that usually does no harm.

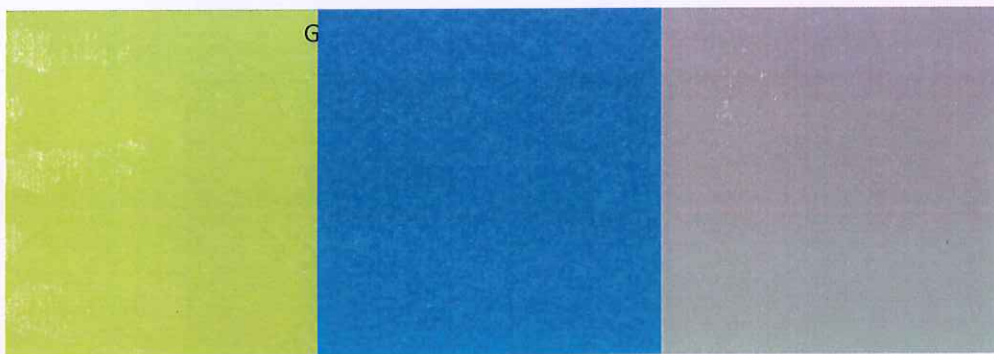
Contribution to Reflection – Advance Organizer

1. Theoretical categorisation

In connection with explanations on motivation, you learned in "Contribution to Reflection No. 1" that the **Advance Organiser (AO)** contributes to **creating a priming effect** that can be used for readiness to learn.

This time it's about the different variants of an AO. You now know that the AO is part of the Direct Instruction (course of the lesson, objectives).

Graphically, the start of a lesson consists of the elements in the yellow box.



Content, form and duration.

Regardless of what content is covered on a given day, an AO on the content is an introduction - no less, but also no more. The content of the upcoming lessons is discussed by focusing on it, but the lesson is only held after the AO. The learners already know the course and the objectives. Now these elements are brought a little closer before the work process begins.

So much for the theory. It is better to work with practical examples. Please remember: The following examples can and should be expanded with your **own ideas**. If the number of examples here is limited, it is because we want to keep this *contribution to reflection* short and concise.

The examples are tailored to different faculties. It goes without saying that you will favour your faculty when reading the examples. But also take a look at the variants from the other faculties. It may help to look at other fields of knowledge to understand the general meaning of an AO.

2.1 Faculty-orientated examples

| Faculty of | Topic |
|---------------------------------|---|
| General Education | "Switzerland vs. India: Political Systems Compared" |
| Computing Skills | "Fundamentals of Databases and SQL" |
| Manufacturing Skills | "Turning" vs. "Milling". |
| Automotive Skills | "Basic Function of the Internal Combustion Engine" |
| Healthcare and Paramedic Skills | Basics of Wound Care |
| Electric Skills | Topic: "Electrical Safety Protocols" |
| Woodworking Skills | "Types of Wood Joints and Their Applications" |

General Education

Topic: "Switzerland vs. India: Political Systems Compared"

Speech:

"You have often seen scenes from Switzerland in Bollywood films. There was dancing and music from the meadows and couples in love in the mountains. There was never any information about Switzerland and never a well-founded comparison with India. Today we are comparing two quite different countries in terms of their political systems.

Switzerland and India both have federal political systems, but they operate very differently. India follows a Parliamentary Federal Republic model, where power is divided between the central and state governments, but with a strong central influence. The President is the Head of State, while the Prime Minister is the Head of Government. Switzerland, on the other hand, is known for its Direct Democracy. Citizens have the power to propose and vote on laws directly, and the government is a collective executive body called the Federal Council. These differences shape the political dynamics and citizen involvement in each country."

Visualisation:

- Venn Diagram highlighting similarities (federal systems) and differences (direct vs. representative democracy).
- Comparison Table listing key aspects: Executive, Legislative, and Judiciary structures.
- Simplified Flowchart for each country's lawmaking process: Swiss Direct Democracy vs. Indian Parliamentary System.

Healthcare and Paramedic Skills

Topic: "Steps for Proper Wound Care"

Speech:

"How many times have you injured yourself? You have cut yourself. You've fallen and hit your knees, you've been bitten by an animal, etc.

