Princess Nourah bint Abdulrahman University
Vice Rectorate for Academic Affairs
Developement and Quality Deanship
Program for Excellence in Teaching and Learning

Teaching, Learning & Assessment Strategies

Faculty Guide

Contents

Letter from the Program for EXcellence in Teaching & Learning

Dear PNU Faculty Members,

PETL is delighted to share with you this teaching, learning, and assessment guide to support you in diversifying your teaching, learning and assessment strategies and methods. Educators never stop learning! And technology has opened up a new world for pedagogical approaches which are inspiring, engaging, and have the potential to accelerate deep learning. Outstanding educators diversify their pedagogy by varying their teaching methods, learning activities, and assignments. They plan for more active learning and less traditional lecturing. To pave the path for diversifying your pedagogy, you can start by learning more about the diverse effective teaching, learning and assessment methods, methods which will help you minimize class time spent on an educator-centered model, and more on interactions and hands-on application and work. There is extensive evidence-based pedagogical literature which confirms the effectiveness of active learning, peer-learning, team-based learning, experiential learning, problem-based learning, case-based learning, flipped learning, augmented learning, gamification, among others, as learner-centered models of teaching that promote self-directed learning, growth-mindsets, and life-long learning skills. This guide provides you with a summary of various evidence-based pedagogical strategies, with their description, their benefits, steps for their implementation, and examples of how they are implemented. We hope you find this guide useful and value-adding.

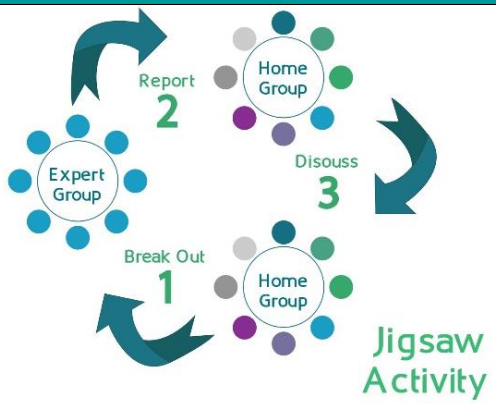
The Program for Excellence in Teaching Learning Team

Jigsaw Group Projects

Description – What?

A cooperative learning technique which allows individuals or small groups to become responsible for a subcategory of a larger topic. After researching and developing their idea, each individual or small group then has the responsibility to teach or present it to the rest of the group or class.

Scope: Small Groups – Large Groups



Benefits – Why?

- Promotes learner ownership of learning
- Allows learners to become active learners and directly immersed in the information and material, which promotes a deeper understanding of that material
- Fosters collaboration and discussion among learners

Application – How?

1. Organize learners into a group of 4-6 learners, divide the lecture's reading into 4-6 parts and assign one learner in each group to be responsible for a different segment;
2. Give leaners time to learn and process their assigned segment independently;
3. Put learners who completed the same segment into an "Expert group" to talk about their segment;
4. Have learners return to their original "Jigsaw" groups and take turns sharing the segments they have become experts on, and allow them to present their work/ideas to class;
5. Have learners complete a task or a quiz that's reliant on them having understood the material.

Example

An African Geography educator grouped learners and assigned each group a country; individual learners in the group were then assigned to research the economy, political structure, ethnic makeup, terrain and climate, or folklore of the assigned country. Learners assigned to research the same category in each group discussed their work as an expert group then went back to their home group. When each group completed the research, the group then reformed to complete a comprehensive report, and presented it to class.

Supporting Reference(s)

https://instructionalmoves.gse.harvard.edu/using-jigsaws-facilitate-small-group-discussions

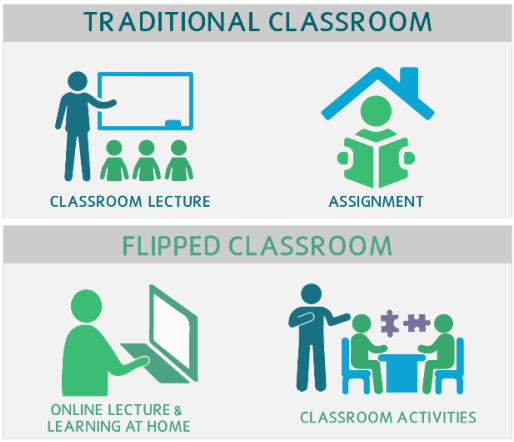
Learner Skills Promoted	Analysis, Problem-Solving, Communication, Team Coordination
Learner Attribute(s)	Strong Knowledge and Intellect, Dynamic Team Member, Problem-Solver

Flipped Learning

Description – What?

A pedagogical approach that helps educators to prioritize active learning during class time by assigning learners lecture materials and presentations to be viewed at home or outside of class. It moves direct instruction from the group learning space to the individual learning space, and the resulting group space is transformed into a dynamic, interactive learning environment where the educator guides learners as they apply concepts and engage creatively in the subject matter.

Scope: Individual – Pairs – Small Groups



Benefits – Why?

- Increases interaction and communication between learners and educators
- Stimulates learners' participation in taking responsibility for their own learning
- Offers more collaboration time to solidify understanding
- Creates opportunities for learners' active engagement and promotes self-learning

Application – How?

1. Plan what part of learning material you would like to flip;
2. Have learners engage with it outside of class through reading, watching, writing, analyzing, etc.;
3. Plan for in-class group activity on the flipped learning material;
4. Have groups share their work and ideas with the class;
5. Ask questions, provide feedback, encourage discussion, close learning gaps.

Example

An educator teaching a business course assigned her learners to watch a video and read an article on privatization, and then answer a question on whether they are for or against privatization. During class, groups of learners who were for and against privatization are assigned to debate privatization, its pros and cons its impact on a country's economy, and its impact on competition and product/service quality.

Supporting Reference(s)

- DeLozier, S. J., & Rhodes, M. G. (2017). Flipped classrooms: A review of key ideas and recommendations for practice. *Educational psychology review*, *29*, 141-151.
- Murillo-Zamorano, L. R., Sánchez, J. Á. L., & Godoy-Caballero, A. L. (2019). How the flipped classroom affects knowledge, skills, and engagement in higher education: Effects on students' satisfaction. *Computers & Education*, *141*, 103608.

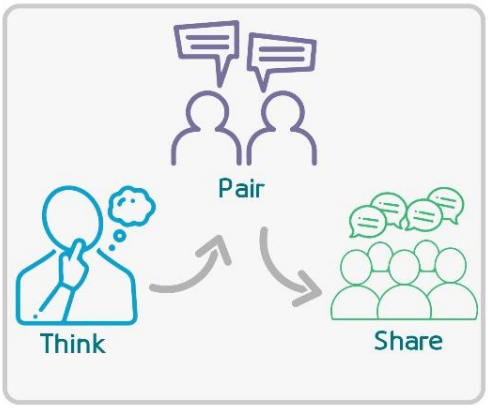
Learner Skills Promoted	Critical Thinking, Self-Learning, Teamwork, Communication
Learner Attribute(s)	Critical Thinker, Metacognitive Learner

Think – Pair – Share (TPS)

Description – What?

A collaborative and active learning strategy where learners work together to answer a question about the learning content. It requires learners to first (1) think individually about a topic, then (2) discuss with a partner or a small group the answer to the question; and finally (3) share ideas with classmates. TPS allows learners the opportunity to process their ideas before verbally responding.

Scope: Pairs – Small Groups



Benefits – Why?

- Enhances learners' oral communication skills as they discuss their ideas with one another
- Promotes learners' participation and engagement with the learning content
- Helps learners think individually about a given topic
- Improves learners' comprehension of the learning material
- Encourages collaboration among learners and peer learning

Application – How?

1. Pose an open-ended question orally, or on the board about a text, reading, or learning material;
2. Ask learners to think individually about the question and its answer;
3. Assign learners to discuss and write their thoughts in pairs or small groups;
4. Ask learners in each pair or small group to share their response with the rest of the class.

Example

In a nursing course, an educator writes this question on the board: "What are some common ethical dilemmas in nursing practice?", and asks her learners to first think of the answer individually for 5 minutes, then pairs learners to discuss their initial ideas and thoughts about the answer to the question for another 5 minutes, and finally asks each pair to share their answer with the rest of the group.

Supporting Reference(s)

Sampsel, A., 2013. Finding the Effects of Think-Pair-Share on Student Confidence and Participation (Honors Project). Bowling Green State University. https://scholarworks.bgsu.edu/honorsprojects/28

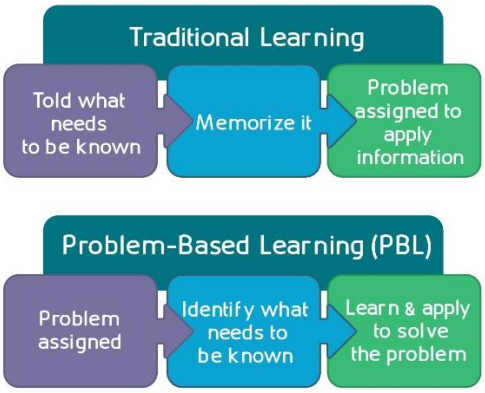
Learner Skills Promoted	Social, Brainstorming, Communication
Learner Attribute(s)	Effective Communicator, Critical Thinker

Problem-Based Learning

Description – What?

A learner-centered, inquiry-based instructional model in which learners learn through facilitated problem-solving by engaging with an authentic, ill-structured problem that requires further research. Student learning centers on a complex problem that does not have a single correct answer, and learners work in collaborative groups to identify what they need to learn to solve the problem. Learners engage in self-directed learning and identify gaps in their knowledge, conduct research, and apply their learning to develop solutions and present their findings.

Scope: Small Groups – Large Groups



Benefits – Why?

- Promotes self-directed learning and problem-solving skills
- Encourages learners' collaboration and makes learning fun
- Enhances retention of knowledge and promotes reasoning, critical thinking, and communication skills

Application – How?

Stage 1: Orient learners to problem, explain learning objectives, logistics and learning required;

Stage 2: Organize learners in groups to define and organize learning tasks related to the problem;

Stage 3: Guide and facilitate learner investigations and work through encouraging learners to search for appropriate information, carry experiments to get explanations and scenarios for problem-solving;

Stage 4: Assign learners to present their work in the form of reports, videos, models, and/or presentations;

Stage 5: Analyze and evaluate the problem-solving by reflecting on and evaluating the investigations made and the processes adopted in problem-solving.

Example

In an environment sustainability course, the educator introduces the problem of carbon emissions and its drastic impact on the environment, then assigns learners groups to investigate 'how PNU can become a carbon-neutral campus?', presenting solutions on how this can be achieved. Groups are assigned to identify the problem in the question, research on carbon-neutrality and its various means, then investigating the practices within PNU which can be transitioned to achieve carbon-neutrality, and identifying viable solutions to be adopted to solve the problem. Finally, learners were assigned to present their PBL work phases and the solutions for the problem.

Supporting Reference(s)

https://www.queensu.ca/ctl/resources/instructional-strategies/problem-based-learning

Learner Skills Promoted	Self-Directed Learning, Critical Thinking, Teamwork
Learner Attribute(s)	Strong Knowledge and Intellect, Growth Mindset, Problem-Solving

Reading Quiz

Description – What?

