

Constructive Alignment in Curriculum Design

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Constructive Alignment and Integrated Course/Program design

- Principle of constructive alignment
- How constructive alignment should be integrated into course/programme design
- How constructive alignment makes a curriculum to be more effective and meaningful?

Principle of Constructive Alignment

Devising teaching and learning activities, and assessment tasks, that directly address the Intended Learning Outcomes (ILOs) in a way not typically achieved in traditional lectures, tutorial classes and examinations.

(John Biggs – Teaching for quality learning at university, 2003 – Chapter 6)

What is Constructive Alignment?

- It has two aspects: “Constructive” aspect and “Alignment” aspect

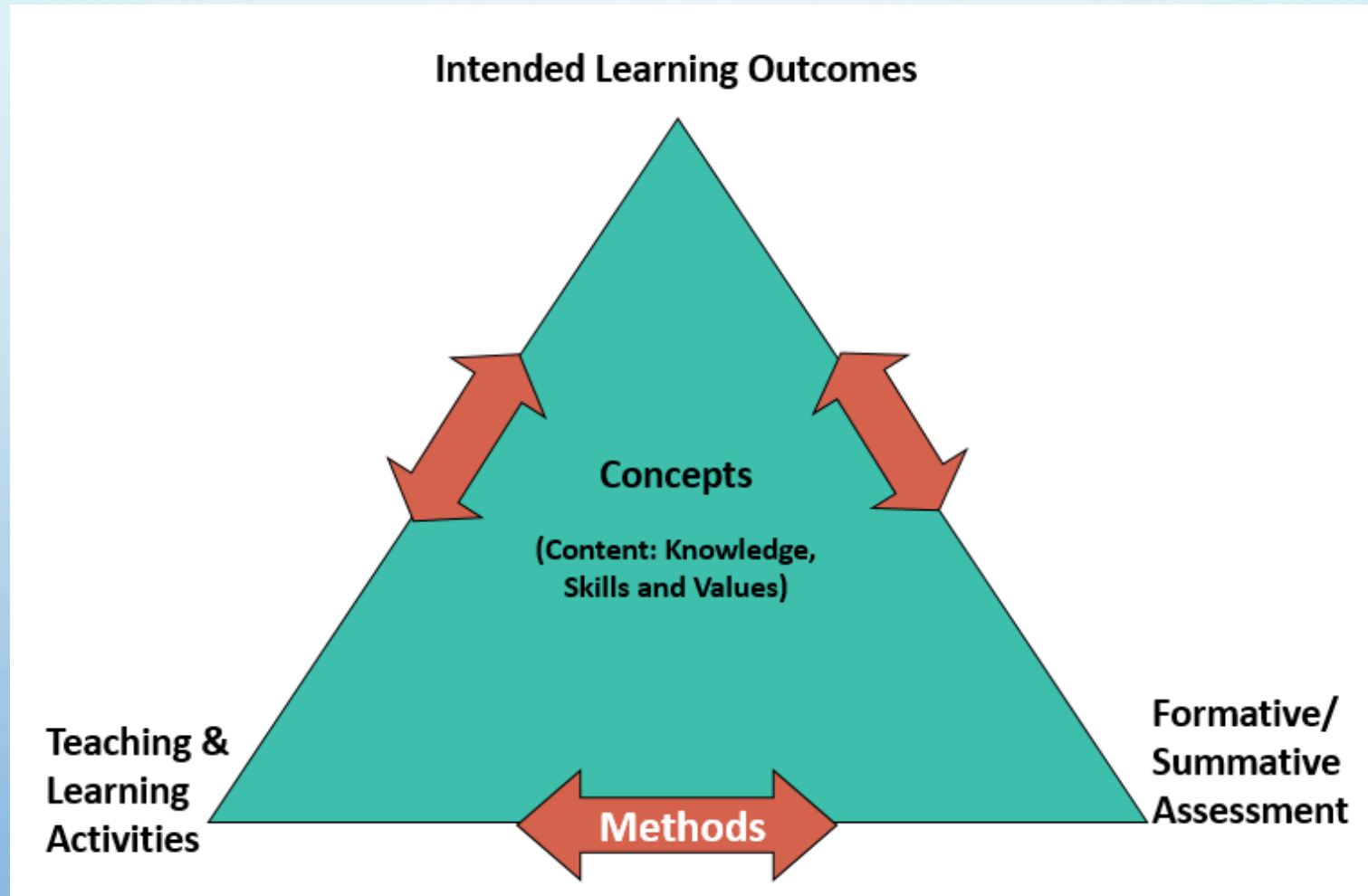
“Constructive” – refers to the idea that students construct meaning (put together, form, etc. their own understanding/skills) through relevant learning activities. Here, meaning is not something transmitted from teacher to the learner, but it is something learners have to create themselves.