Today we are talking about the significance of injuries from the perspective of your profession. We are talking about wound care.

Effective wound care involves a structured approach to ensure healing and prevent infection. The process starts with a cleaning phase, where the wound is gently washed with saline solution to remove debris. Next is the assessment phase, where the wound is evaluated for size, depth, and signs of infection. This is followed by the dressing phase, where a sterile dressing is applied to protect the wound. The final step is documentation, where all observations and interventions are recorded to monitor progress. Proper wound care requires attention to detail and adherence to hygiene protocols."

Visualisation:

- Flowchart of the wound care process: Cleaning → Assessment → Dressing → Documentation.
- Checklist for each step with required materials and key points to consider.
- Illustration of Common Wound Types for reference during the assessment phase.

Computing Skills

Topic: "Fundamentals of Databases and SQL"

Speech:

"Whether in online shopping, in user profiles in social networks or in Internet search engines - we encounter databases everywhere. What are databases and what does SQL mean? These are the questions we are dealing with today.

A database is a structured collection of data that can be easily accessed, managed, and updated. In the context of computing, databases play a critical role in storing and organising information efficiently. One of the most common languages used to interact with databases is SQL (Structured Query Language). SQL allows users to perform various operations such as inserting, updating, deleting, and retrieving data using commands like SELECT, INSERT, UPDATE, and DELETE. Understanding the basic concepts such as tables, rows, columns, and primary keys is essential to designing efficient databases. Learning how to join multiple tables using keys is the next step in mastering SQL. These skills are foundational for creating and managing complex data systems in real-world applications."

Visualisation:

- ER Diagram (Entity-Relationship Diagram) to show how tables are related using primary and foreign keys.
- Flowchart demonstrating the basic SQL operations: SELECT → FROM → WHERE.
- Example Table with columns and rows to illustrate primary keys, data types, and relationships.

Electrical Skills

Topic: "Electrical Safety Protocols"

Speech:

"Are there people in the classroom who have had unpleasant experiences with electricity and are willing to tell us briefly about them? (Take 2-3 requests to speak.)"

Electrical safety, today's topic, is a critical aspect of an electrician's job. The first rule is to always turn off the power before beginning any work to prevent shocks or short circuits. The use of personal protective equipment (PPE), such as insulated gloves and safety goggles, is essential when working with live circuits. It's also important to use tools with insulated handles and ensure that circuits are properly grounded to avoid unexpected current paths. Ground fault circuit interrupters (GFCIs) should be used in areas prone to moisture, such as bathrooms and kitchens, to protect against electric shock. Finally, electricians must always follow the lockout-tagout (LOTO) procedure to ensure that no one else accidentally turns on the power while maintenance is being performed."

Visualisation:

- PPE Checklist with illustrations of gloves, goggles, and insulated tools.
- Flowchart of the lockout-tagout procedure.
- Diagram showing proper grounding techniques and placement of GFCIs in wet areas.

Manufacturing Skills

Topic: "Basic Metalworking: Turning and Milling"

Speech:

"Metal can shine beautifully and withstand many stresses. It is a material that can be worked in many different ways. Can you name any everyday metal objects that have been worked purely mechanically, i.e. not by heat? (Take 2 to 3 requests to speak)"

Today we are talking about turning and milling metals.

Turning and milling are two essential machining processes used in metalworking.

Turning involves rotating the workpiece against a cutting tool to shape it, primarily using a lathe machine. This method is ideal for producing cylindrical parts like shafts and bolts. On the other hand, milling uses a rotating cutting tool to remove material from a stationary workpiece. Milling is perfect for creating flat surfaces, slots, and complex contours. Understanding the tool paths and the cutting speed is crucial for achieving precision in both techniques. Proper machine setup, material selection, and tool choice are key factors that determine the final quality of the workpiece."

Visualisation:

- Diagram of Lathe and Milling Machines showing the setup for each process.
- Comparison Chart highlighting the differences between turning and milling operations.
- Illustration of Tool Paths for each process to show how material is removed.

Woodworking Skills

Topic: "Types of Wood Joints and Their Applications"

Speech:

"If you imagine a tree, you will easily think that the whole tree is a single piece of wood. The branches are naturally connected to the trunk or crown. However, wood is also connected artificially by humans. Think of a drawer. This is not grown on a tree - or do you know a drawer tree? Exactly! Here, wood, or rather individual pieces of wood, must be joined. This of we are talking about today.

