

# METHODOLOGICAL GUIDE

## ON MODULE 1 : SOCIAL SKILLS

### PROBLEM SOLVING SKILLS

*Expected results:*

- To introduce teachers to problem solving techniques.
- Students, under the guidance of teachers, to learn problem-solving skills through various techniques such as discussions, persuasion, mediation, etc.
- To enrich the methodological toolkit of teachers with interactive methods and techniques for solving problem situations, for making effective decisions, for achieving agreement and empathy.

## **THEORETICAL BASICS**

### **PROBLEM LEARNING**

The word "problem" is of Greek origin and means a task, an assignment, a scientific or social question, in a figurative sense it is also understood as a difficulty or a nuisance.

Problem-based learning is believed to have been first used by Socrates in his school of philosophy. The technology he used was based on the idea of the need for students to discover truths on their own. At the beginning of the conversation with them, a problem is posed that stimulates thinking, leads to the disclosure of contradictions and makes it difficult for learners to quickly and easily find a ready correct answer.

This is essentially putting students in a problem situation where there are various contradictions and difficulties.

*The problematic situation* in our time reflects the situations formed in the learning process, close to the real ones, allowing maximum use of the life and professional experience of the learners and is used for the formation of creative thinking, skills for searching and structuring information, for teamwork.

The solution of the problem is first of all a process of getting out of the cognitive difficulty in which the problem situation has placed the students. At the same time, the solution to the problem is a process of assimilation of new knowledge, formation of skills, habits, competences. Verification of the solution is an important final stage. In this way, it is determined which of the proposed hypotheses or theses is true. This could be done by collating, analyzing and synthesizing data.

The formation of intellectual creative abilities for problem solving goes through different phases depending of the age and abilities of the students. In the beginning, the teacher indicates and formulates the problem, and the students independently search for ways to solve it. Gradually, students learn to independently formulate the problem indicated by the teacher. Developing abilities through learning problem-solving activities allows learners to learn not only to formulate

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and solve problems, but also to discover them. Sometimes in practice, another variant is observed, in which the students have discovered and formulated the problem, but fail to solve it. In these cases, the teacher solves the learning problem in front of the students, thus his reasoning and actions serve as a model for them in subsequent difficulties.

According to P. Radev: "... the problem situation is a contradiction arising in the process of practical, intellectual, artistic and social activity between man's needs and the means and experience he has mastered to satisfy them. The types of problem situations can be: natural, social, technical-technological, cognitive, in the field of art and their combination. The description of the problem situation can be in verbal, graphic and matrix form." (Radev, P. et al., 2001)

A. M. Matyushkin determined the following *basic rules for creating problem situations*:

- the student should be given such a practical or theoretical task, during the solution of which he would discover new knowledge or actions to be mastered;
- the problematic task offered to the student should correspond to his intellectual capabilities;
- the same problem situation to be triggered by different type of tasks.

M.I. Makhmutov reveals many more important ways to create problem situations in the learning process. Among them are the following:

- urging students to a theoretical explanation of phenomena and facts, of the external inconsistency between them;
- stating assumptions (hypotheses), formulating conclusions and their experimental verification;
- encouraging students to compare, contrast and oppose facts, phenomena, rules, actions, as a result of which a problematic situation arises;
- organization of interdisciplinary connections;
- varying the task, reformulating the question.

***Problem-based learning*** is well known to Bulgarian teachers, but unfortunately in school practice it is not used to a sufficient extent, regardless of its benefits. For classical didactics, problem-based learning is a comprehensive type of learning that arose as a result of the need to activate cognitive activity. It is a special type of interaction between the teacher and the students, characterized by

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the independent learning activity for obtaining new knowledge in the course of solving the problem situation.

Creating problem situations and solving problems in the course of school learning gives students the opportunity to learn problem-solving technologies in real-life settings as well. They learn to combine knowledge, justify hypotheses, look for evidence, formulate conclusions and find practical solutions.

