



Institution: TECHNICAL UNIVERSITY OF MOLDOVA (TUM)

Course Description

Module Handbook

**TITLE of COURSE: COOPERATIVE LEARNING AND
DEVELOPMENT OF CRITICAL THINKING**

Course: COOPERATIVE LEARNING AND DEVELOPMENT OF CRITICAL THINKING.

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Overview	
Aims and Learning Outcomes:	<p>General Objectives of the course:</p> <ul style="list-style-type: none"> • Participants will be acquainted with the essence and specificity of group pedagogy, cooperative learning, and the development of critical thinking. • Participants will expand their knowledge and professional skills by practicing various cooperative learning strategies with focus on critical thinking development. • Participants will provide their own suggestions for the effective implementation of cooperative learning. • Participants will identify the formative learning opportunities through cooperation, but also the possible risks, limitations that may occur.
Target Audience & Requirements:	<p>The course is dedicated for all teachers of general and vocational education who are interested in improving pedagogical skills but also to students who are preparing to embrace the teaching profession and are interested in the development of personal and professional skills.</p> <p>Groups will be no more than 14-15 people.</p>
Duration and estimated workload of course	<p>The course is designed from 3 course units (total 75 hours) for Blended Learning (two modules / course units are designed for independent work (43 hours) under the guidance of the Distance Trainer using the Moodle platform, and a course unit : 32 hours or = 4 days (two direct contact sessions of 2 days) is for interactive learning in the classroom at TUM within the Department of Continuing Teacher Training.</p> <p>Number of ECTS awarded: 2,5 ECTS</p>
Assessment and Certification	<p>Evaluation Samples:</p> <ul style="list-style-type: none"> • Knowledge test. • Practical tests (for each unit, one practical task, including 1 DEMO). • Providing feedback to colleagues. • Reflections on your own activities. <p>The graduates who will successfully complete the course will receive a certificate (on paper), CRP series issued by the Ministry of Education, Culture and Research.</p>



Module Number: 1	Description
Module Title:	INITIATION IN THE PEDAGOGUE OF COOPERATIVE LEARNING
Learning objectives of module:	<ul style="list-style-type: none"> • Provide a theoretical documentation by capitalizing on scientific research and theories on group pedagogy in order to promote student performance during learning. • Identify the characteristics / specificities of cooperative learning and its role in professional and personal skills. • Emphasize the role of social skills and the possibilities for their development through cooperative learning techniques. • Identify the advantages and limitations or risks of cooperative learning.
Content to be covered (indicative)	<p>Group pedagogy (cooperative learning) - the pedagogy of intellectual exchange. The theoretical aspects of cooperative learning. Scientific research and practical applications. Theoretical landmarks for trainers. Why Learning Through Cooperation? Key features of cooperative learning. Stages of cooperative learning. Conditions that promote effective and sustainable learning. Psycho-pedagogical suggestions for learning through effective co-operation. How can we form effective teams? Suggestions for diminishing the noise. Evaluating the results of the group work. Methods of assessment. Mutual evaluation.</p> <p>Five key-elements of cooperative learning:</p> <ol style="list-style-type: none"> a. Positive interdependence: The efforts of each member of the group are necessary and indispensable for the group to be successful. Group members rely on each other to achieve their goals. Each member of the group has two responsibilities: to contribute in a unique and individual way to joint activities, as well as to ensure that the other students in the group benefit from his / her contribution. b. Face-to-face interaction: Each member of the group, through direct interaction, contributes to successful completion of tasks by other members. Much of the information needs to be discussed interactively. These direct interpersonal interactions are necessary / important to help students support, encourage, encourage, praise and provoke. Such interactions involve providing effective feedback, addressing questions, verifying understanding. c. Individual Responsibility: Each member of the group is responsible for his / her work and the accomplishment of the