“Alignment” - refers to what the teacher does, which is to set up a learning environment that supports the learning activities and assessment tasks appropriate for achieving and assessing the desired learning outcomes.

The key in “constructive alignment”

- The teaching methods used and the assessment tasks, are aligned with the learning activities assumed in the Intended Learning Outcomes.
- The learner is in a sense 'trapped', and finds it difficult to escape without learning

Aligning learning outcomes, teaching methods, and assessments



Ellis, D. (2007). Teaching Excellence Academy workshop. University of Waterloo, Canada.

How constructive alignment should be integrated into course/programme design?

In “constructive alignment”, not only individual course ILOs but also Programme ILOs (or Graduate Attributes) need to be achieved by students through teaching/learning methods and assessment methods

Need to specify the desired outcomes in terms not only of topic content, but in the level of understanding we want students to achieve



Must set up an environment that maximizes student engagement in the activities designed to achieve the intended outcomes

Finally, we must choose proper assessment tasks that will tell us how well individual students have attained these outcomes, in terms of graded levels of acceptability

These levels are the grades we award



According to Biggs, there are four major steps that we must do:

1. Defining the intended learning outcomes (ILOs);
2. Choosing teaching/learning activities likely to lead to the ILOs;
3. Assessing students' actual learning outcomes to see how well they match what was intended;
4. Arriving at a final grade.