M. Andreev suggests the following sequence of actions to solve a given educational problem:

- Problem solving begins with the correct formulation, which is the result of a detailed analysis of the problem situation and the problem.
- The next phase is the formulation of a plan to solve the problem, which may be analytical, heuristic or mixed.
- After the plan, assumptions are made and hypotheses are argued. A reasonable hypothesis must be proven using a variety of methods and means.
- Finally, the resolution of the problem is checked.
- Sometimes it may need to be repeated and analyzed.

*The main advantages of problem-based learning* are that:

1. Students themselves discover new knowledge in the course of solving learning problems.
2. The teacher does not have to control.
3. Knowledge is at a sufficient level, it is flexible and durable, easily updated and applied in new conditions.
4. Given the small group work, weak people benefit from working with strong people because they can share difficulties, ask questions, ask for and get help in case of misunderstanding.

In the 21st century, the skills to solve problems and to search for solutions on your own turn out to be one of the most valuable and expected. Finding solutions when working in a multicultural small group also forms socially relevant skills for respecting different points of view and respect for those with different opinions.

It should be noted that problem-based learning requires a greater amount of time, which is necessary both for the teacher to create conditions for it, and for the students to be able to find the

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necessary information, make sense of it and solve the problem in a way that, on the one hand, is in sync with scientific achievements, and on the other, is applicable in real conditions. In the conditions of the classroom system, it can hardly be used, but within the framework of the all-day organization and innovative school projects, it can be widely used.

### TRAINING METHODS THAT BUILD PROBLEM SOLVING SKILLS

- **discussion** - the study group is divided into subgroups, different hypotheses are accepted with individual and group reasoning. The teacher guides and supports the students;
- **practical exercises** - students are divided into small groups or work independently on a given task. The practical solution of the problem requires creative effort and independent discovery of a solution by them;
- **panel discussion** - each student has a clearly defined sub-task of the main task to solve a small problem. If all sub-problems are correctly solved, a general solution is assembled. The application of this method is more complicated as a procedure, because during the discussion, the active participation of everyone is important in order to obtain an exchange of ideas, opinions and information. Therefore, competence, experience and a good dialogic culture are required. The discussion intensively develops the intellectual skills of the participants: posing a problem, presenting and defending the concept, substantiating arguments and facts, analyzing a theory, formulating and proving a hypothesis, finding, drawing generalizations.
- **role-playing** – in it the roles are assigned and the problematic situation is recreated. This enables students to practically discover the contradiction between the known and the unknown. During the game, without mental strain, they realize the connections and dependencies between what is given and what is sought.
- **brainstorming** is a method for stimulating group creativity and aims at producing ideas and proposals without limitations or criticism, developing creative thinking, discovering new unconventional solutions. All decisions and proposals are recorded, and no criticism is allowed even of the most crazy or absurd ones.

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After a certain time, the proposed ideas are discussed (according to Osborne's original views by the same group) or given to a group of experts to sift through.

The "Brainstorming" method stimulates the creativity of the participants and serves to generate new ideas, solve specific problems, raise hypotheses, and therefore its use requires the observance of strict rules:

- Each participant is free to express opinions and ideas without fear of questions and evaluations;
- Criticism and self-criticism are not allowed;
- Every viewpoint is valuable and acceptable, no matter how improbable or impractical it may sound;
- Irony, ridicule or any other form of negative attitude towards the idea or the person who proposed it is not allowed;
- All proposals are listened to and recorded without analysis;
- The self-confidence of the participants is stimulated and therefore every idea is encouraged.

The function of the moderator is very responsible. This method is similar to popcorn - ideas pop out of each other, participants become infected spontaneously, become unrestrained and difficult to control. That is why the presenter should refrain from lines that can interrupt the birth of ideas. It encourages creative inspiration, stimulates correctness and respect in the group.

There are phrases that sound well-intentioned at first glance, but can block brainstorming:

- This idea is beside the point;
- It is not practical;
- Think fast;
- Don't come up with ridiculous ideas;
- Be more original;
- The idea is painfully familiar;
- This is unacceptable;
- You get carried away a lot;
- I relied on more ideas;

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- You are not creative today;
- Try harder;
- Is that all;
- More more...

After the brainstorming is completed, the ideas are analyzed, evaluated and selected. In various ways (voting, discussion or postponement) a decision is made if the subject of the brainstorming allows. In other cases, it may trigger the addition of one of the ideas or the unfolding of new options.