Wood joints are essential in woodworking, as they determine the strength and aesthetics of a structure. There are various types, but three are commonly used: Butt Joints, Mortise and Tenon Joints, and Dovetail Joints. Butt joints are simple and easy to make, used primarily for basic framing but lack strength. Mortise and tenon joints are ideal for load-bearing structures like table legs, providing high strength and durability. Dovetail joints are often used in drawer construction due to their interlocking nature, which offers excellent resistance to pulling apart. Choosing the right joint depends on the project's requirements for strength, appearance, and skill level."

Visualisation:

- Comparison Table listing each joint's characteristics, advantages, and common uses.
- Pictures of the Joint Types to show their appearance.
- Step-by-Step Diagram for making a basic mortise and tenon joint.

Automotive Skills

Topic: "Basic Function of the Internal Combustion Engine"

Speech:

"Let me give you a mental exercise. Is the feeding of a fuel into a closed container and the ignition of this fuel a combustion or an explosion. Shouldn't the combustion engine be called an explosion engine? I will give you three minutes to give me an answer with an explanation. (Let them answer after 3 minutes. Solution: Everything runs in the engine in a controlled manner and without damage = combustion)

What happens in such an engine? The internal combustion engine converts fuel into motion through a series of controlled explosive combustion, but it is not an explosion. This process happens in four main stages known as the four-stroke cycle: intake, compression, power, and exhaust. During the intake stroke, the intake valve opens, allowing the air-fuel mixture to fill the cylinder. In the compression stroke, the piston moves up, compressing the mixture. The power stroke follows as a spark ignites the mixture, forcing the piston down and generating power. Finally, the exhaust valve opens, releasing the burnt gases. These four strokes work in sequence to produce the power that drives the vehicle. Mastering these basics is essential for any automotive technician."

Visualisation:

- Animated Diagram of a piston moving through the four strokes.
- Labelled Diagram showing the engine components: piston, crankshaft, valves, and spark plug.
- Simplified Flowchart illustrating the sequence of the four strokes.

Topic: "Knife Skills: Types of Cuts and Techniques"

Speech:

"Knives and cuts are a versatile field. If you need to use the knife as a weapon, the choice of knife is usually different to when you are peeling a potato. At the table, the cutting technique for food is usually not the same as the one you use in the kitchen for preparing vegetables.

Proper knife skills are fundamental for every chef. The basic cuts include dice, julienne, brunoise, and chiffonade. Each technique has its own purpose: the dice cut is used for uniformity in stews and soups, while the julienne is ideal for garnishes and salads. A good grip and controlled cutting motion are key to maintaining precision and safety. The correct technique not only enhances the presentation but also ensures even cooking. Practicing these cuts regularly will significantly improve both speed and accuracy in the kitchen."

Visualisation:

- Illustrated Guide showing each type of cut with labels (e.g., dice, julienne, brunoise).
- Step-by-Step Diagram demonstrating how to position the knife and food for each cut.
- Safety Tips Infographic highlighting proper hand placement and common mistakes to avoid.

Of course, you can also start with a meaningful picture or a video clip. You can ask what learners associate with a term that will play a role in the upcoming lesson. You can write the statements on the white board and come back to them at the end of the lesson. There is no right or wrong, only the realisation of which terms were close to the subject matter or why terms sometimes trigger different associations and the statement that the term has now been clarified for the profession.

You can also start with an interesting number, e.g. the electricians may be amazed when the teacher asks if anyone knew that an electric eel could generate a voltage of more than 800 volts. Such numbers also exist in other faculties - not in connection with an electric eel, of course.

Let your imagination run wild! Dare to try the unusual! Also work with humorous introductions, such as cartoons, if they are related to the school subject matter.

3. Form of an AO

The form of an AO should always be appealing. Your presentation should be lively. Your facial expressions should not always be serious and demanding, but friendly and inviting. Learning can also be fun. If you enjoy teaching, show it. Otherwise, the best solution for you might be to change your job.

4. Duration of an AO

Whenever possible, stick to the limit of 5-10 minutes. However, your AO can certainly be shorter.