1. Defining ILOs

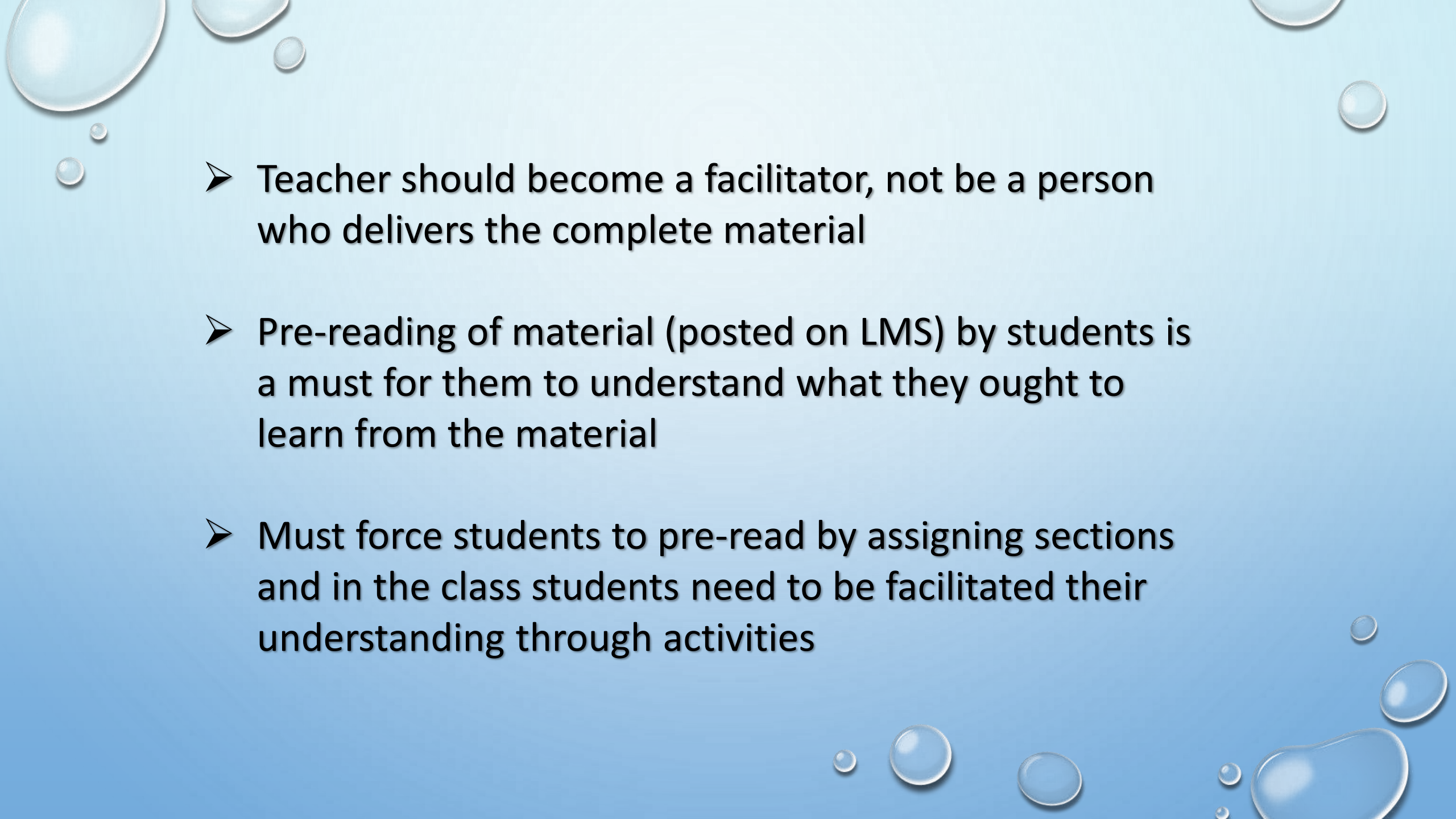
- On topic by topic basis we need to be clear how well each topic to be understood by students (not only what is to be learned)
- Students need to put the knowledge they receive to work, to make it function
- Good students always turn the declarative knowledge into functioning knowledge in time, but majority will not
- We need to make sure students demonstrate their understanding, not just tell us in a written examination
- Curriculum objectives need to be designed so that we can assess what levels of performance of understanding that students have achieved

WRITING LEARNING OUTCOMES..

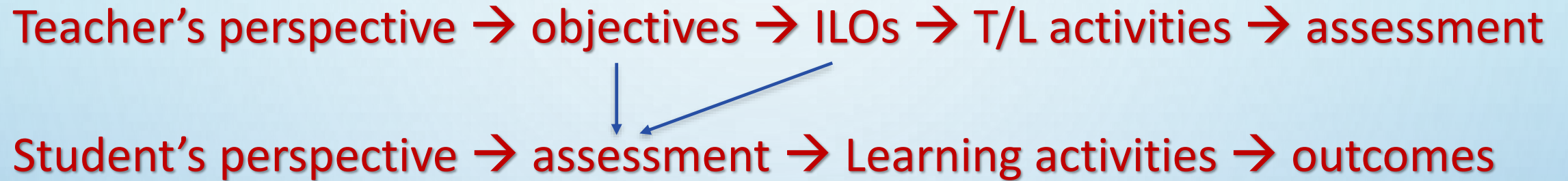
- Start **module outcomes** with the phrase:
- ***‘on successful completion of the module, student shall be able to ...’***
or
- ***‘At the end of the course unit, the student shall be able to***
- Next start with an **action verb** for each outcome so that students are able to **demonstrate** that they have learned or achieved the outcome
- verbs relating to knowledge outcomes – *‘know’, ‘understand’, ‘appreciate’* – tend to be rather vague, not measurable or assessable and should be avoided in ILOs