Brainstorming as a method can be used at different times of training activities depending on the goal:

- to set the topic,
- to clarify new and familiar concepts,
- to solve a theoretical problem,
- for making a decision in a practical situation.

Brainstorming allows for flexibility on the part of the facilitator, who can be a teacher, but in the upper grades can also be a student. It can turn into an active exchange of opinions "for and against", presenting arguments.

For learning purposes, a creative and discussion atmosphere can be created if the group is divided into generators, critics and arbitrators (experts). The former generate ideas, the latter look for vulnerabilities, and the third direct and land.

Brainstorm can be used head-on with the whole group, in small groups, and individually as an autobrainstorm in rarer cases.

It is important for the participants to be convinced that every problem has many sides and therefore the approach to it should not be one-size-fits-all.

- **Method "635" is a modification of brainstorming**, where "each of the six participants in the creative group receives a form on which they write down or sketch three ideas for solving the given problem. After about five minutes, he passes his form to the person sitting to his left or right. The process of "writing down or sketching ideas and passing them to the neighbor for association"

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is repeated until each participant receives their output form." An advantage of the method is the recording of the ideas generated by the associations, but as a disadvantage we can note the time limit for recording the decisions, caused by following the pace of the group's work.

- **the exposure method** – each student has a separate worksheet (exhibit). At a given signal, everyone must independently write on their sheet a certain number of ideas for solving the problem. After the time for that phase is up, everyone shows (exposes) their worksheets to their teammates. Everyone has the opportunity to look at the ideas of their classmates, even to be influenced by them, to write in the third phase again independently new modified ideas for solving the same problem. The veracity and suitability of the generated ideas for solving the specific problem is checked only in the fourth phase, when the students again show their "exhibits" to their teammates. After the selection of ideas, team speakers present the approved ideas to the class.

- **the Synectic method** - leads to non-standard solutions, allowing the joining of connections and relationships that are at first glance incompatible and impossible. It encourages to come up with as many ideas as possible based on associations and analogies. In four-member teams, managers assign four types of operations to each team member: the first identifies himself with elements of the problem situation; the second looks for similar processes in other fields of knowledge; the third uses poetic images and metaphors; the fourth mentally solves the problem as if in a magical fairy tale. Even if the ideas are opposite and mutually exclusive, the team looks at them and chooses an option that all members agree on.

- **inventiveness** stimulates unconventional conclusions by breaking down the problem into parts that add up, replace, complement, exclude in various combinations.

- **the "aquarium" method** is a learning discussion in which the participants are divided into three subgroups located in concentric circles, the first solves a problem, the second observes and describes her work, and the third monitors the work of the first two. After the decision is made, the third group discusses and evaluates the work of the others, and then the groups change places to develop the next problem situation.

**The types of discussions** related to the formation of problem-solving skills can end differently:



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- By making a decision;
- With open proposals, which enables the accumulation of new empirical data and information;
- By formulating alternatives - some of the problems are partially solved, and others undergo further analysis and processing.

An important role in the use of positive tone, language, style and attitude is played by the teacher. The model of the discussion depends on it. Establishing the concrete interaction with objective positions and constructive combinations requires serious preparation, both on his part and also on the part of the students.

Depending on the specifics of the problem, information and experience, *the discussion* can be *general and group*.

Different varieties of discussion imply different types of preparation and organization. The teacher is required to recommend appropriate literature and consider the working model as a move, technical assurance, options for inclusion and presentation, ways to delicately parry deviations, ideas for marking, systematization and summarization.

## **PROBLEM BASED LEARNING TECHNIQUES**

### ***JORDE POYA TECHNIQUE***

It includes the following steps (in its shortened version):

1. familiarization with the task;
2. creating a situation for better understanding;
3. generating a useful idea;
4. planning and implementation of the plan;
5. Review of what has been done.