Micro-Teaching

Micro-teaching is a teaching method that was developed to provide targeted and effective training for teachers in continuing professional development. The unit is then analyzed through feedback and reflection.

This involves **reducing** a teaching unit to a small format, which means that the teacher delivers a much shorter lesson (e.g. 5-10 minutes) to a small group of teachers (usually 4-6 people). Micro-teaching therefore offers the opportunity to improve teaching techniques in a targeted way without involving a real class, which reduces pressure and creates space for experimentation and learning.

Project objective:

The method is intended to bring about a change in behaviour and optimize the way in which content is conveyed. The focus is on the further development of teaching performance: lecturers should change from a rather authoritarian, distanced teaching style ("Feldweibel") to an empathic, application-oriented and inspiring teaching style ("Guru"). The focus is on an action-oriented approach in which theoretical content is supplemented by activating methods and participatory forms of learning. Another aim is to increase empathy in the classroom. The personal teaching style should be adapted more closely to the needs of the learners.

Micro-teaching process:

1. **Planning:** The teacher plans a short lesson on a specific topic.
2. **Implementation:** The teaching unit is carried out in front of a small group. Each lecturer presents their topic in a short time of 5 to 10 minutes. The remaining participants act as a learning group and reflect on the choice of method, the interaction with the group and the communication of the content after each presentation.
3. **Video documentation:** Each presentation is recorded and can be used for self and group reflection.
4. **Feedback:** After the teaching unit, the teacher receives detailed feedback from the teaching staff in a moderated discussion. The focus is on the comparison between the teacher's own previous teaching style and on adapting their role as a lecturer.
5. **Reflection:** The teacher reflects on the feedback and their own performance (verbally and in writing). They integrate the knowledge gained into future lessons.
6. **Repetition:** The same lesson can be repeated if desired or recommended, this time with improvements based on the feedback.

The Hattie study brings microteaching back into the conversation

As a result of the still much-discussed **Hattie study**, microteaching is more topical than ever.

In his evaluation of an immense number of English-language meta-studies on learning success in schools in terms of their strength of effect, John Hattie lists **microteaching as an effective influencing factor on the learning success of pupils**.

As Hattie considers *teachers* to be the decisive element for the success of learning processes, it is not surprising that he attaches great importance to **teacher training**.

Lectures, discussions, excursions or role plays, for example, have less of an effect than **practical exercises**, video and audio feedback and **microteaching**. A significant factor is the **duration of the training**: one- or two-day events have little effect on teaching behavior.

What does microteaching mean?

Microteaching is a specific **method for training teachers**. **Short teaching sequences are planned** and **tested** in front of a usually small group of learners or fellow students or teachers.

Prior to this, theoretical background knowledge, teaching methods and specific behaviors are taught according to the sub-skills on which special attention is to be paid in the subsequent teaching sequence (e.g. positive reinforcement, questioning techniques, moderation of classroom discussions, presentation techniques, non-verbal communication ...).

Over time, the method was repeatedly supplemented and modified. One of the most important additions was the possibility of **filming the lecturers**. Since cameras and wireless microphones of good quality have become available at acceptable prices, **microteaching in combination with video analysis** has become interesting not only for research, but also for teacher training and further education.

Following a teaching unit, positive and negative aspects of the lesson can be discussed in detail using the video recording. **This enables not only the trainers and the learning group to assess the teaching behavior and provide feedback, but also the lecturer themselves.**

Through **self-reflection and group assessment**, lessons can be improved, re-planned and alternative courses of action tested.

Positive aspects of microteaching

Seeing yourself through the eyes of a video camera is a bit strange for pretty much everyone at first. Especially when your own performance is being assessed and

possible mistakes are being captured on video. If you feel particularly inhibited, it can help to record yourself with your own smartphone. That way, you slowly get used to your own image.

Over time, the learning group becomes more familiar with each other and **the effort pays off**: The alienating nature of the situation diminishes more and more and the positive effects of microteaching become clear:

The view of oneself made possible by the video analysis **also reveals actions that are carried out unconsciously** but are quickly registered by the students.

How does e.g.

- my movement in space,
- facial expressions and gestures,
- I seem safe,
- how fast I speak,
- I have a penchant for certain filler words
- or do I tend to ask vague questions?

