Name/title	The reciprocal teaching-learning method
Overview of the materials	This method consists in dividing the collective class into mutual teaching-learning groups. Emphasis is placed on the development of student-student dialogue, the role of the teacher being taken over by the students, who have the mission of instructing their colleagues. The mutual teaching-learning method is centered on four learning strategies: – the summary (presentation of the activities to be performed); - asking questions about what was presented; – data clarification (discussing unclear information, by calling on different sources and resolving misunderstandings); – specifying (expressing what the students think will happen next).
Target group(s).	**Young people between the ages of 16 and 20**
The purpose of the proposed materials	1. To discover, through exploration, new notions, information, terms, expressions that may pose problems of understanding and to clarify them, using explanations and examples; 2. To show openness in accepting to learn from colleagues, as well as the initiative to teach them, in turn, creating an atmosphere of active altruism, mutual trust and team spirit. This method applies to the second stage of the teaching-learning framework for the development of critical thinking - the meaning-making stage in which students make contact with new knowledge through reading, lecture or other methods, integrating the ideas into their thinking schemes in order to gives them meaning. The essential tasks of this stage consist in

	maintaining the involvement and interest established in the evocation phase and supporting the students' effort in monitoring their own understanding.
Competences	Interactive communication at work Team work Communication in Romanian Interpersonal communication Competencies taken from the Practical Training Standard stimulates students' active involvement in the task, as they are more aware of responsibility what he assumes; ¬ exercise the capacities of analysis and making appropriate decisions at the right time, stimulating the initiative of all students involved in the task; ¬ ensures a better implementation of knowledge, practicing skills and abilities in various contexts and situations; ¬ ensures a better conceptual clarification and an easy integration of the knowledge assimilated in the notional system, thus becoming operational; ¬ some of them, such as the portfolio, offer an overview of the student's activity over a longer period of time, overcoming the shortcomings of other traditional evaluation methods with nature of survey and subject and between students; ¬ ensures an interactive approach to the act of teaching-learning-evaluation, adapted to the needs of individualization of work tasks for each student, capitalizing on and stimulating creative potential and its originality; ¬ discourages speculative practices or learning just for the grade.
Description/structure	▪ Materials needed: ▪ 1. Fiber optic kit ▪ 2. Various types of optical fiber ▪ 3. Sheets of paper ▪ 4. Napkins ▪ 5. Ethyl alcohol

	▪ 6. Gloves ▪ 7. Awards (optional) Instructions: Students are divided into groups of 2-3 students. In each team there is a mentor and one or two apprentices. The mentor introduces the apprentices to the devices used, and then demonstrates the sequence of activities for preparing the fiber optic cables for the fiber optic core welding operation. After exemplifying, the apprentices must in turn carry out the activities to prepare the fiber optic cables for the fiber optic core welding operation. These activities are carried out under the guidance and supervision of the mentor. After 2-3 operations of preparing fiber optic cables, apprentices in turn become mentors in new teams. This ensures the sustainability of continuous learning and the improvement of the entire team. Encourage constructive feedback and discussions between teams. Congratulations to all teams for their efforts and innovative ideas.
Why do you suggest it? What can be used to prepare our materials?	Benefits: - develops thinking operations (analysis, synthesis, concretization, generalization, etc.) – it stimulates attention, the ability to express, but also active listening; – helps students learn the methods and techniques of working with the text, intellectual work techniques that they can then use independently. Disadvantages:

	– students getting used to a certain role and, implicitly, their difficulty adjusting to another; – after working in a group, the student may get tired and not concentrate enough when a colleague teaches them.
Other infos	Learning through cooperation or collaboration is a pedagogical strategy that encourages actors participating in the educational process to work together in microgroups, of a maximum of 6 people, in order to achieve a common goal. Group work involves cooperation and joint activity in solving training tasks. Group size is important in achieving learning, as it depends on the nature and complexity of the task. The method of learning through cooperation (collaboration), in small groups, is based on the principle of strengthening the cohesion of the work group and increasing the degree of interaction between members. In making cooperation methods more efficient, certain sine qua non conditions must be met: positive interdependence, face-to-face interaction, individual and group responsibility, the formation and development of social tasks and the evaluation of group work by clarifying and improving the contribution of each student in achieving the task to be solved .
STEM	STEAM education focuses on the learning process as much as the outcomes. STEAM education has incorporated design thinking and the design process to provide a solution based on problem solving approach. It provides experiential learning opportunities and empowers students to think critically and self-educate.

	Children are simply challenged to take on a problem and solve it. Through critical thinking they must ask themselves questions and find out answers. Mistakes are to be appreciated in this process, because they represent the fact that something did not go well and we will have to see "what?", but also find the right solution. From this we understand that this type of education encourages perseverance. STEM education engages students by interweaving science with art. □ intervenes in the development of problem-solving skills. □ students get involved in the learning process. □ I share my own ideas or discoveries with others, I do this with pleasure. □ develops communication skills. □ develops the feeling of empathy. □ develops participants cognitively, □ develops creativity and imagination, □ builds the basis of a future adult who has capabilities, skills and solutions, □ form "innovators, educators, leaders and learners of the XXI century.
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