An active learning strategy where learners read assigned material and come to class prepared for a quiz on what they have read. It is an effective measure of learner comprehension of the readings. When asking the same type of questions on several reading quizzes, learners will be guided on to what to look for when reading. The reading quiz should ask questions based on what is important in the reading rather than the details in the reading.

Scope: Individual

Benefits – Why?

- A quick way to get learners to demonstrate their understanding of a reading text
- Reading outside class promotes understanding and self-directed learning
- Influences intrinsic motive among learners to read
- Engages learners in learning and provides immediate feedback on learners' comprehension

Application – How?

1. Assign your learners to critically read an article or a piece of text related to the learning content;
2. Provide guidelines to your learners on their reading assignment, what to look for in the reading, and the nature of the questions in the reading quiz;
3. Set questions which assess learners' understanding rather than learners' memory of reading details;
4. Have your learners complete the reading quiz;
5. Provide feedback on the results of the quiz, the level of understanding, how to improve performance on reading quizzes, and how to achieve a growth mindset through critical reading.

Example

An educator assigns medical students to read an article on Type 1 and Type diabetes and the main differences in their symptoms, causes, and treatment. The students then complete a reading quiz on their understanding of the main differences between the two types of diabetes.

Supporting References

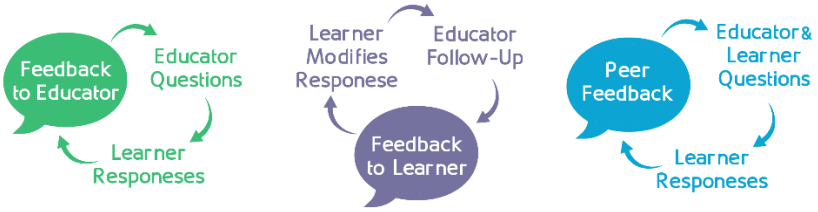
Tropman, E. (2014). In Defense of Reading Quizzes. *International Journal of Teaching and Learning in Higher Education*, *26*(1), 140-146.

Learner Skills Promoted	Self-Directed Learning, Literacy, Attention, Metacognition
Learner Attribute(s)	Critical Thinker, Growth Mindset, Strong Knowledge and Intellect

Formative Feedback for Learning

Description – What?	Scope: Individual – Small Groups – Large Groups

An approach to learning which leverages the benefits of feedback in accelerating learning. It emerges from verbal interactions between educators and learners and serves as a rich source of information learners can use to close learning gaps, correct misconceptions, clarify misunderstanding, and extend accurate understanding, to progress learning. Quality questioning is key in these interactions. Formative feedback can be from educator to whole-class learners, educator to individual learners, educator to a group of learners, learners to educators, or learners to learners. Feedback can be backward-looking or forward-looking, oral or written, and corrective, or suggestive.



Benefits – Why?

- Promotes student learning and achievement and encourages peer learning
- Informs instruction and supports instructional interventions
- Fosters quality questioning which makes learners' thinking and responding visible

Application – How? Whole Class Feedback

1. Read and review learner work (test, assignment, project) highlighting learning gaps;
2. Identify Individual targeted steps and goals learners need to work on, and prepare quality questions;
3. Identify examples of excellence, noting down why they are excellent;
4. Carry out the feedback session beginning with quality questioning, and then providing action-oriented feedback, ensuring to close learning gaps, highlight next steps of learning, share examples of excellence, guide learners to identify areas of development and allow time to implement the feedback provided.

Example

Group Feedback: An educator in a management information system (MIS) course reviews the work learners completed in their hospital management information system (MIS), and notes down areas overlooked, areas of development, and a stimulating question such as 'how can a receptionist locate a patient's file on the system if he does not remember his file number, his ID number, and his phone number?' to motivate learners to add additional searching features int their MIS. The educator shares written feedback on Blackboard and oral feedback in class, and allows the group to answer the question, think of the feedback, and implement the feedback.

Supporting Reference(s)

https://ctl.columbia.edu/resources-and-technology/resources/feedback-for-learning/

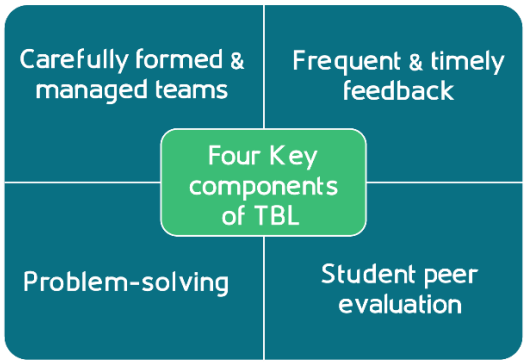
Learner Skills Promoted	Critical thinking, Continuous Improvement, Attention, Logic, Reasoning
Learner Attribute(s)	Life-Long Learner with a Growth Mindset, Metacognitive Learner

Team-Based Learning (TBL)

Description – What?

Scope: Small Groups

An active learning and small-group instructional strategy that emphasizes learner preparation out of class and application of knowledge in class. It is a whole-course framework for improving student learning through the systematic and intentional use of learner teams, who interact regularly in structured learning activities that provide learners with opportunities to apply conceptual knowledge through a sequence of activities that includes individual work, teamwork, and immediate feedback. TBL aims at going beyond simply covering content by ensuring that learners have the opportunity to practice using course concepts to solve problems.



Benefits – Why?

- Fosters engaging learning experiences, and improves learning retention
- Promotes the development of high performing teams as well as higher-order thinking skills

Application – How?

1. Organize learners strategically into teams of 5-7 learners who will work together throughout the course;
2. Given learners' prior knowledge, share clear, specific, and meaningful learning goals and objectives;
3. Before each chapter/module, assign readings for teams to study prior to class;
4. Prepare an individual Readiness Assurance Test (iRAT)and a Group Readiness Assurance Test (gRAT) and have learners complete the test individually then in groups, mark themselves and discuss answers;
5. Provide feedback and guidance on challenging concepts;
6. Assign groups application activities (case-scenario/case study) which require a solution or a decision;
7. Have learners present their work, and provide feedback in the process.

Example

For a module in a pharmacy course, the educator assigns her learners pre-class reading materials on drug therapy, prepares a quiz on the reading materials to be taken in class individually (iRAT) then in groups(gRAT), provides feedback and guidance, and then provides groups with a case-study which requires drug therapy knowledge application and problem-solving, and then asks groups to present their work.

Supporting Reference(s)

https://instructionalmoves.gse.harvard.edu/team-based-learning

Learner Skills Promoted	Teamwork, Self-Directed Learning, Critical Thinking, Growth Mindset
Learner Attribute(s)	Strong Knowledge and Intellect, Leadership Readiness, Dynamic Team Member

Self-Directed Learning

Description – What?	Scope: Individual – Pairs - Small Groups – Large Groups

An approach to learning where learners take responsibility for their own learning and actively seek out knowledge and skills without relying solely on traditional classroom instruction or guidance from others. It involves setting goals, identifying resources, and managing one's own learning experiences.

Benefits – Why?

- Allows learners to have control over their learning journey, enabling them to pursue topics of interest to them
- Develops learners' skills and mindset necessary for continuous learning throughout their lives
- Promotes critical thinking as learners evaluate information, make decisions, and solve problems independently.
- Encourages learners' ownership of knowledge leading to a deeper understanding and retention of information.

Application – How?

1. Assign learners to set clear goals and define what they want to achieve or learn. Then, create a structured plan with milestones and deadlines to guide them through their learning journey;
2. Ask learners to identify resources such as relevant books, online courses, videos, mentors, or other sources of information that can help them acquire the knowledge or skills;
3. Have learners regularly assess their progress, adjust their approach if needed, and reflect on learning;
4. Encourage learners to seek feedback and engage with others;
5. Provide continuous feedback to the learners throughout their self-directed learning journey.

Example

An accounting educator assigned learners to take an online free course on International Public Sector Accounting Standards. The course was available on a national educational platform. The educator gave learners time during the academic semester to complete the course and obtain the certificate through self-learning. Once learners received their certificates, they were required to upload them to the educator as part of their summative coursework.

Supporting Reference(s)

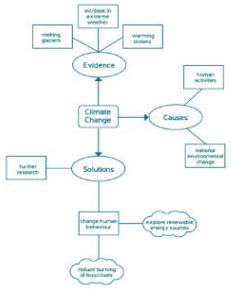
- Morris, T. H. (2019). Self-directed learning: A fundamental competence in a rapidly changing world. *International Review of Education*, *65*(4), 633-653.
- du Toit-Brits, C. (2020). Unleashing the power of self-directed learning: Criteria for structuring self-directed learning within the learning environments of higher education institutions. *Africa Education Review*, *17*(2), 20-32.

Learner Skills Promoted	Life-long learning, Critical Thinking, Problem-Solving
Learner Attribute(s)	Life-Long Learner with a Growth Mindset, Strong Knowledge and Intellect

Concept Mapping

Description – What?	Scope: Individual – Pairs - Small Groups – Large Groups

A visual learning tool used in teaching and learning to organize and represent knowledge. It involves creating diagrams or maps that connect concepts or ideas using lines or arrows, showing their relationships and hierarchies.



Benefits – Why?

- Enhances understanding as it helps learners see the connections between different concepts, facilitating a deeper understanding of the subject-matter
- Promotes critical thinking by organizing information into meaningful relationships, concept mapping encourages learners to analyse, evaluate, and synthesize knowledge
- Facilitates knowledge retention because the visual representation of information recalls memory
- Supports collaborative learning allowing learners to share ideas, discuss concepts, and build knowledge

Application – How?

1. Introduce and explain the concept to learners and clarify the main idea or topic that will be mapped;
2. Assign the learners to identify key concepts related to the topic;
3. Have learners consider the relationships between the concepts and organize them in a hierarchical manner;
4. Advise learners to use linking words or phrases to describe the relationships between concepts;
5. Encourage learners to continuously review and refine the concept map as new connections or insights arise;
6. Have learners think about the visual elements incorporated in the concept map.

Example

In an environmental sustainability course, the educator assigned learners a topic on climate change and requested that they design a concept map specifically focusing on climate change. Learners began by identifying key concepts such as Causes, Evidence, Solutions. They then proceeded to analyse these concepts, considering their relationships and interconnections in a hierarchical order.

Supporting Reference(s)

- Novak, J. D. (2010). Learning, Creating, and Using Knowledge: Concept maps as facilitative tools in schools and corporations. *Journal of e-Learning and Knowledge Society*, 21-30.
- Machado, C. T., & Carvalho, A. A. (2020). Concept mapping: Benefits and challenges in higher education. *The Journal of Continuing Higher Education*, *68*(1), 38-53.

Learner Skills Promoted	Communication, Critical Thinking, Teamwork
Learner Attribute(s)	Strong Knowledge and Intellect, Creative, Critical Thinker, Problem-Solver

Role Playing

Description – What?

Scope: Small Groups – Large Groups

A pedagogical technique where learners take on specific roles or characters to simulate real-life situations or scenarios. It involves acting out scenarios, problem-solving, and engaging in experiences to enhance learning.

Benefits – Why?

- Encourages learners' active participation and engagement, promoting deeper understanding of concepts
- Develops various skills such as critical thinking, problem-solving, communication, empathy, and teamwork
- Allows learners to apply theoretical knowledge to practical situations, preparing them for real-life scenarios
- Creates an emotional connection with the subject, making it more memorable and meaningful for learners

Application – How?