### ***"QUOTA" TECHNIQUE***

It is mainly intended for the search for new approaches, new points of view points, new aspects of which one can be considered problem situation or specific object. The technique is realized through the sequence of several stages:

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1. Selecting the object for which a new solution will be searched. The specific task here is to find not one, but several approaches, starting points of view in the direction of which new useful solutions can be sought.
2. Fixing a certain number of approaches that in the training process will be checked. These approaches may not be familiar, but the drive must be there to their discovery.
3. Attempts to direct thought in different directions to discover and determine this number of approaches.
4. Evaluating the solution.

### ***REVERSE SEARCH***

Its purpose is to train the person in heuristic thinking through the search for new solutions in contrast to the expected or the traditional the direction used. In this way, it contributes to the birth of many and unusual combinations and solutions that are otherwise difficult to come up with. Just in unusual and novel ideas can be expected to be valuable and fruitful heuristics charges. Most often, efforts here are directed not in the logically expected, but in opposite direction. At first glance, the described technique seems illogical, but in fact, the development of heuristic thinking requires the destruction of the created traditional ideas about the solution of one or another problem in order to truly more expedient new solutions are sought. Reverse search is often used in child rearing - when violence and orders are ineffective the opposite is sought, for example "advanced praise", request, expressed belief in expectations, etc.

### **A NINE-STEP PROBLEM-SOLVING MODEL**

We often face various problems - some serious, some not so much and most of them have some solution. However, when several people get together in a group and there is some serious problem to solve, although they are generally very active and capable, they can block. As a result, there is a feeling of helplessness, it is possible that students, especially if they are younger or have specific difficulties and deficits (linguistic, social, cognitive, physical, etc.) may be overcome by a feeling of powerlessness.

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There are three main reasons, because of which natural problem-solving abilities are more difficult to realize when working in a small group:

- If there are several people, who see the problem as very complex, others most often decide that indeed the problem is greater than their capabilities.
- Many people are unaware of their problem solving skills because they never thought about it that way.
- The group tends to reject more tentative suggestions before they have been fully heard, thus reducing the willingness of members to share their suggestions.

**The Nine Step Model** is applied individually as well as in a group. It is used for all types of problems regardless of size and intensity. The steps are followed as shown in the diagram. At some points, it is necessary to make a choice that may have special significance for the final solution of the problem.

**Unproductive steps.** These steps are unnecessary, although most often they give us the false impression that we have avoided the problem. Instead of helping us solve the problem, they most often complicate it. Avoiding or denying the problem usually takes a lot of energy, which we could put into some more productive action.

**Priority steps.** Before we take any steps, with which to solve the problem, we must first be able to recognize its existence. But knowing the problem is not enough either. We must have decided to do something about it, and that is really what is most important. Being aware of a problem does not, of course, mean that we have a clear understanding of its full nature or all of its possible consequences, and just because we have tried to find a solution does not mean that we have an idea of what is best.

### **1. Defining the problem: conflict or non-conflict**

Many problematic situations appear in the form of conflict. The six diagnostic questions can help resolve the conflict. The purpose of diagnosis is to define the problem, but in fact it can also show us some key things regarding methods and alternatives to solve the problem.

Even if the problem is not in the form of a conflict, it is again most important to define the problem.

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If several people in a group or individually are working on a problem, it is especially important that they have the same definition of the essence of the problem, and it is preferable that this is written down. A common definition ensures clarity, understanding and unity of purpose. How the problem is defined can increase or limit the solution possibilities, so it is desirable to define it so that as many solution possibilities can be generated as possible.

## **2. Choosing a method to attack the problem**

The scope, intensity and urgency of the problem should be taken into account when deciding which method to choose. Additional methods may also be considered. If group work is used, it is good to include as many people as possible who are affected by the problem and its potential solution. The best group size for problem solving is 5 to 7 people.

## **3. Generating alternatives**

The method known as brainstorming is most often used at this stage. In brainstorming, everyone is encouraged to make any possible suggestions, and no suggestion is criticized or rejected until all ideas have been written down. Even if it sounds absurd, all ideas should be shared and recorded, it may turn out that one of them leads us to a really creative solution. The most important thing in this technique is to generate as many solutions as possible and only then choose one.

