

# Guidelines for trainers

PBL - PROJECT BASED LEARNING

Prof. dr. ZDRAVKO ZIVKOVIC



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## Open Future: Guidelines for trainers

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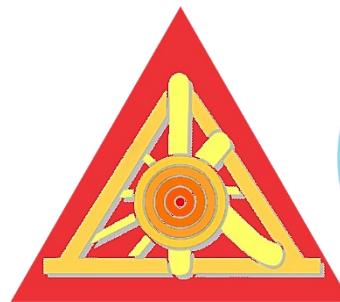
Project Coordinator: Scientific Center for Creative Development Ideall Novi Sad

Project Participants:

High School of Economics and Administration, Osijek, Croatia

High School "Danilo Kis", Budva, Montenegro

High School of Economics, Sarajevo, Bosnia & Herzegovina

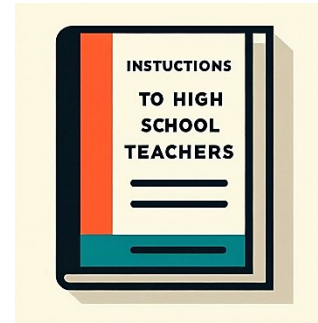


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# Guidelines for trainers



## Introduction: the current situation

Today's education system is based on the Ex-cathedra model, that is the memorization of facts and their reproduction. Most students and teachers have accepted this system, which is actually intellectual conformity - accepting information without critical thinking. Instead of simply accepting the facts "that's the way it is", critical thinking seeks to answer the questions: why is it that way? Can anything be changed or improved to make it better than it is now? Only a minority (usually called rebels) do not want to accept "for granted" but are looking for additional answers and do not accept the status quo.

There are **several drawbacks** associated with the Ex-cathedra approach:

- Self-Censorship: Students may hesitate to express their true thoughts or opinions.
- Voice of Judgment: Fear of being judged can hinder creativity and exploration.
- Fear of the Unknown: A rigid system discourages curiosity and risk-taking.
- Lack of Self-Confidence: Students may doubt their abilities to think independently.
- Weak Communication Skills: Focusing solely on memorization may neglect communication development.

To address these challenges, it is recommended to switch to a **project-based learning system**<sup>1</sup>. In most cases, this is not possible due to the adopted curricula established by the relevant ministries of education. However, PBL can be integrated into extracurricular activities.

A real problem is that most teachers have no experience with such a work system and they need to be given advice on how to organize these creative workshops for working with students.

Namely, instead of reading facts and expecting the students to remember and reproduce them by heart, now the students are expected, after the introductory notes, to work in informal groups of about five students and try to find a solution to the given problem.

The teacher should now assume the role of moderator and direct the students to actively participate in the search for the solution(s). For this purpose, a guide should be created for teachers (trainers) on how to work with students in PBL workshops.

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<sup>1</sup> Project-based learning (PBL) is an effective pedagogy that encourages students to delve into interdisciplinary knowledge, problem-solving skills, critical thinking, and collaborative practices by tackling real-world challenges (e.g. YouTube videos)

The guidelines for trainers have to include, among other things, instruction on how to balance challenge with support because too much challenge with not enough support, and the students will feel lost and quit. The opposite, too much support and not enough challenge, and the students will feel superior, unwilling to participate actively. If the trainer does for their students more than necessary, he/she may actually compromise their ability to achieve their full potential.

Also, how to create a balanced conversation in a creative workshop is the key to where no party will feel unimportant or even be intimidated to express their own thoughts. Further, how to establish trust, where each party takes their share of responsibilities seriously and reacts honestly towards training endeavor. Teachers and students count on each other to fulfill expectations and use synergy, acknowledge errors, and correct them since it creates a condition of respect and fairness.

Not all students are equally ready to work in informal groups, because there are dominant individuals who are always very loud and impose their opinion as the only correct one, while the quieter students, not wanting to enter into conflict with their peers, do not express their opinion, because they are not completely convinced of the value of their views. The challenge for the trainer - how to stimulate all members of informal groups to actively participate in the work and express their views freely, without fear of the reaction of other students or teachers.