1. Select scenarios that align with the learning objectives and content being taught;
2. Assign specific roles or characters to learners based on the scenario;
3. Offer clear instructions on the scenario, objectives, rules, and expectations for the role play activity;
4. Have learners role-play and then reflect on their experience, discuss lessons learned, and draw connections.

Example

In the 'Contemporary Accounting Issues' course, a real-world board meeting scenario was simulated to immerse learners in complex corporate accounting and finance dynamics. Specific roles like Chair, Secretary, CEO, CFO, and Board Member were assigned to learners after thorough preparation with detailed guidelines and rubrics. The classroom was transformed into a boardroom setting, enhancing the authenticity of the role-play. Each group had 10-15 minutes to conduct their board meeting role-play, engaging in discussions and decision-making as genuine board members. Post-role-play, learners engaged in individual reflection, contemplating their experiences and decisions made. An online survey gathered feedback on the exercise's effectiveness and areas for improvement. A whole-class debrief promoted cross-perspective understanding, allowing learners to share insights and appreciate diverse viewpoints in corporate decision-making.

Supporting Reference(s)

- Harbour, E., & Connick, J. (2005). *Role playing games and activities rules and tips.* https://www.businessballs.com/roleplayinggames.htm
- Khudoyorovna, S. Z. (2022, November). Role play games in the educational process. In *Proceedings of International Educators Conference* (Vol. 1, No. 2, pp. 125-128).

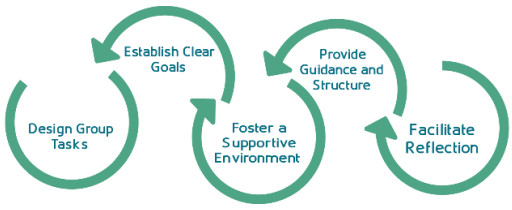
Learner Skills Promoted	Communications, Critical Thinking, Team member, Problem-Solving, Empathy
Learner Attribute(s)	Effective Communicator, Dynamic Team member, Leadership Readiness

Collaborative Learning

Description – What?

An educational approach that involves learners working together in groups or teams to solve problems, complete tasks, or learn new concepts. It emphasizes active participation, shared responsibility, and mutual support among learners.

Scope: Small Groups – Large Groups



Benefits – Why?

- Enhances critical thinking by engaging peers in discussions and exchanging ideas
- Improves communication skills by encouraging learners to articulate thoughts and listen actively to others
- Increases motivation and boost learners' sense of ownership of their own learning
- Offers opportunities for learners to develop teamwork, leadership, and interpersonal skills
- Allow learners to collaborate in order to gain a deeper understanding and different perspectives on a topic

Application – How?

1. Design activities that require the active participation and interaction within groups of learners;
2. Clearly communicate the objectives of the collaborative activity to all learners;
3. Encourage an atmosphere of respect, trust, and open communication where all ideas are valued;
4. Provide clear instructions on the task at hand;
5. Encourage learners to reflect on their collaborative work they have completed.

Example

An educator in an environmental sustainability course formed diverse groups of learners consisting of 4-5 members. Groups were intentionally heterogeneous, bringing together learners with varied backgrounds, majors, and perspectives. The educator presented the groups with real-world environmental challenges, such as local ecosystem conservation, sustainable urban development, or climate change mitigation. These issues required a multidisciplinary approach and encouraged learners to explore diverse solutions. Groups researched, collected data, conducted fieldwork, and reviewed academic literature to understand the challenges. Each group developed comprehensive solutions to the environmental issues they were studying, and presented them in a public forum attended by the university community. Presentations were peer assessed on the content, teamwork, and the depth of research. This encouraged accountability and allowed learners to learn from each other's strengths.

Supporting Reference(s)

- Qureshi, M. A., Khaskheli, A., Qureshi, J. A., Raza, S. A., & Yousufi, S. Q. (2023). Factors affecting students' learning performance through collaborative learning and engagement. *Interactive Learning Environments*, *31*(4), 2371-2391.
- Smith, B. L., & MacGregor, J. T. (1992). What is collaborative learning.

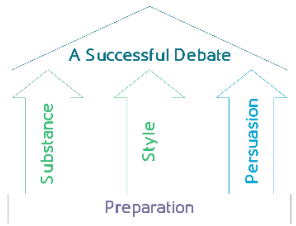
Learner Skills Promoted	Communication, Critical Thinking, Teamwork, Emotional Intelligence
Learner Attribute(s)	Metacognitive Learner, Digitally Capable, Emotionally Intelligent

Debate

Description – What?

An educational method that involves structured discussions where learners present arguments, counterarguments, and evidence on a specific topic. It encourages critical thinking, effective communication, and the development of persuasive skills.

Scope: Pairs - Small Groups



Benefits – Why?

- Enhances critical thinking through analysing information, evaluating and thinking critically about arguments
- Improves communication skills by motivating learners to articulate their thoughts clearly, listen actively, and respond effectively to others' arguments
- Develops research skills and information literacy through gathering evidence from various sources
- Fosters teamwork, encourages collaboration, cooperation, and respect for diverse opinions
- Builds self-confidence in learners by presenting their ideas persuasively in front of an audience

Application – How?

1. Choose a relevant topic that is engaging, thought-provoking, and related to curriculum or real-world issues;
2. Teach learners debates structures, opening statements, rebuttals, cross-examinations, and closing statements;
3. Provide guidance on research, and explain how to find reliable information to support their arguments;
4. Facilitate discussions and active participation by providing opportunities for learners to speak during debates;
5. Emphasize respectful dialogue and listening attentively to others' viewpoints and responding respectfully.

Example

In an “Artificial Intelligence (AI)” course, the educator organized a debate on a current and contentious issue. The educator then divided the class into two teams, each representing a different position on the issue. Before the debate, the learners were provided with reading materials, research resources, and guidelines for constructing well-reasoned arguments. The learners were responsible for researching their assigned position and preparing arguments to support their stance. On the day of the debate, each team presented their arguments and rebuttals, and learners were not only passionate but also well-prepared, citing relevant facts and statistics. The educator served as a moderator and encouraged respectful discourse while keeping track of time. Following the debate, a class discussion was held to reflect on the experience. Learners were asked to evaluate their performance and consider how their perspective on the issue might have evolved through the process.

Supporting Reference(s)

Zare, P., & Othman, M. (2013). Classroom debate as a systematic teaching/learning approach. *World Applied Sciences Journal*, *28*(11), 1506-1513.

Learner Skills Promoted	Communication, Critical Thinking, Teamwork, Problem-Solving, Empathy
Learner Attribute(s)	Effective Communicator, Leadership Readiness

Differentiated Teaching

Description – What?	Scope: Individual – Pairs - Small Groups – Large Groups

An instructional approach that recognizes and accommodates the diverse learning needs, preferences, and abilities of learners. It involves tailoring teaching methods, content, and assessments to meet individual learners' needs, allowing them to learn at their own pace and in ways that suit their unique learning styles.

Benefits – Why?

- Personalizes learning as it allows learners to receive instruction that is tailored to their specific needs
- Increases engagement and motivation by addressing individual interests and preferences
- Improves retention as learners are taught using methods that align with their preferred learning styles
- Ensures inclusive education where all learners have equal opportunities for success by accommodating diverse abilities, backgrounds, and prior knowledge

Application – How?

1. Assess learner needs and identify their strengths, weaknesses, interests, and preferred learning styles through pre-assessments or diagnostic surveys;
2. Group learners based on their readiness levels or interests to provide targeted instruction or activities;
3. Utilize a range of teaching methods such as lectures, discussions, hands-on activities, multimedia resources, or project-based learning to cater to different learners' needs;
4. Offer choices for projects that allow learners to demonstrate their understanding using different formats
5. Continuously monitor learner progress through formative assessments and provide timely feedback.

Example

The educator in a 'Business Ethics' course conducted a pre-assessment to evaluate learners' ethical knowledge. Based on their levels - Novice, Intermediate, and Advanced - personalized learning paths were created. Novices received foundational materials, Intermediates engaged in discussions, and advanced learners tackled complex case studies. Different assignment options catered to diverse learning styles: essays, journals, or group projects. Ongoing support included extra guidance for Novices, peer discussions for Intermediates, and independent research for Advanced learners. A common assessment on a complex ethical dilemma varied in depth based on learner categories, ensuring appropriate challenge for each.

Supporting Reference(s)

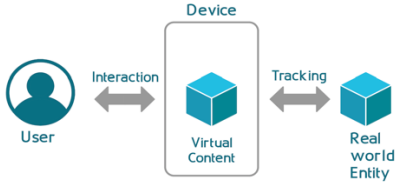
- Pozas, M., Letzel, V., & Schneider, C. (2020). Teachers and differentiated instruction: exploring differentiation practices to address student diversity. *Journal of Research in Special Educational Needs*, *20*(3), 217-230.
- Jackson, N., & Evans, L. (2017). Self-reflections on differentiation: Understanding how we teach in higher education. *Networks: An Online Journal for Teacher Research*, *19*(1), 5.

Learner Skills Promoted	Communication, Critical Thinking, Emotional Intelligence
Learner Attribute(s)	Effective Communicator, Emotionally Intelligent, Creative, Critical Thinker

Augmented Learning

Description – What?	Scope: Individual – Pairs – Small Group – Large Groups

Integration of technology, such as virtual reality (VR), augmented reality (AR), and mixed reality (MR), into the learning process to enhance and supplement teaching methods. It aims to provide learners with immersive and interactive experiences that facilitate deeper understanding and engagement.



Benefits – Why?

- Enhances engagement by incorporating interactive elements
- Personalizes learning and experiences based on learners' needs
- Real-world simulations through virtual environments, in which learners can practice real-world scenarios
- Bridges geographical barriers and offers accessible education by providing remote access to educational resources, enabling learners from different locations to participate in collaborative activities

Application – How?

1. Integrate AR/VR technologies into existing curriculum, and incorporate AR/VR tools into lectures, labs, or assignments to enhance learner engagement and understanding;
2. Develop virtual simulations and create virtual environments that simulate real-world scenarios relevant to the subject matter, allowing learners to practice skills in a safe and controlled setting;
3. Provide access to AR/VR resources and ensure that learners have access to necessary hardware (e.g., VR headsets) or software applications for augmented learning experiences;
4. Attend training on how to effectively integrate augmented learning technologies into teaching.

Example

In a 'languages' course, an educator integrated an AR language learning app, enabling learners to access multimedia and exercises by scanning physical objects like textbooks and flashcards. Vocabulary flashcards offered pronunciations and sentences, while AR markers transported learners to cultural locations. AR-enhanced quizzes and scavenger hunts engaged learners in interactive language-related activities. Additionally, learners created their own AR content, crafting flashcards and scenarios using AR markers.

Supporting Reference(s)

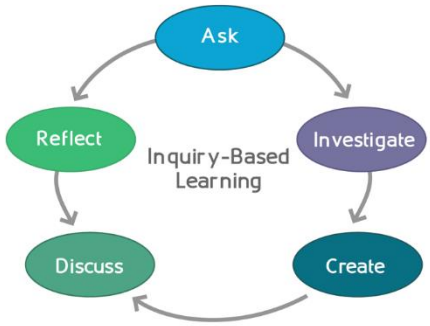
- Wu, H. K., Lee, S. W. Y., Chang, H. Y., & Liang, J. C. (2013). Current status, opportunities and challenges of augmented reality in education. Computers & education, 62, 41-49.
- Radu, I. (2014). Augmented reality in education: a meta-review and cross-media analysis. Personal and ubiquitous computing, 18, 1533-1543.
- Dunleavy, M. (2014). Design principles for augmented reality learning. TechTrends, 58(1), 28-34.