## **4. Testing the alternatives**

The most important thing to stick to at this stage is not to eliminate possible alternatives too quickly. Divide the answer into sub-points, requiring at least three positive points to be made about an alternative before highlighting the negatives. In this way, the tendency of the group to discredit a proposal before it has paid attention to the positive aspects contained in it is reduced.

## **5. Choice of alternative**

The "force field" is a good method that we can use to make the final choice. Simply put, this method involves listing the things that attract or make us choose an alternative and the things that push us away from that same alternative. The two lists can be placed next to each other so that they can be compared more easily. Some problems may require reaching more than one solution. The selection process does not always lead to a single decision. But nevertheless, the attention

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should rather be directed not to choose many solutions, but as much as they allow us to realize with the available resources.

## **6. Action Plan**

There are many planning methods, some of which are designed to be used in a group. It is necessary to choose such a planning method that is adequate to the potential solution that we have chosen. The most difficult part of planning is being able to stick to the problem and the chosen alternative to solve it at all times. It is possible to get so caught up in planning that we create such a program that deviates quite a bit and is not effective compared to the previously chosen alternative.

## **7. Implementation of the plan**

Part of planning is designating someone who is responsible and overseeing the implementation of the various stages of the plan.

## **8. Evaluation**

Evaluation is done on two levels. The first level is evaluating the action plan. To what extent the goals and tasks that were set were fulfilled. If we find that the goals and objectives are largely unmet, we will need to go back to step 7 and come up with a new way to carry out the plan or go back to step 6 and come up with a new plan.

The second level of evaluation refers to the effectiveness of the efforts we have made in the process of solving the problem. How much the plan contributed to solving the problem. The results of this assessment will guide us to the next steps.

## **9. next steps**

If the problem persists or new problems are discovered, the group should take action:

- Work on solving the problem to continue, and redefining the problem can be undertaken;
- If the problem is solved, we can at least to express our recognition to all, who helped make it happen.

There are also some specific skills needed in the problem solving process. These are: active listening, clarification, paraphrasing, self-disclosure, helping the development of the group process.

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## CREATIVITY AND CREATIVE PROBLEM SOLVING

There are factors that block creative processes, but conscious efforts to overcome them can increase creativity. In addition, techniques have been developed, that facilitate creative problem solving.

*Barriers to creativity* are of two types: *structural and procedural*. Common structural barriers include psychological, cultural and environmental barriers. Process barriers are the result of our choices of thinking, of speaking, of our functional invariance and tendency to traditionally see things in the same way. Increasing our awareness and understanding of these obstacles is the first step to creative problem solving.

### **Psychological barriers**

Most psychological barriers to creativity include our tendency to prefer the predictable and ordinary, and conversely our intolerance of anything that is unfamiliar or ambiguous; our orientation towards excellence and quick success and on the other hand our inability to allow ideas to be born and develop; the tendency to value our sensory perceptions more to the exclusion of our intuition; the fear of failure.

These generally accepted psychological barriers exist because we are socialized and educated mostly in situations that have mostly one way out. Creativity is seldom noticed or rewarded.

By recognizing which psychological factors hinder our creativity, we will be able to determine the techniques with which to deal with the barriers.

### **Cultural barriers**

Certain aspects of culture can enhance creativity and others can inhibit it. We acquire from our parents, peers, teachers a wide range of values, attitudes, beliefs and behavioral patterns. The high value placed on individuality and competition, for example, may increase the risk-taking propensity required for creative problem-solving in certain situations. At the other extreme are collectivistic cultures in which consensus is sought and rarely does anyone take individual initiative and responsibility.

### **Barriers of the environment**

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Social barriers are illustrated in a school where the teacher is threatened by new ideas, fails to act on new ideas, or does not support innovative thinking. Overcoming social barriers requires teachers and students to be aware of their roles in fostering creativity, seeking to model an appropriate setting and engage in supportive behaviors.

### **Barriers to thinking and speaking**

We have a variety of languages available to think about solving problems. Verbal, mathematical, visual and other sensory languages are available separately and in combination. By choosing the most correct language we could reach the most creative solution.

The way we tend to prefer can help our creativity in some situations and block it in others.