The challenge is to make "The guidelines for trainers" that could successfully solve the above-mentioned problems.

## Preparation of the Guidelines

In short, problem is: the current education system often relies on the Ex-cathedra model, emphasizing the memorization and regurgitation of facts. Students and teachers alike have become accustomed to this system, which can inadvertently stifle critical thinking. Rather than merely accepting information at face value, critical thinking encourages us to ask: Why is it this way? Can it be improved?



The PBL can be integrated into **extracurricular activities**. Here's how it works:

1. **Real-World Projects:** Instead of rote memorization, students engage in authentic, meaningful projects. These projects span an extended period, from a week to a semester.
2. **Problem Solving and Inquiry:** Students tackle real-world problems or explore complex questions. They actively seek solutions rather than passively absorbing information.
3. **Public Products<sup>2</sup>:** Students demonstrate their knowledge and skills by creating a public product or presentation for a genuine audience.
4. **Skills Development:** PBL fosters deep content knowledge, critical thinking, collaboration, creativity, and communication skills.

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<sup>2</sup> Public goods are those that are non-excludable and non-rivalrous in consumption. This means that it is impossible to exclude anyone from using the good, and one person's use of the good does not diminish its availability for others.

In a PBL classroom, the teacher becomes a moderator, guiding students as they actively seek solutions. While implementing PBL may require adjustments, it can empower students to think critically, work collaboratively, and engage with real-world challenges. This transformative approach can be look like this:

Creating effective guidelines for trainers in a project-based learning (PBL) context involves addressing several critical aspects. How to strike the right balance and ensure a successful PBL experience? There are 6 crucial aspects that have to be considered:

### 1. *Challenge vs. Support:*

- **Challenge:** It's essential to present students with meaningful challenges that ignite their curiosity and drive. However, too much challenge without adequate support can lead to frustration and disengagement.
- **Support:** Provide scaffolding and resources to help students navigate the challenges. Be available for guidance and encourage peer collaboration.



### 2. *Balanced Conversation:*

- **Active Listening:** As a trainer, actively listen to students during workshops. Create an environment where everyone feels heard and valued.
- **Encourage Participation:** Facilitate discussions that allow all participants to express their thoughts. Encourage quieter students to share their perspectives.

### 3. *Establishing Trust:*

- **Open Communication:** Foster an atmosphere of trust by being transparent and approachable. Encourage students to voice concerns or ask questions.
- **Shared Responsibility:** Both trainers and students play a role in building trust. Set clear expectations and hold each other accountable.

### 4. *Acknowledging Errors and Learning from Them:*

- **Normalize Mistakes:** Emphasize that errors are part of the learning process. Encourage students to learn from their mistakes and iterate.
- **Model Resilience:** As a trainer, demonstrate resilience when faced with challenges. Show that setbacks are growth opportunities.

### 5. *Handling Group Dynamics:*

- **Dominant Individuals:** Address dominant personalities by promoting active listening and respectful dialogue. Encourage them to consider diverse viewpoints.
- **Quiet Students:** Create a safe space for quieter students. Validate their contributions and emphasize the value of their unique perspectives.

## 6. Guidelines for Trainers:

- **Customize:** Recognize that each group is different. Tailor guidelines to the specific context, considering the mix of personalities and learning styles.
- **Feedback Loop:** Regularly seek feedback from students. Adjust guidelines based on their experiences and needs.
- **Promote Collaboration:** Encourage collaborative problem-solving. Use tools like brainstorming sessions, peer reviews, and group reflections.