Learner Skills Promoted	Technological, Communication, Critical Thinking
Learner Attribute(s)	Digitally Capable, Life-Long Learner with a Growth Mindset, Critical Thinker

Inquiry-based learning

Description – What?	Individual – Pairs – Small Groups

An approach that emphasizes learner-driven exploration, critical thinking, and problem-solving. Learners actively engage in the learning process by posing questions, investigating topics, and seeking answers through research, experimentation, and analysis. The role of the educator shifts from being the sole provider of knowledge to that of a facilitator, guiding and supporting learners as they inquire, discover, construct their own understanding, and link it to the real world.



Benefits – Why?

- Promotes critical and creative thinking
- Cultivates curiosity and a sense of ownership over the learning process
- Encourages lifelong learning by nurturing a mindset of inquiry and exploration

Application – How?

1. Pose an open-ended question for learners about a new topic. For example, "What are the causes and consequences of climate change?";
2. Allow learners to brainstorm questions about the topic;
3. Assign learners into groups of 4-5. Assign them time to explore the topic and gather information;
4. Have learners present their findings through, discussions, reports and/or presentations;
5. Make learners reflect on their learning experience, identify knowledge gaps, and propose solutions.

Example

In a Phonology class, the educator uses inquiry-based learning to teach the concept of intonation by asking learners to analyze the meaning and function of different intonation patterns in speech. The educator plays audio clips of speakers using different intonation patterns in different contexts and asks learners to identify and describe what they hear. After eliciting learners' prior knowledge and questions, the educator guides them to record and compare their own speech using different intonation patterns. Learners then present and discuss their findings, explaining how intonation affects the meaning and tone of their speech.

Supporting Reference(s)

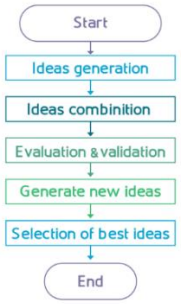
Enquiry-based learning: a resource for higher education | Advance HE. (n.d.). Www.advance-He.ac.uk. Retrieved October 22, 2023, from https://www.advance-he.ac.uk/knowledge-hub/enquiry-based-learning-resource-higher-education

Learner Skills Promoted	Critical Thinking, Creativity, Problem-Solving
Learner Attribute(s)	Creative, Critical Thinker, Problem-Solver, Effective Communicator, Metacognitive Learner

Brainstorming

Description – What?	Scope: Individual – Pairs – Small Groups – Large Groups

A teaching strategy that involves the generation of ideas, solutions, or questions in response to a given topic, problem, or challenge. It aims to encourage creativity, innovation, and divergent thinking by allowing learners to freely express their thoughts and perspectives without judgment or criticism. It can be done individually, in pairs, or in groups, online or face-to-face.



Benefits – Why?

- Stimulates creativity and innovation by challenging learners to think of multiple possibilities
- Enhances critical thinking and problem-solving by requiring learners to analyze, evaluate, and prioritize the generated ideas
- Promotes collaboration and communication by enabling learners to share and build on ideas

Application – How?

1. Introduce the topic or the problem in a question form. Example: What are causes of World War II?;
2. Instructs learners to generate as many ideas as possible regarding the causes of World War;
3. Write down all responses on the board or a shared digital platform;
4. Facilitate a group discussion, by encouraging learners to elaborate on their ideas and provide explanations;
5. Guide learners in categorizing and organizing the causes into common themes or factors;
6. Evaluate the final ideas and classifications.

Example

A business educator uses brainstorming to teach the concept of entrepreneurship. She asks the learners to brainstorm ideas for a new product or service that could solve a problem or meet a need in the market. The educator divides the learners into small groups and gives them 10 minutes to write down as many ideas as they can on sticky notes. After the time is up, the educator asks each group to share their ideas with the class and to stick them on a board. The educator then guides the class to group the ideas into categories, such as technology, health, education, etc. The educator then asks each group to select one idea from their category and to evaluate its feasibility, profitability, and sustainability. The educator then asks each group to present their selected idea and their evaluation to the class, and to receive feedback from their peers.

Supporting Reference(s)

Communications, N. W. (n.d.). *1. Brainstorming*. Www.nyu.edu. https://shorturl.at/ejyES

Learner Skills Promoted	Problem-Solving, Creativity, Critical Thinking, Communication
Learner Attribute(s)	Problem-Solver, Dynamic Team Member, Life-long Learner with a Growth Mindset

Storytelling

Description – What?

A teaching strategy that involves the use of narratives, anecdotes, or stories to convey educational content and engage learners in the learning process. It aims to make learning more relatable, memorable, and enjoyable by connecting abstract concepts to real-life situations or experiences.

Scope: Individual – Pairs – Small Groups – Large groups

Benefits – Why?

- Enhances engagement and motivation by creating an emotional connection to the content
- Facilitates understanding and retention of information through the use of vivid and memorable narratives
- Fosters empathy and perspective-taking by presenting diverse characters and situations
- Encourages creativity and imagination in both learners and educators

Application – How?

1. Select a relevant story or narrative that aligns with the learning objectives of your lesson;
2. Introduce the story and engage learners in active listening, encouraging them to reflect on the characters, plot, and themes;
3. Facilitate discussions and activities that relate the story to the educational content, prompting learners to analyze, evaluate, and apply the lessons learned;
4. Encourage learners to create their own stories or narratives to demonstrate their understanding of the content and foster creativity;
5. Provide feedback to learners on their storytelling, highlighting strengths and areas for improvement.

Example

In an English literature class, the educator uses storytelling to teach the concept of character development. The educator selects a short story with well-defined characters and asks the learners to analyze the motivations and actions of the characters. After the story, learners engage in a group discussion to compare the characters' traits with real-life personalities, encouraging critical thinking and empathy. The educator then assigns learners to write their own short stories, incorporating the elements of character development discussed in class.

Supporting Reference(s)

https://www.harvardbusiness.org/what-makes-storytelling-so-effective-for-learning/

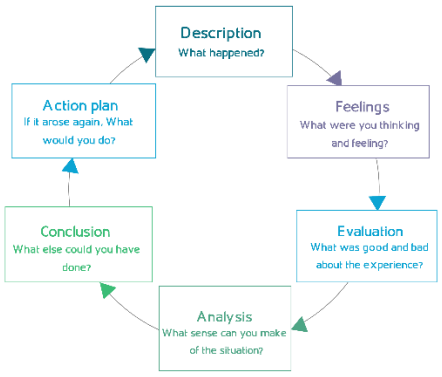
Learner Skills Promoted	Communication, Critical Thinking, Empathy, Creativity, Imagination
Learner Attribute(s)	Effective Communicator, Emotionally Intelligent, Creative, Critical Thinker

Reflective Learning/Writing

Description – What?

A teaching strategy that involves examining learner's own experiences, thoughts, feelings, actions, and learning outcomes in relation to a specific topic or situation.

Scope: Individual– Pairs – Small Groups



Benefits – Why?

- Enhances metacognition and self-regulation, and promotes critical thinking and analysis
- Encourages personal growth and development
- Improves communication and writing skills

Application – How?

1. Introduce the topic or the situation that requires reflection;
2. Instruct learners to recall and describe their experiences, thoughts, feelings, and actions related to the topic or situation;
3. Have learners analyze and evaluate their reflections, by asking questions such as:
   - What did you learn from this experience? What did you do well and what could you improve? How can you apply what you learned to future situations?;
4. Provide feedback and guidance to learners on their reflections, by highlighting their strengths, areas for improvement, and suggestions for further learning;
5. Encourage learners to act on their reflections, by setting goals, making plans, or taking actions based on their insights.

Example

In a Discourse Analysis class, the educator asks learners to write about the lesson they just had. She calls this segment "The clearest and muddiest areas of a lesson". She instructs learners to reflect on what they learned by writing about the hardest (muddiest), and the easiest (clearest) aspects of today's lesson. She assigns them time to write and asks them to share their thoughts with their classmates when they are done.

Supporting References

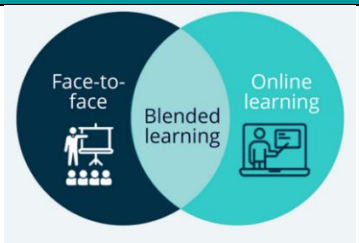
Moon, J. A. (2004). A handbook of reflective and experiential learning: Theory and practice. Routledge.

Learner Skills Promoted	Critical thinking, Metacognition, Self-Regulation, Analysis, Communication
Learner Attribute(s)	Metacognitive Learner, Critical Thinker, Life-Long Learner with a Growth Mindset

Blended Learning

Description – What?	Scope: Individual – Pairs – Small Groups – Large Groups

An educational model for teaching learners that combines both traditional classroom settings and online learning environments through digital platforms. It integrates the benefits of both in-person and digital learning methods to create a comprehensive and flexible learning experience.



Benefits – Why?

- Offers flexibility and convenience for learners to access learning materials anytime and anywhere. It also reduces the cost and time of travel and accommodation
- Enhances engagement and motivation by providing a variety of learning activities, such as games, videos, quizzes, and discussions
- Promotes personalized and self-paced learning, as learners can choose the learning methods that suit their needs and preferences; it also enables learners to monitor their progress and receive feedback

Application – How?

1. Identify the learning objectives and outcomes and select the appropriate blend of online and face-to-face components. Consider the learners' characteristics, needs, and preferences, as well as the available resources and technology;
2. Design and develop the online and face-to-face components, ensuring alignment and integration between them.
3. Use a variety of pedagogical strategies, such as lectures, games, and assessments;
4. Implement and facilitate the blended learning experience; provide clear instructions, guidance, and support for learners.

Example

An educator in a Phonology class wants to teach the concept of rhythm and intonation. The educator uses a blended learning approach, where learners learn some of the content online and some in the classroom. The educator creates an online module that includes videos, animations, and interactive exercises that explain the basics of rhythm and intonation. The learners complete the online module at their own pace before coming to the classroom. In the classroom, the educator reviews the online content, clarifies any doubts, and engages the learners in hands-on activities, such as using drawing diagrams. The educator also uses online quizzes and games to assess the learners' understanding and provide feedback.

Supporting Reference(s)

Blended Learning | Center for Teaching & Learning (bu.edu)

Learner Skills Promoted	Self-Directed Learning, Metacognition
Learner Attribute(s)	Life-Long Learner with a Growth Mindset, Digitally Capable, Metacognitive Learner

Gamification

Description – What?	Scope: Individual – Pairs – Small Groups
The application of game design elements and principles to educational context, to enhance engagement, motivation, and learning outcomes. It involves incorporating game-like features, mechanics, and dynamics into the learning process to make it more enjoyable and interactive.	

Benefits – Why?

- Increases engagement by providing a more interactive and immersive learning experience
- Games often include elements like challenges, rewards, and competition, which boost learners' intrinsic motivation to learn
- Gamified systems can adapt to individual learners' needs and progress. By providing immediate feedback and personalized challenges, learners can learn at their own pace, addressing their specific learning goals

Application – How?