If you only hear the answers to these questions from an outside observer - no matter how qualified - it does not have the same **effect as looking at the moving image of yourself**.

The actions and reactions of the learning group are also exciting:

- How do classroom disruptions occur?
- Am I intervening at the right time?
- Do I have a good overview of the class?
- Do the students understand the lecture?
- How do they react to my teaching behavior?
- Are they attentive?

Further advantages of microteaching

- Teachers' **strengths and weaknesses** become clear.
- Difficult situations can be tested in a **protected environment**.
- In real-life classroom situations, the exercise can be used to react **confidently and self-assuredly**.
- **More practice** in teacher training.
- You learn to open up your own lessons to others, to benefit from **constructive criticism** and to accept **advice** from colleagues.
- **The feedback and video analysis** allow you **to better assess** your own **teaching behavior**.
- **Verbal and non-verbal behavior patterns** are made conscious and can be positively changed.
- The feedback reveals **new teaching skills** that can be incorporated into your own behavioral repertoire.
- **Progress** in skills development becomes **visible**.

- **Teaching behavior is positively influenced in the long term.**

Microteaching in combination with video analysis is already well established in the USA and Switzerland. More and more teacher training colleges and universities are offering microteaching seminars.

Microteaching Evaluation and Feedback Rating Scale

This checklist is designed to assess various aspects of a microteaching session, providing structured feedback and ratings to help the instructor improve their skills.

Each criterion is rated on a scale from 1 to 5:

- 1: Needs Significant Improvement
- 2: Needs Some Improvement
- 3: Satisfactory
- 4: Good
- 5: Excellent

1. Lesson Planning and Preparation

- **Clarity of Learning Objectives:** Are the learning goals clearly defined?
Rating: [1-5]
 - **Relevance of Content:** Is the lesson content appropriate for the students' level and relevant to real-world applications?
Rating: [1-5]
 - **Lesson Structure:** Is the lesson well-organized with a logical flow?
Rating: [1-5]
-

2. Teaching Execution

- **Introduction and Engagement:** Did the instructor effectively capture students' attention and set a clear purpose for the lesson?
Rating: [1-5]
 - **Clarity of Explanation:** Were the key concepts explained clearly, making it easy for students to understand?
Rating: [1-5]
 - **Interaction and Questioning Techniques:** Were students encouraged to actively participate, and were questions used effectively to foster learning?
Rating: [1-5]
 - **Time Management:** Was the lesson paced appropriately, covering key points without feeling rushed or dragging?
Rating: [1-5]
-

3. Classroom Management

- **Student Engagement:** Was the teacher able to maintain student engagement throughout the lesson?
Rating: [1-5]

- **Handling of Disruptions:** Did the instructor manage any disruptions or disengagement effectively?
Rating: [1-5]
-

4. Feedback and Assessment

- **Formative Assessment:** Were appropriate tools (e.g., quizzes, discussions) used to assess student understanding during the lesson?
Rating: [1-5]
 - **Constructive Feedback:** Did the instructor provide constructive feedback to students, helping them understand how to improve?
Rating: [1-5]
-

5. Use of Technology and Tools

- **Effective Use of Technology:** Were technological tools (e.g., Kahoot, slides) used effectively to enhance the lesson?
Rating: [1-5]
-

6. Adaptability and Reflection

- **Adaptation During Lesson:** Did the instructor adjust their teaching in response to student engagement or feedback during the lesson?
Rating: [1-5]
 - **Post-lesson Reflection:** After receiving feedback, did the instructor reflect on their teaching and suggest improvements for the future?
Rating: [1-5]
-

Total Score:

(Maximum: 70 points)