2. Choosing Teaching/Learning Activities

- In many courses, T/L activities are restricted to lectures and tutorials
- Students can easily get away with passive listening/learning and selectively memorizing
- Group activities inside/outside the class, peer teaching/learning, independent learning, work-based learning, assigning to keep a reflective journal, portfolio, etc. are rich source of learning activities

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- Teacher should become a facilitator, not be a person who delivers the complete material
 - Pre-reading of material (posted on LMS) by students is a must for them to understand what they ought to learn from the material
 - Must force students to pre-read by assigning sections and in the class students need to be facilitated their understanding through activities

3. Assessing Student's Learning Outcomes



Students always think about assessments from the start and thus, teacher should link objectives and ILOs to assessment methods

The alignment is achieved by ensuring that the **intended verb in the outcome statement is present in the teaching/learning activity and in the assessment task**

(This doesn't mean that we must only focus on Intended Learning outcomes in our deliveries)

Alignment of ILOs, T/L methods and Assessment Tasks

Intended Learning Outcome

Develop a research plan

Teaching/Learning Strategy

Students will be given reading material, a discussion on what is a research plan, what components need to be in a plan, etc., in class or outside the class group activity to develop a research plan for a particular research problem and submit a summary report

Assessment Method

Q1. Develop a research plan for the research problem stated below to include required activities and a proper timeline.

4. Grading should reflect as to how well the student has developed the research plan

The Intended Learning Outcomes are central to the whole system

➤ **It's time to reflect on one's own course unit/module**

How well are the Learning outcomes, T/L methods, and Assessments that I have identified for my course unit align constructively?

- Are the Learning outcomes broadening student's knowledge, thinking, professional skills and attitudes?
- Are the learning outcomes stated properly so they are assessable?
(If not, revisit, rethink and restructure the course unit ILOs to include these aspects during revision)
- Am I assessing properly whether students have achieved them?
 - What concepts do I expect students to demonstrate and at what level?
 - How can I assess student thinking that they have developed in learning?
 - What professional skills and attitudes that I expect students to develop in this course and how can I assess them?

It's Time to Revisit the Curriculum of Degree Programmes

- A collaborative task of the Faculty**

How constructive alignment makes a curriculum to be more effective and meaningful?

- When it comes to students, '**covering**' the curriculum by the teacher is not what is expected, though that's what mostly teachers worry about.
- The *levels of understanding or of performance* is what's most important to student's learning and that is what constructive alignment means
- If all courses or a majority of courses in a curriculum are designed to address above, then the curriculum will be very effective and meaningful – the faculty has to come together

An Effective and Meaningful Curriculum

- Recognizes Teaching/Learning needs to be student centered & outcome-based and teachers are motivated to practice it
- ILOs are properly defined and students are thoroughly informed about assessing them in each course
- Introduces more active learning techniques to achieve ILOs
- Students are constantly motivated to engage in their learning with enthusiasm
- Varying assessment techniques are used to test whether students have achieved the ILOs
- Final grades properly reflect the levels of performance by students

Teaching/Learning Methods to achieve Graduate Attributes (Generic)

Knowledge

1. Subject / Theoretical Knowledge	Independent learning activities, interactive lectures, team-based learning, tutorial sessions and other small group activities
2. Practical Knowledge and Application	Problem-based learning, team-based learning, inquiry-based learning, practical classes, laboratory sessions, role play

Skills

3. Communication	Student presentations, role play, debates, dramas
4. Teamwork and Leadership	Group projects, industrial training, small group learning activities; e.g. problem-based learning, games, debates
5. Creativity and Problem Solving	Assignments, projects, small group learning activities; e.g. problem-based learning, poster making, role plays
6. Managerial and Entrepreneurship	Group projects, industrial training/internship, small group learning; e.g. problem-based learning, games, simulated training, industrial (workplace-based) training, job shadowing
7. Information Usage and Management	Assignments, presentations, projects, case studies, web-based studies, data analysis
8. Networking and Social Skills	Student presentations, role-play, debates, dramas, group activities