1. Select game elements such as points, badges, levels, leaderboards, or virtual currencies, and align them with your learning objectives;
2. Create a game structure that incorporates the chosen elements. Define rules, challenges, and rewards to make the learning experience engaging and enjoyable;
3. Utilize educational technology tools or learning management systems that support gamification features. These platforms can help you track learner progress, provide feedback, and manage gamified activities;
4. Regularly assess learners' performance and learning outcomes to measure the effectiveness of the gamified approach. Use data and feedback to refine and improve the gamification strategy.

Example

In a history class, the educator divides learners into teams and creates a quiz-style game using a digital tool or interactive whiteboard. Each team earns points for correct answers, and additional points are awarded for answering quickly or providing detailed explanations. The educator also uses power-ups like "skip a question" or "double points" to add excitement. She uses a leaderboard to track team scores and foster healthy competition.

Supporting Reference(s)

https://uwaterloo.ca/centre-for-teaching-excellence/catalogs/tip-sheets/gamification-and-game-based-learning

Learner Skills Promoted	Problem-Solving, Team Coordination, Communication
Learner Attribute(s)	Dynamic Team Member, Problem-Solver, Critical Thinker

Discussions

Description – What?	Scope: Pairs – Small Groups
A teaching strategy that involves interactive conversations among learners and/or between learners and the instructor. It provides a platform for learners to share their thoughts, analyze ideas, and construct knowledge collaboratively.	

Benefits – Why?

- Promote active learning by encouraging learners to participate, share their perspectives, and critically analyze the topic at hand. This enhances retention and understanding of the content.
- Foster effective communication and collaboration skills. Learners learn to articulate their ideas clearly, actively listen to others, and engage in respectful dialogue.
- Learners develop higher-order thinking skills as they evaluate different viewpoints, support their arguments with evidence, and engage in reasoned debates.

Application – How?

1. Choose the discussion format that aligns with your objectives and the size of your class. Options include whole-class discussions, small group discussions, fishbowl discussions, or online discussions.
2. Design thought-provoking prompts or questions that stimulate meaningful conversations. These can be open-ended, problem-based, or case studies.
3. Set clear guidelines for participation, active listening, and respectful communication.
4. Facilitate the discussion by providing guidance, clarifying concepts, and ensuring equal participation. Encourage learners to respond to each other and ask follow-up questions.

Example

An educator in a literature class wanted to discuss the theme of "conflict" in a novel. The educator asked learners “How does the protagonist's journey leads to conflict?”. She divided the class into small groups and asked them to discuss the question for a specified time. She encouraged them to share textual evidence, analyze character development, and explore the protagonist's struggles. She then brought the class back together and facilitated a whole-class discussion.

Supporting Reference(s)

https://www.csuchico.edu/cbms/_assets/documents/fish-bowl-strategy.pdf

Learner Skills Promoted	Self-Directed Learning, Critical Thinking, Teamwork
Learner Attribute(s)	Growth Mindset, Problem-Solving, Critical Thinker

Activity-Based Learning (ABL)

Description – What?	Scope: Individual – Pairs – Small Groups – Large Groups

The process of learning by performing tasks or activities. As opposed to asking learners to simply listen and take notes, activity-based learning motivates learners to participate in their own learning experience via practical activities. In this type of learning, the learner is the center of the process and the educator acts only as a facilitator, introducing and guiding them through the activities.

Benefits – Why?

- Ensures better participation of learners in the learning process
- Leads to deeper understanding and better knowledge retention
- Builds team spirit and social skills, and helps to put learning into context

Application – How?

1. Determine course outcomes that fit with ABL, such as collaboration and problem-solving;
2. Design the ABL method which should be motivating, interesting, and generate good discussion;
3. Introduce ABL by explaining the assignment expectations, rubrics, and timelines;
4. Act as a facilitator during the ABL process by providing guidance and feedback to learners;
5. Provide feedback to learners on their performance and identify areas for improvement;

Example

In a business course, an educator wanted to teach learners the art of negotiation. She implemented Activity-based Learning by dividing the class into groups of four and assigning each group a different scenario. For example, one group was assigned to negotiate a merger between two companies, while another group was assigned to negotiate a salary increase with their employer. Each group had 30 minutes to prepare for their negotiation. After the preparation time was up, each group presented their negotiation to the class. The rest of the class acted as the opposing party in the negotiation. The educator acted as a facilitator, providing guidance and feedback to learners. She observed and provided feedback on each negotiation.

Supporting Reference(s)

Anwer, F. (2019). Activity-Based Teaching, Student Motivation and Academic Achievement. *Journal of Education and Educational Development*, *6*(1), 154-170.

Learner Skills Promoted	Creativity, Social, Teamwork
Learner Attribute(s)	Creative, Dynamic Team Member, Effective Communicator

Critical-Inquiry-Based-Learning

Description – What?	Scope: Individual – Pairs – Small Groups – Large Groups

A learner-centered approach to education that emphasizes critical thinking, problem-solving, and curiosity. It is an approach that starts with an essential question, then learners investigate the topic to find answers to the question, developing language and skills throughout the inquiry. It allows learners to take their learning in different directions best suited to their interests and skills. The learner plays an active part in their learning and decision-making.

Benefits – Why?

- Nurtures learner interests, passions, and talents
- Increases motivation and engagement
- Develops formal and informal research skills, and deepens understanding beyond the content

Application – How?

1. Raise an open-ended and thought-provoking question;
2. Allow learners to explore the question in a variety of ways, such as brainstorming or hands-on activities;
3. Encourage learners to discuss their findings and ideas with each other;
4. Provide learners with the resources they need to explore the question in depth;
5. Summarize what was learned and how it relates to the original question.

Example

A tourism educator, wanted to teach her learners about the impact of tourism on local communities. She started by raising the question: "How does tourism affect local communities?" She allowed learners to explore the question in a variety of ways, such as brainstorming or hands-on activities. Then, she encouraged learners to discuss their findings and ideas with each other. She divided the class into groups of four and allowed each group to present their findings to the class. She provided articles, videos, and websites which they needed to explore the question in depth. At the end of the activity, she summarized what was learned and how it related to the original question. She encouraged learners to reflect on what they learned and how they could apply it in other contexts.

Supporting Reference(s)

- Pedaste, M., Mäeots, M., Siiman, L. A., De Jong, T., Van Riesen, S. A., Kamp, E. T., & Tsourlidaki, E. (2015). Phases of inquiry-based learning: Definitions and the inquiry cycle. *Educational research review*, *14*, 47-61.
- Duran, M., & Dökme, I. (2016). The effect of the inquiry-based learning approach on student's critical-thinking skills. *Eurasia Journal of Mathematics Science and Technology Education*, *12*(12).

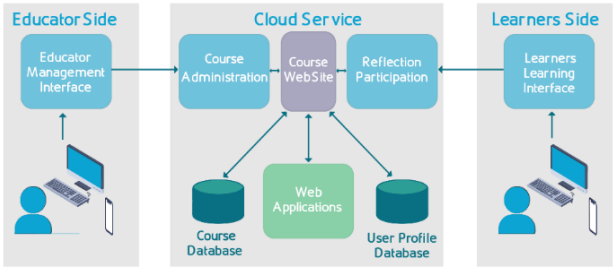
Learner Skills Promoted	Analysis, Problem-Solving, Curiosity, Research
Learner Attribute(s)	Critical Thinker, Problem-Solver, Life-long Learner, Strong knowledge and Intellect

Cloud-Based Learning

Description – What?

A learning experience that takes place virtually in a digital cloud. It is a type of e-learning that allows learners to access content from any internet-connected device. Blended Learning, Flipped Learning, Self-directed Learning, and Collaborative Learning fit perfectly with the flexibility of Cloud-based Learning.

Scope: Individual – Pairs – Small Groups – Large Groups



Benefits – Why?

- Provides access to content and resources from anywhere and anytime
- Offers interactive learning experience with features such as quizzes and interactive images
- Stores data online continuously, ensuring that educators and learners never lose their work

Application – How?

1. Identify the learning objectives in order to choose right cloud-based learning tools and technologies;
2. Choose the right cloud-based learning platform such as Blackboard or Microsoft Education;
3. Create engaging content such as videos, quizzes or games;
4. Assess learner progress using the cloud-based learning platform and provide feedback. This can help you identify areas where learners are struggling and adjust your teaching accordingly;
5. Encourage collaboration: This can include group projects, online discussions, and more.

Example

An English educator uses Blackboard to supplement her in-person classes. She posts all the course materials, assignments, and other resources on Blackboard. She uses Blackboard to assign group projects and interactive activities that help her students learn in a fun and engaging way. One day, she posts a video on Blackboard about the history of the English language. After the video, she asks the learners to write a blog post about the vocabulary they learned from the video. The learners read each other's posts and provide comments, which helps them learn from each other. Then, she assigns a group project and asks the learners to work together on a wiki page about the history of the English language. The learners share their ideas and work together to complete the project.

Supporting Reference(s)

Siddiqui, S. T., Alam, S., Khan, Z. A., & Gupta, A. (2018). Cloud-Based E-Learning: Using Cloud Computing Platform for an Effective E-Learning. In *Smart Innovations in Communication and Computational Sciences* (pp. 335-346). Springer

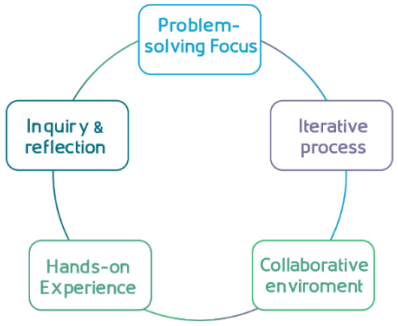
Learner Skills Promoted	Digital Literacy, Self-Directed Learning, Communication
Learner Attribute(s)	Digitally Capable, Dynamic Team Member, Effective Communicator

Design-Based Learning (DBL)

Description – What?

An approach grounded in the processes of inquiry and reasoning towards generating innovative artifacts, systems and solutions. It is a form of project-based learning which employs the pedagogical insights of problem-based learning (PBL). It prioritizes the learning process over the final outcome and encourages learners to take risks, learn from their mistakes, and work together to develop innovative solutions to real-world challenges. DBL is utilized in design-related curricula in such as engineering, computer science, and architecture.

Scope: Small Groups – Large Groups



Benefits – Why?

- Engages learners in the design process, and helps them develop a deeper understanding
- Encourages learners to think creatively and critically to come up with innovative solutions
- Provides learners with opportunities to apply what they have learned in real-world situations
- Helps learners develop teamwork and communication skills

Application – How?

1. Analyze the course outcomes and identify the real-life problem that learners will tackle through DBL;
2. Design a DBL scenario which should be motivating, interesting, and generate good discussion;
3. Develop the DBL scenario by generating criteria and alternatives. Encourage learners to challenge assumptions and create ideas. Select an alternative and prototype it;
4. Implement the DBL scenario by facilitating DBL and providing guidance and feedback to learners;
5. Assess the DBL scenario by evaluating learners' work using rubrics and other assessment tools;
6. Reflect on the DBL scenario by asking learners to evaluate their learning experience.

Example

An engineering educator of renewable energy challenged learners to design and build a working model of a car that runs on solar power. Learners were divided into small groups and given a set of materials, such as solar panels, motors, batteries, and wires. Learners researched the principles of solar energy and formulated their own research questions and hypotheses about how to design their cars before building their prototypes and testing them in various conditions. They observed and documented the problems they encountered, reflected on design choices, and modified prototypes and tested them again. The learners presented and demonstrated their solar-powered cars to the class. The educator facilitated the learners' learning and provided feedback throughout.