Effective PBL guidelines should empower trainers to strike the right balance, foster trust, and create an inclusive environment where every student feels valued and motivated to actively participate. Let's elaborate each of the 6 aspects in details:



### ***Challenge vs. Support***

## I. The balance between challenge and support in the PBL:

### 1. **Challenge:**

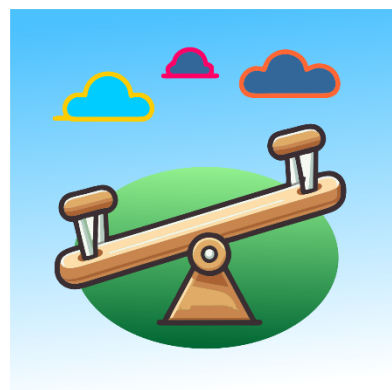
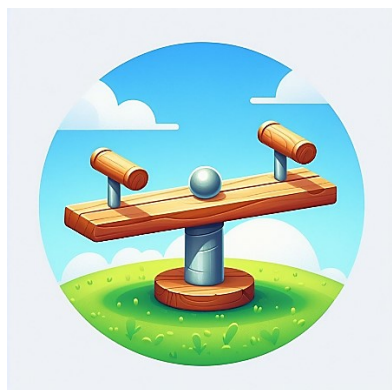
- **Essential Element:** Presenting students with **meaningful challenges** is at the core of PBL. These challenges should ignite their curiosity, encourage exploration, and drive their learning.
- **Why It Matters:** Challenges push students beyond their comfort zones, prompting them to think critically, problem-solve, and apply their knowledge.
- **Potential Pitfall:** However, if challenges are **too overwhelming**, students may feel frustrated, anxious, or disengaged. They might perceive the task as insurmountable, leading to a negative learning experience.

### 2. **Support:**

- **Scaffolding:** Imagine building a structure. Scaffolding provides the necessary **support** during construction. Similarly, in PBL, trainers must offer scaffolding to help students navigate challenges.
- **Types of Support:**
  - **Resources:** Provide access to relevant materials, research, and tools. These resources empower students to tackle complex problems.
  - **Guidance:** Be available for **individual or group guidance**. Answer questions, clarify doubts, and offer insights.

- **Peer Collaboration:** Encourage students to collaborate with their peers. Peer support fosters diverse perspectives, shared knowledge, and collective problem-solving.
  - **Balancing Act:** The key lies in striking the right balance. Too much support can hinder students' independence and critical thinking. Too little support can lead to frustration.
3. **Trainer's Role:**
- **Moderator:** As a trainer, assume the role of a **facilitator**. Guide students without imposing solutions. Encourage them to explore, experiment, and discover.
  - **Adaptive Support:** Tailor your support based on individual student needs. Some may require more guidance, while others thrive with minimal intervention.
  - **Empowerment:** Empower students to seek answers independently. Teach them how to fish rather than just giving them the fish.

Remember, the magic happens when challenge and support intersect. Students should feel stretched but not overwhelmed, supported but not spoon-fed. The trainers need to create an environment where growth flourishes, curiosity thrives, and learning becomes an exciting journey!



*The balanced conversation*

## II. The concept of Balanced Conversation in PBL:

1. **Active Listening:**
- **Role of the Trainer:** As a trainer, practice **active listening** during workshops. This means being fully present and engaged when students speak.
  - **Why It Matters:**
    - **Validation:** When you actively listen, you validate students' thoughts and feelings. They feel heard and respected.
    - **Understanding:** Understand not only the words but also the emotions and nuances behind them.
    - **Building Trust:** Active listening builds trust and rapport between trainers and students.
  - **Practical Tips:**
    - **Eye Contact:** Maintain eye contact with the speaker.
    - **Avoid Interruptions:** Let students express themselves fully before responding.
    - **Paraphrase:** Summarize what you've heard to ensure accurate understanding.



## 2. Encourage Participation:

- **Inclusive Environment:** Create an environment where **everyone feels welcome** to contribute. No voice should be left unheard.
- **Facilitate Discussions:**
  - **Open-Ended Questions:** Instead of closed-ended questions, ask open-ended ones that encourage deeper thinking.
  - **Wait Time:** After posing a question, give students ample time to formulate their responses.
  - **Affirmation:** Acknowledge and appreciate each contribution, regardless of its length or complexity.
- **Quieter Students:**
  - **Empower:** Encourage quieter students to share their perspectives. Let them know their insights are valuable.
  - **Small Groups:** Consider smaller group discussions where quieter students may feel more comfortable.
  - **Pairing:** Pair quieter students with more vocal peers to balance participation.