Micro-Teaching

| Observation Category | Criterion | Rating (1-5) | Comments / Observations |
|---|--|--------------|-------------------------|
| 1. Lesson Structure and Planning | Clarity of learning goals: Were the learning goals clearly stated? | | |
| | Coherence of structure: Was the lesson logically and well-structured? | | |
| | Time management: Was the time effectively utilized? | | |
| 2. Didactic and Methods | Variety of methods: Were appropriate methods used? | | |
| | Learner engagement: Were learners actively involved in the lesson? | | |
| | Clarity of explanations: Were explanations clear and easy to understand? | | |
| 3. Competence-Oriented Didactics | Real-life application: Were tasks or activities designed to simulate real-world contexts? | | |
| | Development of practical skills: Did the lesson focus on developing skills learners can apply in practice? | | |
| 4. Interaction and Communication | Eye contact and body language: Was there sufficient eye contact and supportive body language? | | |
| | Clarity of speech: Was the language clear and precise? | | |
| | Response to questions/comments: Were questions and comments handled well? | | |
| 5. Use of Teaching Aids | Use of media or materials: Were appropriate aids or materials used effectively? | | |
| | Technical handling: Was the technology confidently handled? | | |

| | | | |
|--|--|--|--|
| 6. Subject Knowledge | Accuracy of content: Were the contents factually correct? | | |
| | Depth of content: Was the content appropriately deep for the context? | | |
| 7. Overall Impression and Professionalism | Enthusiasm and demeanor: Did the teacher appear engaged and professional? | | |
| | Learning atmosphere: Was a conducive learning atmosphere created? | | |
| 8. Positive Learning Environment | Supportive atmosphere: Did the teacher create a supportive and positive atmosphere? | | |
| | Appreciation for learners: Did the teacher show respect and appreciation for learners? | | |
| 9. Creativity and Innovation | Creative teaching methods: Were creative approaches or methods used? | | |
| | Motivation strategies: How well did the teacher motivate learners? | | |
| 10. Emotional Intelligence and Empathy | Empathy for learners: Did the teacher show empathy and respond to learners' emotions? | | |
| | Self-reflection: Did the teacher demonstrate self-reflection during the lesson? | | |
| 11. Building Learners' Confidence | Boosting learners' confidence: Did the teacher make an effort to boost learners' confidence? | | |
| 12. Use of Formative Assessment | Use of checks for understanding: Did the teacher use strategies to assess learners' understanding throughout the lesson? | | |
| 13. Effective Feedback | Constructive feedback: Was feedback constructive and aimed at helping learners improve? | | |

| | | | |
|--|---|--|--|
| | Encouragement: Did the feedback encourage and motivate learners? | | |
| | Timeliness of feedback: Was feedback provided promptly, allowing learners to adjust or improve? | | |

Skills yesterday

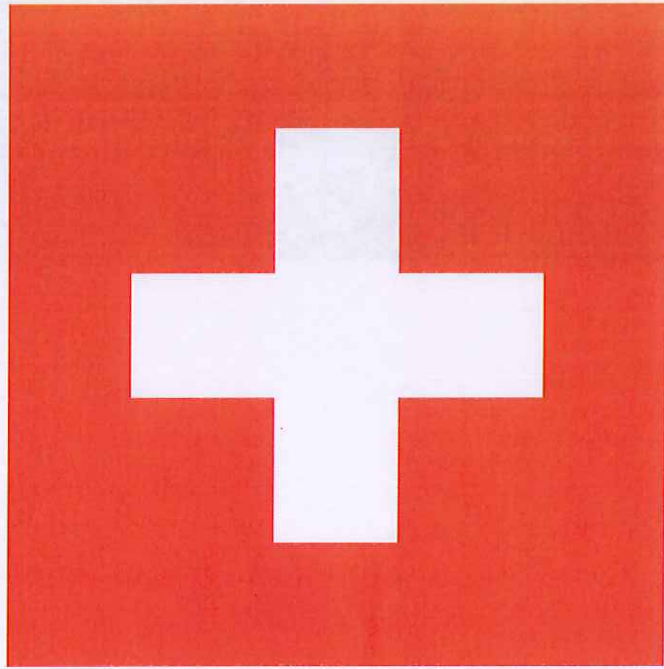
- Knowledge
- Discipline
- Diligence
- Copy what was shown
- Carry out what has been said
- Realisation quality
- Top-down thinking
- ...

Skills tomorrow

- Apply knowledge competently
- Analyse phenomena, identify causes and solve problems appropriately
- Connecting and sharing knowledge with other people
- Making own decisions
- Appear competent
- ...

Skills tomorrow

- Apply knowledge competently
- Analyse phenomena, identify causes and solve problems appropriately
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Skills