Supporting Reference(s)

Gómez Puente, S. M., Van Eijck, M., & Jochems, W. (2013). A sampled literature review of design-based learning approaches: A search for key characteristics. *International Journal of Technology and Design Education*, *23*, 717-732.

Learner Skills Promoted	Teamwork, Problem-Solving, Critical Thinking,
Learner Attribute(s)	Creative, Critical Thinker, Problem-Solver, Strong Knowledge and Intellect

Experiential Learning

Description – What?	Scope: Individual – Pairs – Small Groups – Large Groups

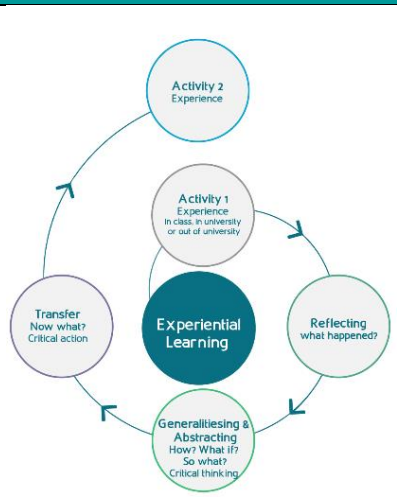
Experiential learning is a process of learning through experience and reflection. It is based on the idea that the best way to learn is by actually having experiences.

Benefits – Why?

- Helps learners retain the information better as they immediately apply knowledge to real-world experiences
- Improves motivation because experiments are exciting and fun for learners, and promotes teamwork

Application – How?

1. Select one or more activities (experiences) in order to demonstrate a concept or raise questions. The experience should enable learners to engage with the topic or physical challenge in as many ways as possible;
2. Query and review what learners have done and ask them to reflect on what happened;
3. Encourage learners to examine abstract concepts and make connections between ideas and their actual experience. Learners ask 'how', 'what if', and 'so what' questions;
4. Assign learners to apply the knowledge they have gained to the next activity or to their daily lives.



Example

An Early Childhood Education educator wants to help her learners understand the principles and practices of effective teaching in preschool settings. She arranges for her learners to visit a local preschool for two weeks. Then, she asks her learners to write a reflection report on what they observed and learned during the observation. She also asks them to identify the strengths and weaknesses of the teaching strategies they observed and explain why they think so. She reviews their reports and provides feedback. She then organizes a class discussion where she invites her learners to share their reflections and insights with their peers. She facilitates the discussion by asking them to relate their experience to the theoretical concepts and frameworks they learned in the course. Finally, she asks them to design and deliver a lesson plan for a preschool activity based on their observation and reflection. She asks them to specify the learning objectives, materials, and strategies for their lesson plan and to justify their choices. She evaluates their lesson plans and provides feedback on their teaching skills.

Supporting Reference(s)

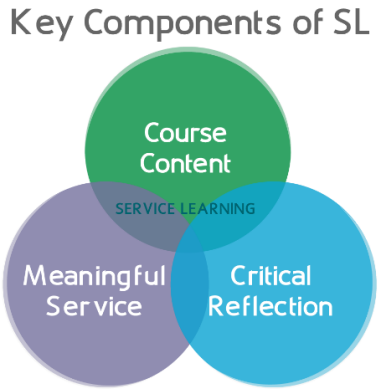
Kolb, D. A. (2014). Experiential learning: Experience as the source of learning and development. FT press.

Learner Skills Promoted	Problem-Solving, Interpersonal, Communication, Career Development
Learner Attribute(s)	Strong Knowledge and Intellect, Effective Communicator, Dynamic Team Member

Service Learning

Description – What?	Scope: Individual – Pairs – Small Groups – Large Groups

Service learning is a teaching method that combines academic coursework with meaningful community service to address challenges facing communities. It is a form of experiential learning where students apply academic concepts to practical situations that involve addressing community needs. It engages students in service activities that simultaneously pursue two goals: (1) benefit to community stakeholders, and (2) academic learning outcomes. The service learning pedagogy focuses on critical, reflective thinking to develop students' academic skills, sense of civic responsibility, and commitment to the community.



Benefits – Why?

- Strengthens students' social, moral, professional, and civic development
- Develops students as active learners who make a meaningful impact in their community
- Engages students in group decision-making and problem-solving

Application – How?

1. Brainstorm: Identify a few needs which can be met at your community, university campus, or city, that is related to the academic curriculum you teach or the skills you aspire to grow among your students;
2. Focus: Examine each need to confirm that it is not really met in any other way, that it will benefit both, your students and those being served, and that it is doable considering the resources you have. Modify and shape the idea;
3. Implement: Design well-defined phases, procedures, and guidance notes for implementing the service learning, share them with your students, and implement;
4. Evaluate: Evaluate the phases, procedures, and results, with an eye for further improvement;
5. Reflect: Have your students reflect on the impact of the service they have provided, how it made them feel, and if it changed them.

Example

A strategic management educator assigned her students to work on a service learning project. The project entailed students working on a SWOT analysis, strategic planning, and marketing strategies for local small businesses to improve their revenue, market awareness, and adaptability. The students submitted portfolios documenting their work, experiences, and reflections.

Supporting Reference(s)

- Felten, P., & Clayton, P. H. (2011). Service-learning. *New directions for teaching and learning*, *2011*(128), 75-84.
- https://www.bu.edu/ctl/guides/service-learning/

Learner Skills Promoted	Responsibility, Emotional Intelligence, Critical Thinking, Problem-Solving, Moral
Learner Attribute(s)	Socially Responsible, Emotionally Intelligent, Critical Thinker, Problem-Solver

Social Media-Based Learning (SMBL)

Description – What?	Scope: Individual – Pairs – Small Groups – Large Groups

A modern approach to learning that leverages social media platforms to enhance the learning experience. Collaborative learning has been identified as an important part of SMBL formation, because learners can work together and combine their respective skills to solve problems.

Benefits – Why?

- Improves digital literacy skills
- Improves knowledge retention and understanding
- Increases class participation and motivates learners
- Builds community by connecting learners to each other and the global community

Application – How?

1. Choose a social media platform that is popular among your learners such as Facebook and Instagram;
2. Set clear goals and objectives for the SMBL course/activity;
3. Assign tasks to the learners that are relevant to the goals and objectives of the course;
4. Provide feedback to the learners on their posts and encourage them to interact with each other;
5. Assess the learning outcomes of the SMBL course and provide feedback to the learners. This will help them understand their strengths and weaknesses and improve their language skills

Example

An educator who teaches French as a foreign language, wanted to improve her learners' writing skills and used Facebook as the social media platform of choice. She created a Facebook private group and invited learners to join. She explained the group's purpose, which was to improve learners' writing skills and enhance their engagement with the course. She clarified expectations of writing 3 posts per week, using correct grammar and vocabulary, and responding to other learners' posts. She asked learners to post about their favorite book in French. She provided feedback on their posts and encouraged them to interact with each other. She also posted relevant resources, such as links to articles, videos, or podcasts, that could enrich their learning experience. She monitored the group activity and moderated the discussions to ensure a respectful and productive environment.

Supporting Reference(s)

Alvarez, I. M., & Olivera-Smith, M. (2013). Learning in social networks: rationale and ideas for its implementation in higher education. *Education Sciences*, *3*(3), 314-325.

Learner Skills Promoted	Collaboration, Teamwork, Digital Literacy, Cultural Awareness, Empathy
Learner Attribute(s)	Digitally Capable, Dynamic Team Member, Effective Communicator

Cooperative Learning

Description – What?

A pedagogical approach of using small groups of learners to work together on a structured learning task to achieve a common educational goal under the guidance of the educator. Cooperative learning offers learners the possibility to learn by applying knowledge in an environment more like the one they will encounter in their future work life. Cooperative learning can take many forms, such as jigsaw and think-pair-share. To make cooperative learning more effective, educators need to design meaningful tasks, monitor group progress, and assess individual and group outcomes.

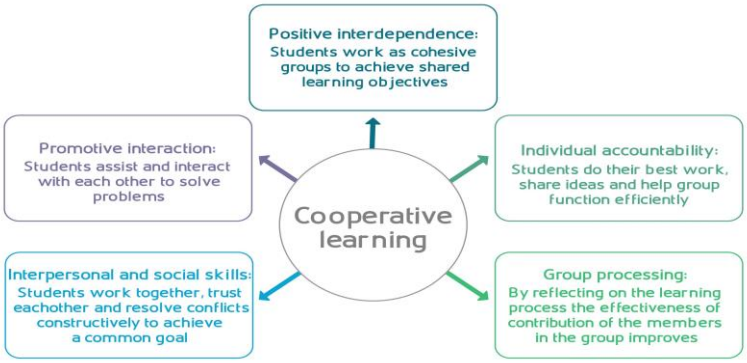
Scope: Small Groups

Benefits – Why?

- Enables learners to serve as resources for each other
- Engages learners in cognitive collaboration in organizing their thoughts to explain ideas to peers
- Promotes self-confidence, and enhances communication, decision-making and leadership skills
- Develops and consolidates positive social relationships, and promotes critical thinking skills

Application – How?

1. Form learner groups, 3 to 5 leaners each;
2. Assign questions and/or learning tasks to each group;
3. Allow groups to cooperatively work to answer the question or carry out the task, and provide guidance as necessary;
4. Have groups present and explain their work.



Example

An ESL educator forms groups of 3 to 4 learners. The educator asks a key question based on the text in the reading class. Groups work to prepare a response and discuss it internally to ensure everyone in the group can explain the response. Finally, the educator asks groups to explain their answer to the class. The educator provides guidance and feedback throughout.

Supporting Reference(s)

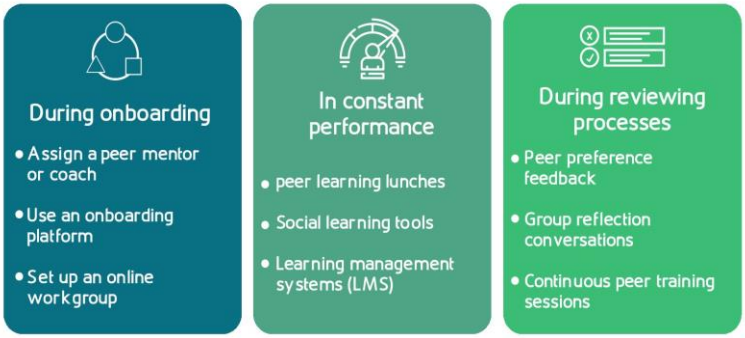
- Felder, R. M., & Brent, R. (2007). Cooperative learning. *Active learning: Models from the analytical sciences*, *970*, 34-53.
- Tran, V. D. (2019). Does Cooperative Learning Increase Students' Motivation in Learning?. *International Journal of Higher Education*, *8*(5), 12-20.

Learner Skills Promoted	Communication, Decision Making, Teamwork, Critical Thinking
Learner Attribute(s)	Critical Thinker, Effective Communicator, Dynamic Team Member

Peer Learning

Description – What?	Scope: Pairs, Small Groups, Large Groups

A visible learning approach where students learn with and from each other as fellow learners. The acquisition of knowledge and skill happens through active discussion, help and support among leaners. It provides an opportunity for learners to share and discuss diverse perspectives, leading to a more well-rounded understanding of the subject matter.



Benefits – Why?