Remember, a balanced conversation ensures that every student's voice is heard, fostering a rich exchange of ideas and diverse viewpoints.



*Trust and support*

## III. The importance of Establishing Trust in a PBL:

### 1. Open Communication:

- **Transparency and Approachability:** As a trainer, create an atmosphere where students feel comfortable approaching you. Be transparent about your expectations, goals, and processes.
- **Encourage Questions:** Actively encourage students to **voice their concerns** or ask questions. When they feel heard, they're more likely to trust the learning process.
- **Feedback Loop:** Regularly seek feedback from students. Show that their opinions matter and that you value their input.

### 2. Shared Responsibility:

- **Trainers' Role:**

- **Clear Expectations:** Set **clear guidelines** for behavior, participation, and collaboration. Students should know what's expected of them.
  - **Accountability:** Hold students accountable for their commitments. If they promise to contribute to a group project, ensure they follow through.
  - **Students' Role:**
    - **Active Participation:** Students should actively engage in discussions, contribute ideas, and meet deadlines.
    - **Respect for Peers:** Encourage mutual respect. Students should value their peers' efforts and contributions.
    - **Synergy:** Recognize that everyone benefits when they work together. Synergy arises from shared responsibility.
3. **Building Trust:**
- **Consistency:** Be consistent in your actions and responses. Students should know what to expect from you.
  - **Honesty:** If there are challenges or setbacks, address them honestly. Trust is built on transparency.
  - **Acknowledging Errors:** When mistakes happen (by trainers or students), acknowledge them and learn from them. This fosters an environment of respect and fairness.

Remember, trust is the foundation of effective learning. When trainers and students trust each other, they create a supportive ecosystem where growth, creativity, and collaboration thrive.



*Mistake is an opportunity to improve*

#### IV. The importance of acknowledging errors and learning from them in a PBL:

1. **Normalize Mistakes:**
- **Learning Process:** Emphasize that **errors are natural** and an integral part of the learning journey. When students encounter mistakes, it's not a sign of failure but an opportunity to improve.
  - **Growth Mindset:** Encourage a **growth mindset**—the belief that abilities can be developed through dedication and hard work. Mistakes are stepping stones toward mastery.

- **Iterate and Improve:** Instead of dwelling on errors, guide students to **reflect**, identify areas for improvement, and iterate. Each mistake is a chance to refine their understanding and skills.
- 2. **Model Resilience:**
  - **Lead by Example:** As a trainer, demonstrate resilience when faced with challenges. Show that setbacks are **normal** and part of any creative or problem-solving process.
  - **Positive Attitude:** Approach setbacks with a positive attitude. Share stories of how you overcame obstacles or learned from failures.
  - **Problem-Solving:** When things don't go as planned, model how to **adapt, adjust, and find alternative solutions**. Resilience is about bouncing back and staying committed.

Remember, in a PBL environment, mistakes are stepping stones, and resilience is the bridge that leads to growth and success.