### **Functional passivity**

Functional passivity stems from our tendency to use people, techniques, tools in only one way. This solution requires overcoming our tendency to use conventional means in a traditional way – overcoming our functional passivity.

### **The usual ways of visualization**

Our tendency to look at things in a habitual way is also a barrier to creativity. There is such a maxim that the more familiar the subject, the more difficult it is to see it in another context. Creativity can flourish, especially in situations that require us to see the familiar in a new, different way.

## **TECHNIQUES TO STIMULATE CREATIVITY**

### **Creative problem solving**

The way a problem is posed or formulated can determine the difference between a poorly solved or unresolved problem and a creatively solved problem. To raise new questions, new possibilities, looking at old questions from a new angle requires creative imagination. Creative problem solving means striving to think divergently, raising new questions, new possibilities from a new perspective, using our imagination.

### **Using analogies**

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One of the effective techniques for developing creativity is when , through personal associations, we move the information stored from the subconscious to the conscious and thus it is available when we solve a problem. For example, if we are dealing with a problem related to water pollution , we can imagine how we would feel if we were a polluted river. This technique enhances creativity by allowing one to look at the problem from within and see it from a different angle. This technique allows a person to overcome the laws of nature and form a universe in which everything is possible. Backhoes , or modern metal detectors, are thought to have originated from the fantasy of a magic wand .

### **Morphological analysis**

Morphological analysis involves breaking down the overall problem into components by listing as many alternatives as possible for each component. Then we reorganize the alternatives to get a new option.

### **The attitude to ask questions**

Young children often ask questions such as: "Why is the sea salty?" or "Where does the sun go at night?" The attitude of asking questions is almost instinctive in children. Asking questions is a very useful technique to develop creativity and what one needs to do is to get used to asking questions.

### **Include an extra person**

This technique involves including in the problem-solving group one or more people who have no previous experience or connection to the problem at hand. Bringing an outsider into the problem-solving process can offer a new perspective to the group and help it break free from the rigid thinking of the group's experts. This increases creativity in the process of solving the problem.

### **Creative climate**

Creating a physical, psychological and social climate conducive to creativity is the next technique. Group members encourage others to communicate freely, take risks with unconventional proposals, discuss, compare and develop ideas, competition is avoided, participants are left free to fantasize.



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## PROBLEM SOLVING THROUGH CONSENSUS

Consensus group decisions are characterized by general agreement on the chosen alternative. These are decisions that are supported by everyone and are therefore actively defended and implemented by team members. These solutions make the most of team "intelligence" and resources and have the chance to be very highly effective.

However, reaching a consensus is not an easy task. Here are some *rules* that are necessary to maintain a consensus procedure in decision-making:

- **A clear statement** of one's own position;
- **Carefully listening** to the position of others;
- **Discussing hidden considerations** – discussing hidden/implicit propositions, considerations, motivations and feelings in order to better uncover the rationale;
- **Search and using inconsistencies** - to deepen the analysis of the problem, to attract a wide range of information and opinions, to try more alternatives in order to increase the participants' understanding of the situation;
- **Encouraging creativity** – searching for alternative, creative solutions;
- **Involve all** team members in the decision-making process;
- **Consent check** – ending the decision-making process only after everyone has agreed to the choice made (the decision made). Otherwise, the search continues.

It can be said that consensus is the most democratic way of making decisions or solving problems. In consensus seeking, different ideas are heard and the most effective proposal is adopted to arrive at a decision that reflects the views of all participants in the process. A consensus decision does not necessarily satisfy everyone's needs, nor does everyone agree that it is the most effective decision. The key is that **everyone is willing to accept it because they know how this decision was reached.**

However, this has some *disadvantages*:

- Very often, consensus is interpreted and applied as a way of making a decision where everyone must agree wholeheartedly with the decision. Thus, people are strongly pressured not to express their fears or doubts and a kind of **tyranny of the majority is created.**

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– Even when the consensus interpretation is not abused, there is the possibility that a small group of people will flatly refuse to accept the decision if it does not fully satisfy their needs, thus creating a tyranny of the **minority**.

– Making a decision by consensus takes a lot of time and requires commitment on the part of everyone involved in the process.