- Allows learners to cooperate and collaborate, improving their social skills in the process
- Teaching others helps students learn and makes studying fun
- Helps educators handle large learner numbers smoothly

Application – How?

1. Asks a question based on the pre-class reading;
2. Have learners reflect and form individual answers;
3. Assign learner groups to discuss their answers with their peers, and reach a consensus on the answer;
4. Provide feedback and guidance as needed.

Example

A group of learners in an environment sustainability course were assigned to work on an air pollution project. Each learner conducts research and bring in knowledge about air pollution causes, solutions, effects on environment. The group then collaborates, discusses, and completes the different parts if the project based on their collaborative discussions, explanations, and reflections.

Supporting Reference(s)

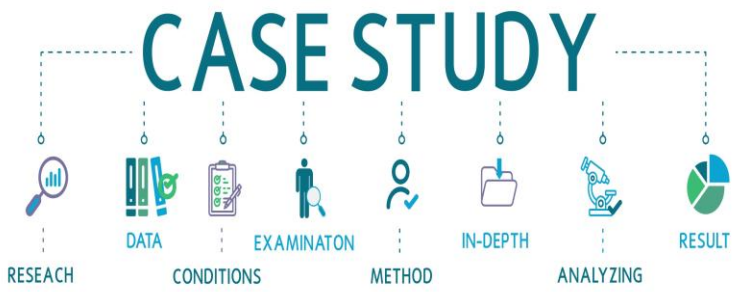
- Noroozi, O., & De Wever, B. (2023). The Power of Peer Learning: Fostering Students' Learning Processes and Outcomes.
- https://hilt.harvard.edu/wp-content/uploads/2019/10/HILT-2019-HANDOUT-FORMATTED-4-PP.pdf

Learner Skills Promoted	Communication, Cooperation, Critical Thinking
Learner Attribute(s)	Effective Communicator, Critical Thinker, Problem-Solver

Case Studies

Description – What?	Scope: Individual – Pairs - Small Groups – Large Groups

A pedagogical method where a case study, a detailed study of a specific subject, such as a person, group, place, event, organization, or phenomenon, is used to foster learning. It can be used in social, educational, clinical and business research. It can be used to test theory, develop theory, or to provide description of phenomena. In education, case studies provide learners with stories or scenarios to think about solutions to problems found in real world situations. Case studies are great for describing, comparing, evaluating, and understanding different aspects of a research problem.



Benefits – Why?

- Engages learners in critical thinking and problem-solving
- Improves learners research skills
- Helps learners apply skills and knowledge

Application – How?

1. Design a case study;
2. Set a question and ask learners to read and think about the question;
3. Encourage learners to research and connect with theory in the field;
4. Assign groups of learners to answer the question;
5. Ask learners to analyze the case, answer the question and support their answer with research.

Example

A medical educator presents her learners with a case-study on a patient with uncontrolled type 2 diabetes, who has a history of hypertension, and who presented to the clinic with a hemoglobin of 9.8%. The educator asks her learners to research, synthesize, and present a report on the best treatment plan to be provided to the patient with justifications, research-evidence, and consideration to the patient's present and historical medical record.

Supporting Reference(s)

https://www.bu.edu/ctl/teaching-resources/using-case-studies-to-teach/

Learner Skills Promoted	Problem-Solving, Communication, Critical Thinking
Learner Attribute(s)	Problem-Solver, Effective Communicator, Critical Thinker

Research-Based Learning

Description – What?	Scope: Individual – Pairs – Small Groups – Large Groups

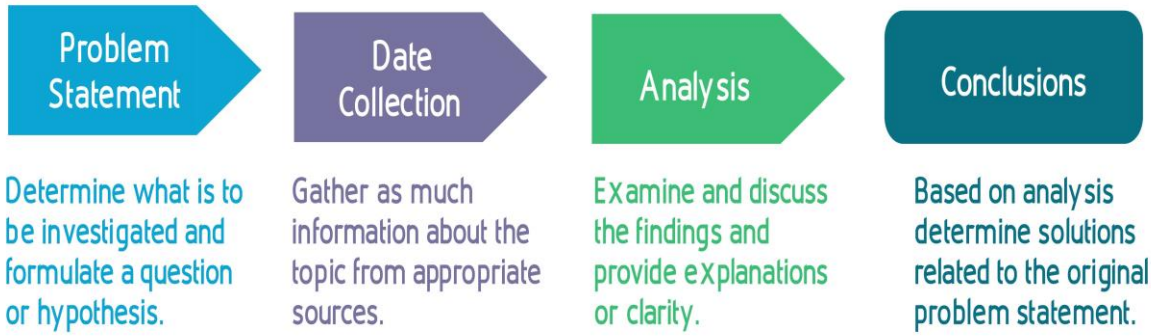
A pedagogical method which allows learners to search for and then use multiple resources to find important and interesting questions and challenges. Research-based learning equips learners with essential skills and practices related to research, enabling them to pose research questions, test hypotheses and present findings.

Benefits – Why?

- Helps learners find solutions for specific questions
- Develops critical thinking skills among learners

Application – How?

1. Design a research question, which targets a given problem, and share it with your learners;
2. Assign learners to conduct research related to the question and its possible answer(s);
3. Have groups of learners discuss and evaluate research information and challenges;
4. Assign learners to present their research, answers, and recommendations to problem-solving.



Example

A chemistry educator introduces the topic of pollution and its different forms to learners. The educator then presents a research question to learners "What is acid rain, and what causes it?" and asks learners to research, interpret, analyze and synthesize. Learners not only learned about the causes of acid rain, but also learnt about the human activities which lead to chemical gas emissions. When learners found out about the root causes, they were able to recommend some solutions to avoid acid rain.

Supporting Reference(s)

Healey, M. (2005). Linking research and teaching to benefit student learning. *Journal of Geography in Higher Education*, *29*(2), 183-201.

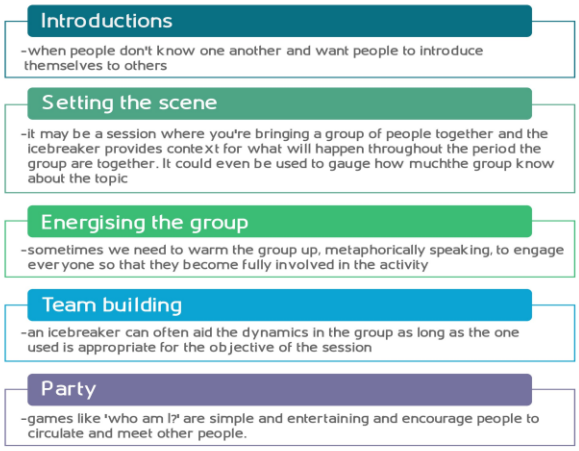
Learner Skills Promoted	Problem-Solving, Decision Making, Critical Thinking
Learner Attribute(s)	Problem-Solver, Critical Thinker, Strong Knowledge and Intellect

Icebreakers

Description – What?

Icebreakers are discussion questions or activities which are used to help learners relax and ease into a group meeting or learning. These questions or activities must be fun, non-threatening, highly interactive, simple, and easy to understand. Icebreakers allow learners to become emotionally connected with the group and increase motivation for learning. In a learning setting, icebreakers help learners feel comfortable and at ease, and can be used for introductions, setting the scene, energizing the group, teambuilding, and party occasions.

Scope: Pairs - Small Groups – Large Groups



Benefits – Why?

- Improves learners' motivation in learning
- Prepares learners for collaborative work by building communication
- Builds rapport among learners and fosters a productive learning environment

Application – How?

1. Design an ice-breaker activity/question/task;
2. Divide your learners into groups and have them carry out the activity;
3. Ask learners to share their feedback/work/answers;
4. Create rapport and offer positive feedback on learners' answers.

Example

On the first lecture in the course, an economics course educator divided her learners into groups of 3 learners each and asked them to (1) introduce themselves to each other, each sharing one interesting thing about themselves, and (2) discuss their learning expectations from the course. Learners then discussed their expectations from the course and share it with the rest of the class.

Supporting Reference(s)

- Indrayanti, I. (2014). Icebreaker: A strategy to active involvement for young adolescent learners
- https://teaching.cornell.edu/teaching-resources/building-inclusive-classrooms/icebreakers

Learner Skills Promoted	Social Communication, Emotional Intelligence
Learner Attribute(s)	Dynamic Team Member, Effective Communicator, Emotionally Intelligent

Simulation

Description – What?

Simulations are instructional scenarios where the learner is placed in a world defined by the educator to represent a reality within which learners interact. Simulation learning allows learners to practice critical work skills in a controlled environment. It facilitates experiential learning by allowing learners to make errors and experience the repercussions of these errors in a secure environment.

Scope: Individual, Pairs, Small Groups

Benefits – Why?

- Enables learners to practice learned skills in a safe environment
- Provides learners with hands-on insights into a subject through a realistic and immersive experience
- Allows learners to confidently grow their skills and knowledge, leading to deeper comprehension and a stronger sense of personal accomplishment

Application – How?

1. Plan and design for a simulated learning activity considering the course learning outcomes;
2. Explain to learners the criteria of successfully carrying out the simulated activity;
3. Have learners carry out the simulated activity and ask questions as they face challenges;
4. Assign learners to reflect on their learning from the simulated activity;
5. Provide feedback as necessary.

Example

A finance educator carried out a Stock Market Trading Simulation activity with her learners. She divided learners into teams representing different investment firms and provided each team with a virtual portfolio containing a limited budget and a selection of stocks. Then, the educator simulated a real-time stock market using historical data. Learners conducted research, analyzed market trends, and developed trading strategies. Teams submitted their trading decisions within a set timeframe. The simulation software automatically calculated portfolio performance based on market fluctuations and trading activities. Teams presented their investment strategies and analyzed their performance. The educator then debriefed the simulation and highlighted key takeaways.

Supporting Reference(s)

- Chernikova, O., Heitzmann, N., Stadler, M., Holzberger, D., Seidel, T., & Fischer, F. (2020). Simulation-based learning in higher education: A meta-analysis. *Review of Educational Research*, *90*(4), 499-541.
- https://www.queensu.ca/experientiallearninghub/sites/qelhwww/files/uploaded_files/Simulation%20Toolkit/Simulation%20EL%20Faculty%20Toolkit%20%20Final%20Final%20April%208.pdf

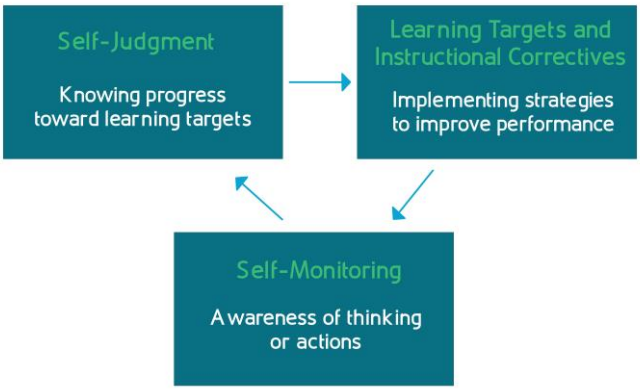
Learner Skills Promoted	Independent, Problem-solving, Communication, Critical Thinking
Learner Attribute(s)	Problem-Solver, Critical Thinker, Strong Knowledge and Intellect

Self-Assessment

Description – What?