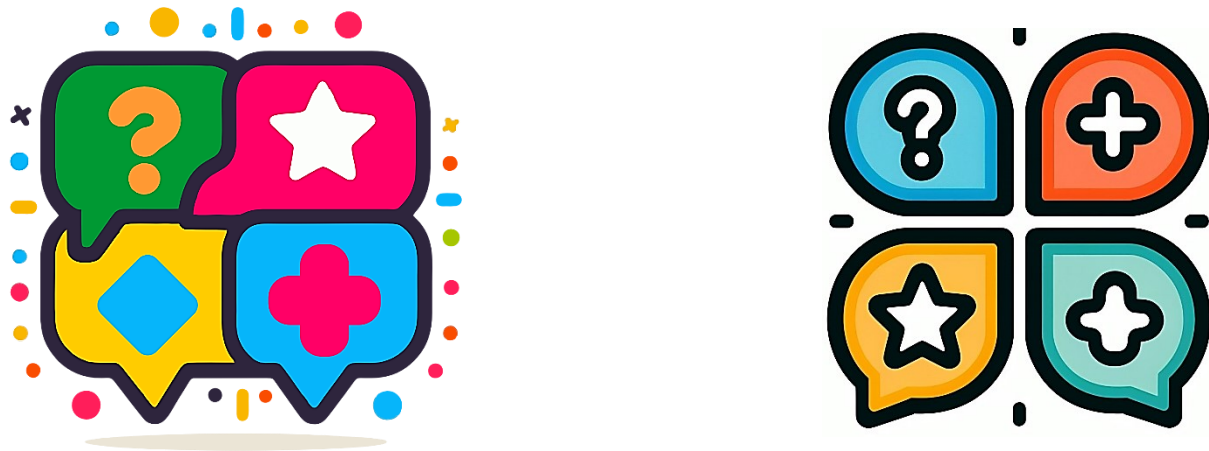
*The Group dynamics: Dominant Individuals & Quiet Students*

## V. The strategies for handling group dynamics in a PBL:

1. **Dominant Individuals:**
  - **Identify Dominance:** Recognize students who tend to dominate discussions. They may be assertive, vocal, and eager to express their opinions.
  - **Promote Active Listening:**
    - Encourage dominant individuals to actively listen to others. Remind them that everyone's input is valuable.
    - Use techniques like **wait time** (allowing pauses after questions) to give quieter students a chance to speak.
  - **Respectful Dialogue:**
    - Set ground rules for respectful communication. Emphasize the importance of **constructive feedback** and avoiding personal attacks.
    - Encourage dominant students to express their viewpoints without overpowering others.
  - **Diverse Viewpoints:**
    - Highlight the richness of diverse perspectives. Explain that considering different viewpoints leads to better solutions.

- Encourage dominant individuals to **seek out alternative viewpoints** and appreciate the value they bring.
- 
- 2. **Quiet Students:**
  - **Safe Space:**
    - Create an environment where quieter students feel safe to share their thoughts. Assure them that their contributions are valued.
    - Validate their unique perspectives. Sometimes, the quietest voices hold the most profound insights.
  - **Pairing and Grouping:**
    - Pair quieter students with more vocal peers. This allows them to learn from each other and balance participation.
    - Form groups where quieter students can comfortably express themselves without feeling overshadowed.
  - **Individual Check-Ins:**
    - Regularly check in with quieter students individually. Ask about their experiences, challenges, and ideas.
    - Show genuine interest in their growth and learning journey.

Remember, a balanced classroom celebrates both dominant and quiet voices. By fostering respectful dialogue and creating a safe space, we empower all students to contribute meaningfully.



*Diverse Viewpoints to Better Solutions*

## VI. The comprehensive guidelines for trainers in a project-based learning (PBL) context:

These guidelines will empower trainers to facilitate effective learning experiences while adapting to the unique dynamics of each group:

1. **Customize:**
  - **Context Awareness:** Recognize that **every group is distinct**. Factors like cultural background, prior knowledge, and individual learning styles play a significant role.
  - **Initial Assessment:**