	<p>tasks he / she has received. Students need to understand that cooperative learning does not imply that all tasks are fulfilled by others. Students who do not contribute, do not receive points. Students can be verified by several methods, eg using written evaluation, oral questioning, group observation and registration, as well as registering each member's contributions.</p> <p>d. Interpersonal and small-group skills: Direct learning / directing of interpersonal and small group skills is necessary for effective participation in cooperative learning groups. Among the skills that pupils need to work in small groups are: trust, leadership, decision making, communication, and conflict resolution skills.</p> <p>e. Group processing / analysis: It is important for group members to discuss how well they work / understand in the team so they can make changes and improvements. The group, on its own, assesses how well the task has done, as well. you were working as a group. Such group analysis processing involves a discussion of what went on. what did not work. and what can be done to improve group work in the future. Group processing / analysis should become a component part of each group activity. focusing not only on what the group does, but on how it is done.</p>
<p>Teaching and learning activities</p>	<ul style="list-style-type: none"> • "Mixed Pairs" (Mi.x Freeze - Pair) - the three most important things about your own teaching style, two things you would like to improve. • Round Table • Brainstorming • I know / I want to know • Venn diagram • The Gallery Tour
<p>Assessment</p>	<p>The test, which will include items from the content:</p> <ul style="list-style-type: none"> • An own definition of cooperative learning. • The benefits of cooperative learning. • The conditions for achieving cooperative learning. • Stages of cooperative learning. • Ways to train teams. • Procedures for diminishing the noise during cooperative learning.



Module Number: 2	Description
Module Title:	CRITICAL THINKING - PART FOR THE SUPPORT OF THE COGNITIVE APPROACH
Learning objectives of module:	<ul style="list-style-type: none"> • Define the characteristics of convergent thinking and divergent thinking. • Identify the benefits for developing critical thinking for professional training. • Identify the possibilities of developing critical thinking to achieve the teaching objectives of the contemporary school. • To highlight the criteria for selecting strategies for the development of critical thinking in correlation with the goal and the didactic objectives
Content to be covered (indicative)	<p>Conversational thinking and divergent thinking: defining features. Activation, motivation and thinking. How to stimulate students' thinking. What ways of thinking do pupils adopt? How do we know if students think? Activation and transfer. Valuing Multiple Intelligences (H. Gardner's Theory). Educational Implications of Multiple Intelligences.</p> <p>Criteria for Choosing Cooperative Learning Strategies (First of all, it is important to decide which knowledge students should acquire and then decide how to pass on the knowledge and skills needed to students when designing the lesson).</p> <p>Choosing collaborative learning strategies. Start with the following questions: "How could you achieve the objectives of the lesson more effectively?", "Using a collaborative learning strategy will improve the lesson?", "What strategy will best help students master the lessons?", Are my students well prepared for content and strategy? "The selection of the learning strategy through cooperation depends on the following conditions:</p> <ul style="list-style-type: none"> • Experience in using collaborative learning strategies. • School curriculum. • Student experience in using collaborative learning strategies. • Heterogeneous or homogeneous groups <p>To begin with, choose a single strategy. A teacher who is just starting to use collaborative learning strategies in his lessons should use the strategy he / she knows best. The teacher should ask himself: "In what part of the lesson the use of cooperative learning strategy would be most effective / Teacher can include this strategy in several parts of the lesson." For example, "Think-Pair-Square" can be used as a pre-assessment strategy, content check, and review.</p> <p>Use Multiple Strategies - When a teacher begins to master a number of collaborative learning strategies, he can choose a suitable content-</p>



	<p>dependent strategy. The more strategies the teacher uses, the better he must be able to choose a strategy, depending on the goals. The table of cooperative learning strategies can be very useful for the learner.</p> <p>Use multiple strategies in a lesson - The next step is to use more strategies in a lesson. Using the strategy table, the teacher chooses the necessary strategies, relying on what he / she wants to achieve. For example, the teacher wants to strengthen communication skills, share information and extend thinking within a single lesson. To achieve these goals, the teacher can choose from these strategies.</p> <p>There are also lesson models that the teacher could get acquainted with - In this case, the teacher has to choose a lesson model that best fits the set goal and decide which of the strategies can achieve the proposed goal. Several strategies can be used to implement each component part of the model.</p> <p>As an example, the use of the method - Expert Gigsaw - the teacher wants students to form a group project.</p> <p>Spencer Kagan states, "The analogy between the lesson and strategy model lies in the fact that the strategy as a lesson has only one content but can comprise a wide range of content".</p>
<p>Teaching and learning activities</p>	<p>Miniprojection with presentation of work models / practical problems.</p> <p>Analysis of examples of practical tasks used in theoretical and practical lessons.</p> <p>Providing feedback (objective and constructive)</p>
<p>Assessment</p>	<p>Knowledge test:</p> <ul style="list-style-type: none"> • Congruent thinking: defining features. • Different / critical thinking: defining features. • Multiple Intelligences. The need to know the types of intelligence of each student. • Criteria for selecting teaching strategies <p>Practical test: Designing a lesson based on the ERRE framework.</p>