A learning approach which involves learners in making judgements about their work and outcomes of learning, against a given set of criteria. It involves learners applying success criteria related to a learning goal, reflecting on their efforts, identifying improvements, and adjusting the 'quality' of their work. Self-assessment helps learners in their professional careers after they graduate, by teaching them to regulate their own performance.

Scope: Individual



Benefits – Why?

- Allows learners to reflect on their own work to improve and develop it further
- Promotes the skills of reflective practice and self-monitoring
- Encourages learners to reflect on how their own work meets the goals set for learning concepts and skills
- Promotes metacognition about what is being learned, and effective practices for learning

Application – How?

1. Assign learners a specific coursework and provide them with a rubric which explains the work criteria;
2. Explain and discuss the criteria and rubric with your learners;
3. Have learners assess their work and identify areas of strength and areas of improvement;
4. Have learners put an action plan on how the work can be improved;
5. Allow learners to improve their work and provide them with feedback.

Example

A medical educator shared the success criteria for a clinical examination of a patient with learners, and invited a discussion on the criteria and how it can be satisfied. On their practice session, learners were asked to self-assess their clinical examination performance on the success criteria, identify areas of strengths and improvements in, and reflect on how their performance can be improved. After learners conducted the self-assessments, they were asked to practice their clinical examination once again to apply the improvements suggested.

Supporting Reference(s)

- McMillan, J. H., & Hearn, J. (2008). Student self-assessment: The key to stronger student motivation and higher achievement. *Educational horizons*, *87*(1), 40-49.
- https://teaching.cornell.edu/teaching-resources/assessment-evaluation/self-assessment

Learner Skills Promoted	Independence, Evaluation, Self-Reflection, Critical Thinking
Learner Attribute(s)	Critical Thinker, Meta-Cognitive Learner

Peer Assessment

Description – What?	Scope: Individual – Pairs - Small Groups – Large Groups

A process where learners evaluate the work of their peers, providing feedback and assigning grades or scores. It involves learners assessing the quality and effectiveness of their classmates' work, such as assignments, projects, presentations, or even participation in group activities.

Benefit(s) – Why?

- Promotes active learning and encourages learners to engage actively with course material and develop a deeper understanding by critically evaluating their peers' work
- Enhances self-assessment skills, which enables learners to gain insights into their own strengths and weaknesses, improving their ability to evaluate their own performance
- Develops critical thinking skills and provides constructive feedback, fostering analytical thinking abilities
- Encourages collaboration, and reduces bias by providing different evaluators' viewpoints on the quality of work

Application – How?

1. Clearly define evaluation criteria and establish clear guidelines for aspects of assignment peer evaluation;
2. Educate learners on peer assessment, effective evaluation, and provide examples of constructive feedback;
3. Ensure anonymity and confidentiality and avoid bias or favouritism, consider implementing anonymous peer assessments or keeping individual evaluations confidential;
4. Set up a structured process for learners to provide feedback which offers specific suggestions for improvement;
5. Monitor the peer assessment process to ensure fairness and address issues as they arise.

Example

In an entrepreneurship project, peer assessment was utilized for comprehensive evaluation. The educator shared clear criteria covering creativity, problem-solving, presentation skills, and research depth, with learners. Prior to peer assessment, learners performed self-assessment, analysing their project against criteria for self-reflection. To prepare for peer assessment, the educator conducted a feedback training session emphasizing objectivity and professionalism. An online platform facilitated anonymous peer assessment, promoting unbiased feedback. Using aligned rubrics, learners evaluated peers' work and provided written feedback and scores. Post-assessment, feedback discussions were organized, allowing learners to discuss, clarify, and seek improvement suggestions. Based on peer feedback, learners revised their projects, showcasing self-regulation and improvement.

Supporting Reference(s)

- Alpízar, J. A., González, J. F. E., & Miranda, N. V. (2019). Peer Assessment: A Complementary Tool to Promote Students' Autonomy. *Revista de Lenguas Modernas*, (30).
- Cassidy, S. (2006). Developing employability skills: Peer assessment in higher education. *Education+ training*, *48*(7), 508-517.

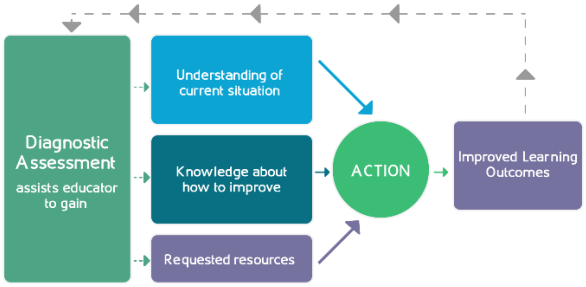
Learner Skills Promoted	Communication, Critical Thinking, Emotional Intelligence
Learner Attribute(s)	Effective Communicator, Emotionally Intelligent, Critical Thinker, Problem-Solver

Diagnostic Assessment

Description – What?

A non-graded form of pre-assessment or a pre-test, where educators can evaluate learners' strengths, weaknesses, knowledge and skills before their instruction. Unlike formative assessments which are taken during a unit to assess learning, diagnostic assessments analyze what learners have learned in the past from different educators or courses. There are several methods and tools for diagnostic assessment design such as using Likert-scale surveys, concept mapping, multiple-choice assessments, discussion boards, or tech-enhanced quizzes.

Scope: Individual – Small Groups – Large Groups



Benefit(s) – Why?

- Provides information about learners' prior knowledge and misconceptions before a learning activity/course
- Allows educators to adjust the curriculum to meet the needs of current and future learners
- Helps educators in providing learners with an individualized learning experience
- Gives the learners an idea of how much they know and don't know about an upcoming topic

Application – How?

1. Choose a diagnostic assessment tool that you will use to evaluate your learner's current knowledge;
2. Ask learners at the beginning of a new semester or unit to answer the questions;
3. Identify learners' strengths and areas of improvement;
4. Tailor pedagogy to the specific challenges which learners are facing;
5. At the end of the course, use post-course assessments to observe progress of learning.

Example

At the beginning of a unit on Ancient Greece, an educator wanted to find out how much the learners know about the basic geography, history, and culture of this civilization. The educator designed a multiple-choice survey with questions covering these three aspects and administered it to the learners online. The survey was non-graded and it only served to establish a baseline for the educator's instruction. The educator analyzed the learners' responses and found out that many learners already have some knowledge on the cultural aspects of Greece, such as its art, literature, and philosophy. However, the learners know little about its history, such as its origins, wars, and achievements. Based on this diagnostic assessment, the educator adjusted the lecture plan to spend more time on the history and origins of Ancient Greece and slightly less on its culture.

Supporting Reference(s)

Guskey, T. R., & McTighe, J. (2016). Pre-assessment: Promises and cautions. *Educational Leadership*, *73*(7), 38-43.

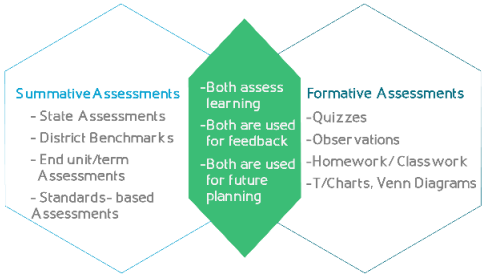
Learner Skills Promoted	Self-Awareness, Self-Regulation, Critical Thinking
Learner Attribute(s)	Metacognitive Learner, Strong Knowledge and Intellect

Formative Assessment

Description – What?

Scope: Individual – Small Groups – Large Groups

A teaching strategy that involves gathering and using evidence of student learning during the learning process to inform and adjust instruction. It aims to provide ongoing feedback to both educators and learners, allowing for the identification of learning gaps and the adaptation of teaching methods to better meet the needs of the learners.



Benefits – Why?

- Provides timely and specific feedback to learners, explaining their strengths and improvement areas
- Guides instructional decision-making by identifying areas where learners may be struggling
- Encourages active learner involvement in the learning, promoting a deeper understanding of content
- Fosters a growth mindset by emphasizing that mistakes are opportunities for learning and improvement

Application – How?

1. Identify the learning objectives and outcomes and select appropriate formative assessment methods, such as quizzes, discussions, or observations;
2. Conduct formative assessments during learning to gather evidence of learning progress;
3. Analyze the assessment data to identify areas of strength and areas for improvement, both for individual learners and the class as a whole;
4. Provide feedback to learners based on the assessment results, highlighting their achievements, and offering guidance for further improvement;
5. Use the assessment data to adjust instructional strategies, reteach concepts as needed, and provide additional support to learners who require it.

Example

In a biology class, the educator uses formative assessment to gauge learners' understanding of a complex biological process. The educator administers a brief quiz and observes learners as they work on a hands-on laboratory activity related to the topic. After analyzing the results, the educator identifies common misconceptions and areas of difficulty. The educator then provides targeted feedback to the learners, addressing the misconceptions and offering additional resources for further exploration. The educator also adjusts the lesson plan for the following session to include more interactive discussions and problem-solving activities related to the challenging concept.

Supporting Reference(s)

https://www.niu.edu/citl/resources/guides/instructional-guide/formative-and-summative-assessment.shtml

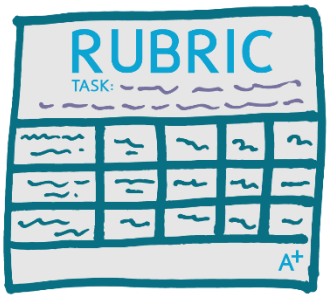
Learner Skills Promoted	Critical thinking, Ownership of Learning
Learner Attribute(s)	Life-long Learner with a Growth Mindset, Metacognitive Learner

Rubric-Based Assessment

Description – What?

Scope: Individual – Pairs – Small Groups – Large Groups

A type of scoring guide that assesses and articulates specific components and expectations for an assignment through describing the different performance levels. It can be used for a variety of assignments, such as research papers, group projects, portfolios, and presentations. It helps educators to evaluate student work and it can be also used for peer- and self-assessment.



Benefits – Why?

- Helps educators to evaluate learner work more objectively and consistently
- Clarifies expectations and components of an assignment for learners
- Saves time in grading, both short-term and long-term
- Gives timely effective feedback

Application – How?

1. Decide what criteria or essential elements must be present in quality work;
2. Set the achievement levels and how they will relate to your own grading scheme;
3. Describe in detail what the performance at each achievement level looks like;
4. Leave space for additional comments or overall impressions and a final grade;
5. Give a draft of the rubric to your colleagues for feedback;
6. Rework the rubric based on the feedback.

Example

A pharmacy educator wanted to improve the quality and consistency of her feedback to her learners. She decided to use a rubric-based evaluation method for her telehealth simulation exercise, where learners had to conduct a patient consultation over video call. She developed a rubric that had four criteria: communication skills, clinical reasoning, patient education, and professionalism. Each criterion had a scale of 1 to 4, with 1 being poor and 4 being excellent. She also provided descriptive indicators for each level of performance, such as "uses clear and respectful language" or "identifies and prioritizes patient problems". The learners received their scores and feedback within a week of the exercise. They were able to see how they performed on each criterion and where they needed to improve.

Supporting References

Reddy, Y. M., & Andrade, H. (2010). A review of rubric use in higher education. *Assessment & evaluation in higher education*, *35*(4), 435-448.

Learner Skills Promoted	Critical Thinking, Communication, Self-Assessment
Learner Attribute(s)	Strong Knowledge and Intellect, Metacognitive Learner

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