- Begin by understanding your students. What are their strengths, weaknesses, interests, and preferences?
  - Consider their **diverse personalities**—some may thrive in collaborative settings, while others prefer independent work.
  - **Tailor Guidelines:**
    - **Flexible Framework:** Develop a **flexible framework** that allows for customization. Avoid rigid rules that don't adapt to the group's needs.
    - **Individualized Support:** Provide personalized guidance based on student profiles. Some may need more structure, while others thrive with autonomy.
2. **Feedback Loop:**
- **Continuous Assessment:**
    - Regularly seek **feedback from students**. Ask about their experiences, challenges, and what's working well.
    - Use **anonymous surveys**, one-on-one conversations, or group discussions to gather insights.
  - **Iterative Approach:**
    - **Adjust guidelines** based on student feedback. Be open to making changes mid-course.
    - If a particular approach isn't effective, be willing to modify it. PBL is about continuous improvement.
  - **Transparency:**
    - Share how student feedback influences the guidelines. Show that their voices matter.
3. **Promote Collaboration:**
- **Why Collaboration Matters:**
    - PBL thrives on collaboration. It mirrors real-world scenarios where diverse teams work together.
    - Collaborative problem-solving enhances critical thinking, creativity, and communication skills.
  - **Tools and Techniques:**
    - **Brainstorming Sessions:**
      - Encourage students to generate ideas collectively. Use techniques like mind mapping or sticky notes.
      - Create a safe space where all ideas are welcome, even if they seem unconventional.
    - **Peer Reviews:**
      - After individual or group work, implement peer reviews. Students provide constructive feedback to each other.
      - Peer reviews enhance accountability and help students refine their work.
    - **Group Reflections:**
      - Regularly schedule group reflections. Discuss what's going well, challenges faced, and potential improvements.
      - Encourage students to share their insights and learn from each other.
  - **Collaboration Norms:**
    - Set clear expectations for collaboration. Define roles, responsibilities, and respectful communication.
    - Address conflicts promptly and guide students on conflict resolution.

Remember, these guidelines are not static—they evolve as the learning journey unfolds. As a trainer, your adaptability and commitment to student growth will make a significant impact.



## VII. Bonus: How can I encourage creativity in my classroom?

**Creativity** is a powerful force that can transform the learning experience in your classroom. By fostering creativity, you empower students to think critically, solve problems, and express themselves in unique ways. Here are some practical strategies to encourage creativity:

1. **Flexible Classroom Layout:**
  - Arrange your classroom to allow for **different formats**—from group projects to solo work.
  - Create **collaborative spaces** where students can brainstorm and share ideas.
2. **Follow a Classroom Theme:**
  - **Immerse** your students in a theme related to the subject you're teaching.
  - Decorate the classroom with relevant visuals, props, and materials.
3. **Continuous Line Drawing:**
  - Challenge students to draw a picture without lifting their pen from the paper.
  - This activity enhances hand-eye coordination and fosters a sense of pride.
4. **Add Something New:**
  - Show students a famous work of art (e.g., Mona Lisa) and ask them what they would add to it.
  - Encourage creative ideas and provide printouts for students to draw their additions.
5. **Strange Flavors:**
  - Explore creativity through taste buds! Have students invent **unique ice cream flavors**, pizza toppings, or sandwich combinations.
  - This activity sparks imagination and excitement.
6. **Bad Ideas:**
  - Flip the script and think about **bad ideas**. What would be terrible product ideas? Why?
  - Challenge students' critical thinking skills by analyzing why certain ideas are bad.
7. **Classifying & Sorting:**
  - Provide an assortment of items and let students **classify and sort** them.
  - Encourage creative categorization beyond color or size.
8. **Repurpose an Item:**
  - Teach students to **think outside the box** by repurposing everyday items.
  - Creativity blooms when students see objects from new angles.

Remember, creativity isn't limited to art or music—it's a mindset that can enhance learning across all subjects. By incorporating these activities, you'll ignite sparks of inspiration throughout your classroom!

Symbols used in the Guidelines and their meaning:

1. Challenge: A mountain peak, representing the uphill journey and the need for students to overcome obstacles.
2. Support: A circle with six hands inside. Each hand has a different solid color - this symbol represents diversity and harmony.
3. Balance: A seesaw, symbolizing the delicate equilibrium between rigor and support.
4. Trust: The two interlocking hands, signifying the importance of trust between students and trainers.
5. Errors: A broken chain, highlighting the acceptance of mistakes as part of the learning journey.
6. Dynamics: The gears in motion, representing the dynamic interactions and collaboration within PBL.
7. Guidelines: An open book with lines emphasizing the role of clear instructions and guidelines in PBL.
8. Callouts: Different signs represent different viewpoints that lead to Better Solutions.







### Editorial Board

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Marina Juriša, Prof.



[zdravko.zivkovic@fimek.edu.rs](mailto:zdravko.zivkovic@fimek.edu.rs)