*Cases where consensus decision making is most appropriate:*

- When determining long-term goals and priorities;
- When determining the method, approach and rules of work to achieve the goals;
- In case of significant changes in work that affect the majority of participants;
- When it is necessary to ensure the participation and support of all in relation to a given activity.

*Cases where consensus decision making is not appropriate:*

- The decision must be made quickly;
- The solution is routine/everyday;
- The decision affects only one member of the team;
- When an “either..., or” type of decision has to be made.

### **WHEN CAN WE FORM STUDENTS' PROBLEM-SOLVING SKILLS IN THE CONTEXT OF THE PEDAGOGY OF CELESTINE FREINET ?**

- In any classroom activity where there are roles and rules;
- At the stage of reflection and giving feedback after a given activity;
- In the work of teams for organizing various events - trips, holidays, theater productions, etc.;
- When working related to the care of a garden, monument or other important place for the community;
- In the implementation of group projects for the study of local and global problems and giving creative proposals for solving them after considering the various needs (design thinking);
- In the process of realization of Forum theater.

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## **THE ADVANTAGES OF PROBLEM-BASED LEARNING OVER TRADITIONAL**

Problem-based learning is a necessary component of modern learning because it is characterized by a variety of goals, content and methods. With it, the teacher has the opportunity to comply with the learning material, age, cognitive and individual characteristics of the students.

Advantages:

- The cognitive activity of the students increases;
- Students are placed in a variety of problem situations that provide an opportunity to enrich and improve their analytical and communication skills;
- In the process of searching for solutions to problems, motivation and creativity and individual creativity are stimulated;
- Skills for self-management of the learning process are acquired, because it gives the opportunity to reach a higher degree of independence;
- Greater durability of the acquired knowledge is achieved;
- There is a connection between theoretical knowledge and the practical activity of their application;
- Interdisciplinarity is realized;
- Successfully dealing with the problem increases self-esteem.

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## PRACTICAL ACTIVITIES

1. Familiarize yourself with the suggested materials and prepare your lesson scenarios for the formation of problem-solving skills!

Ways to create problem situations and solve problems in the learning process - <https://pedagogy-bg.blogspot.com/2019/10/sazdavane-problemni-situacii.html>

The problem in the learning process - <https://pedagogy-bg.blogspot.com/2020/01/the-problem.html>

Problem-based learning - <https://madreshoy.com/bg/aprendizaje-basado-en-problemas/>

Problem Based Learning - <https://edunavigator.org/index.php/2022/12/14/uchitelite-nastoiavatz-a-obuchenie-bazirano-na-igra/>

2. Using the table, analyze a decision you made together with your students/colleagues from the school's pedagogical community!

Decision Goal: <i>What outcome do we want to achieve from this decision?</i>				
Selection criteria		Option 1	Option 2	Option 3
Write down all possible criteria ( be creative )	Then organize and formulate the criteria as clearly as possible. Then arrange them	Rate the options against the criteria (1-10)	Rate the options against the criteria (1-10)	Rate the options against the criteria (1-10)
		Total =	Total =	Total =

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5. The solution with the highest score		
Risks and limitations	How can these risks be minimized?	
5. The second decision in a row		
Risks and limitations	How can these risks be minimized?	
6. Choose the solution that most closely matches your criteria (brings the most benefit) and has the most manageable risk.		
<b>Decision implementation plan:.....</b>		
<b>Task</b> <i>(what needs to be done)</i>	<b>Responsible</b> <i>(who is responsible for the implementation of the relevant task)</i>	<b>Deadline</b> <i>(by when the task must be completed)</i>

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## APPLICATIONS

### SAMPLE SCENARIO OF PROBLEM-SOLVING SKILLS

Grade/Age :				Teacher :			
Objective/s of the lesson :							
Result / final product :							
N	Name of the activity	Description – clear steps and instructions given by the teacher	Time	Interactions – whole class, pairs, groups, individual work	Materials	Social skills we work on	Link to Pedagogics Freinet
1.	Introductory communicative activity						
2.	Presentation of the topic/problem						
3.	Create rules						
4.	Group assignments						



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	Presentation of the final result / product						
	Reflection and feedback		10 min				