Attitudes, Values, Professionalism and Vision for life

9. Adaptability and Flexibility	Group projects, industrial training, small group learning; e.g. problem-based learning, role plays, portfolios
10. Attitudes, Values and Professionalism	Group projects, industrial training, small group learning; e.g. problem-based learning, role play, portfolios
11. Vision for Life	Portfolios, reflective practice

Mind-set and Paradigm

12. Updating Self / Lifelong Learning	Portfolios, reflective practice
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Possible Teaching/Learning Methods

Presentations: Give some topics to gather information and make 3-5 min presentations (individual/group)

Brainstorming: Present a situation to the class and ask them to creatively think about it – you can make groups and get one or two word answers from each group and put on the board for further discussion

Small Group Activities: Give some tasks to achieve during the class (If in a lecture theater you can make groups of 3 or 2)

World Cafe: Break up the classroom into different groups giving different activities. After a set time groups rotate to discuss topics/issues in other groups. Host in each group does not rotate

Case study: Use case studies in the class to learn about complex issues about the subject. Explore possible scenarios

Group assignments: Give home work assignments to small groups and ask them to submit/present as a group

Discussion: Present an issue to small groups and make them discuss and either ask them to write about what they came up with or present it to the class

Jigsaw: break students into groups, giving each student a different task and then the whole group get back together and share.

Role Play: Allows students to try out different roles of a situation. Teacher can give a topic or students can come up with related topics on their own.

Simulation: Teacher may use computer technology to simulate a real event. Students can practice without fear of failure. Many simulations can be found related to your subject on the internet too.

Demonstration: You may use many kind of demonstrations in the class to develop student interest on the subject. (Could be experiments, videos, simulations, etc.)

Workshop: Teacher can turn a classroom to a workshop with hands on learning or students themselves can create a workshop to learn from each other. Teacher can be just a facilitator.

Problem Solving: We usually give tutorials as home work. Guiding or facilitating students to do questions/problems in class will help them to learn better approaches to solve problems.

Quiz or Q&A: You may give few quizzes at the beginning of a class or at the end of a class. Q&A sessions could be done as competitions among groups. Students may prepare questions for Q&A sessions.

Lab: You may setup the class in a lab style for hands on activities. Students can free to move in the class room. You may take students to a computer lab and initiate some online search activities.

Discovery: Give students some topics related to the subject and ask them to explore. They can write a short report or make a presentation. Let them discover different ways to approach a problem.

Puzzles/Games: You may introduce some games/puzzles during short breaks in a class. Teacher needs to be creative to handle them in appropriate manner.

Index Card: These cards can be used for many activities. Answering True/False to questions, Answering to Quizzes, Shuffle students, answering questions on empty cards, etc.

Making Posters/charts on KWL:
Give them a topic and ask them to make a chart/poster on
What I already **K**now?
What I **W**ant to know?
What have I **L**earned already?

Debate: Students can learn to challenge their peers through debates.

Problem-Based Learning: You may introduce a problem to the class and ask students to come up with possible solutions as a group activity

Inquiry based learning: Train students to ask questions. You can guide them in the class to form close questions/open questions. Since students are quite reluctant to ask questions You can demand each one to bring a question to the class.

Project-Based Learning: Giving projects to students help them to learn about world of work and the working environment and society. Even small group projects (could be virtual ones as well) to make them think creatively would help.

Concept Mapping/Mind Mapping: Students can learn how to connect and relate what they learn under a topic/subtopic

Chats/Social Media: Arrange discussions/chats on a Social media or on LMS. Students may ask questions and teacher can share answers with everyone. Start discussions on certain topics from the subject/related topics.

Experiments: Engaging in experiments always help them to broaden their knowledge and skills. Designing of experiments (even virtual ones) would enhance their creative thinking

Minute Paper: At the end of a class you can ask to summarize what they learned in the class in one minute (in few sentences)

Flipped Classroom: Learning material can be made available beforehand (video, recorded lectures, posted notes, etc.) Students come to the class prepared to answer questions/work on problems in class