Module Number: 3	Description
Module Title:	COOPERATIVE LEARNING STRATEGIES THAT FACILITATE THE DEVELOPMENT OF CRITICAL THINKING
Learning objectives of module:	<ul style="list-style-type: none"> • Expand the participants' knowledge of collaborative learning strategies and the possibilities of developing critical thinking. • Apply new knowledge in the planning and implementation of cooperative learning strategies to students with a heterogeneous level of development. • To stimulate the participants in the elaboration of a didactic project of a DEMO (micropresentation) for colleagues, using learning strategies through cooperation and development of critical thinking. • Identify the possibilities of avoiding any mistakes that may occur when using cooperative learning. • Establish a link between learning-teaching-evaluation standards and the use of modern teaching strategies.
Content to be covered (indicative)	<p>Stages considered as specific conditions necessary to stimulate the thinking process:</p> <p>1. Evocation - students are encouraged to remember what they knew in advance about an object or theme, to anticipate and set goals for their investigation. Purposes - consequences:</p> <ul style="list-style-type: none"> • active involvement of students in the learning process; • students become aware of their own thinking and use their own language; • stimulating interest and willingness to participate. <p>2. Making sense - students get in touch with the new content of ideas through reading, listening to a lecture and trying to integrate these ideas into their own thinking schemes to give them meaning and meaning to understand them. Purposes - consequences:</p> <ul style="list-style-type: none"> • Maintains the involvement and interest set in the evocation phase; • supports the students' effort in monitoring their own thinking (understandings); • allows the reporting of new information to pre-existing mental schemes that are thus being restructured. <p>3. Reflection - students are thinking about what they have learned by reporting new content to previous knowledge and by reconstituting their</p>



	<p>cognitive schemes to integrate new acquisitions. In this way students` progress in knowledge and develop personally. Purposes - consequences:</p> <ul style="list-style-type: none"> • the real assimilation of new knowledge and the active restructuring of mental schemes; (authentic and sustainable learning); • rewriting, in their own words, the lessons learned; (an indication of their understanding); exchanges of ideas among pupils, development of vocabulary and ability to express themselves; (class becomes a learning community) <p>Methods of cooperative learning. Principles of selecting and implementing cooperative learning techniques.</p> <p>4. ERRE framework - didactic design. Didactic goals achieved through cooperative learning. Learning cooperative techniques: "Mixed Pairs"; "The three-step interview"; "Robin Circle" (Round Robin); "The round table"; "Concentric circles"; "The assault carousel"; "Numbered Heads Together"; "The Gallery Tour" (Galery Walk); "Co-op, Co-op"; "Value Value Line" "Team Word Webbing"; "Four Corners"; "Talking Chips"; "Think-Pair-Share"; "Mosaic" (Jigsaw); "One Sit Others Move"</p>
<p>Teaching and learning activities</p>	<p>Activity 1. Participants are required to demonstrate (DEMO) a group working technique; to reflect on the task / problem posed to the group and the achievement of objectives.</p> <p>Subsequently, each participant receives feedback from two DEMO colleagues.</p>
<p>Assessment</p>	<p>Advantages of cooperative learning. Congruent thinking and divergent thinking: their peculiarities. ERRE framework: evoking meaning, reflection, evaluation.</p> <p>Correlation: Didactic Objectives - Teaching Technique.</p> <p>Didactic Design and Presentation (DEMO) of a group work technique. Self-reflection. Feedback to colleagues.</p>

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