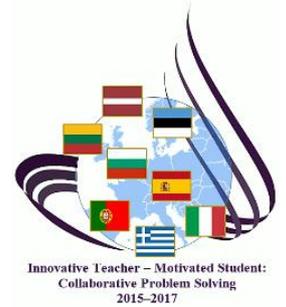




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Innovative Teacher – Motivated Student:
Collaborative Problem Solving
2015–2017

In-service training/professional development
program (PDP)

“MOTIVATED STUDENTS NEED INNOVATIVE TEACHER”



**Innovative Teacher – Motivated Student:
Collaborative Problem Solving
2015–2017**

ERASMUS + KA 2
No. 2015-1-LT01-KA201-013472

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TEACHERS' PROFESSIONAL DEVELOPMENT PROGRAM "MOTIVATED STUDENTS NEED INNOVATIVE TEACHER"

SUMMARY:

In-service training/professional development program (PDP) is aimed to support development of teachers' competences and raise their awareness in the current educational needs, challenges and trends. The programme is designed for teachers of primary and basic education and offers a set of following 4 thematic modules (40 hours, face-to-face training) related to innovations in education that motivate students to learn: Changing education paradigm (from teaching to learning), Integrative approach of STEAM, Collaborative problem solving, Innovation of education process through ICT and Gamification. This is the result of a KA2 Erasmus+ project "Innovative teacher – motivated student: collaborative problem solving".

AIM OF THE PROGRAM

Strengthen didactic and key competences of teachers in the fields of STEAM, gamification, collaborative problem solving; raise their awareness of the changing role of a teacher, innovative methods of teaching and learning; share good practices in the fields of STEAM, gamification, collaborative problem solving.

OBJECTIVES OF THE PROGRAM

- Raise participants' awareness of changing education needs by engaging them into debate about their learning-teaching practices by sharing and exchanging their personal opinions and experiences;
- Help participants to improve everyday teaching practice by strengthening their methodological background using a holistic approach to develop key competences and transversal skills of students;
- Enable participants to enrich their teaching practices by using innovative tools, techniques and ways (e.g., STEAM, gamification, collaborative problem solving, etc.) to make teaching and learning more understandable, attractive and motivating;
- Foster innovative and critical thinking of participants by using collaborative team work;
- Enrich teaching and learning content and process through reinforcing responsibility, balancing evaluation and learning strategies, enhancing cross-thematic approach and strengthening team work and co-operative skills of participants.

THEMATIC FIELD OF THE PROGRAM (MODULES)

- Changing education paradigm (from teaching to learning) and role of educator, evidence-based school improvement
- Integrative approach of STEAM
- Collaborative problem solving
- Innovation of education process through ICT and Gamification (i.e., teaching and assessment)

SKILLS TO BE DEVELOPED

Module	Skills
Changing education paradigm	<ul style="list-style-type: none"> • Learning to learn competence • Digital competence • Personal and social responsibility • Critical thinking • Problem solving and decision-taking • Evidence-based planning of learning-teaching process
Gamification	<ul style="list-style-type: none"> • Learning to learn competence • Digital competence • Critical thinking • Learning how to pla
STEAM	<ul style="list-style-type: none"> • Analytical and critical thinking, research skills • Ability to integrate different thematic areas • Sustainable thinking • Creativity and initiative • Ability to foresee things (perceptiveness) • Adapting to new contexts, flexibility (adaptive thinking) • Ability to improve, develop • Ability to solve problems • Ability to work together (collaboration)
Collaborative problem solving	<ul style="list-style-type: none"> • Ability to explore and backup knowledge • Ability to understand and identify roles, strengths and weaknesses of the team • Ability to share points of view and negotiate • Ability to identify and plan tasks to resolve the `problem` • Ability to monitor and review a common understanding, achieved results and evaluate the success • Ability to work together • Ability to solve problems

PROGRAM'S TIMETABLE

	Day 1	Day 2	Day 3	Day 4	Day 5
	changing edu	STEAM	CPS	#Gamification	Grand Finale
	Expectations of participants	From STEM to STEAM (exercises: drawing, refugees)	Brainstorming on definition of CPS and keywords	Theory input on games and gamification in education.	Idea-teams: Planning and developing learning scenario/training unit
1,5 h	Intro to TC programme	Good practice features	Input on collaborative problem solving and new learning-teaching paradigm		
	Intro to evidence-based school improvement	STEAM approaches (methods)	Group work on approaches to the new learning-teaching paradigm	Discussion "How would you use games and gamification for learning and evaluation?"	Presenting or testing learning scenarios/training units
1,5 h		Integration levels in STEAM			
	Group work. How to improve quality of teaching in our school? Reflection on the results of working groups	Analysis of good practices	Strategies / best practices on CPS	Practicing ICT tools for learning and evaluation	Peer feedback and evaluation of the practice
1 h					
	Practical examples of good practices on teaching methods	Analysis of good practices. Selecting a practice to work with	Lesson planning on CPS (Idea-teams)	Developing a game/gamification elements for learning (Idea-teams)	Future plans (national trainings, contribution to the outputs, evaluation seminar etc.)
1,5 h					
	Setting idea-teams for learning scenario/training units development	Brainstorming ideas for selected practices improvement	Recapitulation of the key issues in CPS	Evaluating the TC (personal, peers and external)	
1 h		Peer feed-back on improvement ideas			
	Reflection	Idea-teams Reflection	Idea-teams Reflection	Idea-teams Reflection	
0,5 h					

-  – thematic inputs by trainers, external experts
-  – participants take active part reflecting their learning outcomes and designing their development/improvement plans
-  – practical workshops, group work
-  – participants share and discuss good practices

TARGET GROUP:

- Teachers
- School principals
- School administration staff
- Other education management staff

OUTLINE OF THE PROGRAM:**DAY 0****Arrival of participants****Getting to know each other****Ice-breaking activities****DAY 1: CHANGING EDUCATION PARADIGM**

Expectations of participants	
Objective of the activity	<ul style="list-style-type: none"> • Finding out what participants' experience and expectations are • Identifying the baseline of participants awareness level in the thematic areas of PDP
Description of the activity	<p>This section deals with identification of expectations as an opportunity to share objectives and to learn participants' experience, skill and knowledge level surrounding the content. One of the starting points of the training course is to identify the skills, knowledge and experience level of participants in the thematic areas of the programme. A pre- and post- evaluation design is a typical approach to document learning impact and change. Participants are asked to fill in the pre-evaluation form at the very beginning of the training process (could be done at the very beginning of the training course or as a pre-task) in order to identify the level, scope and depth of their experience and knowledge. Comparing data with the one retrieved from the self-evaluation forms, usually being filled in by participants after or at the end of the course, we can see the change and impact caused by purposeful educational interventions and training measures. Depending on the overall aim, the trainers might choose how detailed and profound self-evaluation (<i>pre-</i> and <i>post-</i>) should be. In this case, we keep it quite simple:</p> <p>Step 1 – participants are asked to mark their level of experience in the four thematic areas of the course (<i>for the example of Pre-evaluation form, see the section of Learning material</i>).</p> <p>Why identifying the expectations of participants' is important? On one hand, it is an important source of data for correction, adaptation of the planned training flow. On the other hand, it is very helpful to come back to expectations at the end of the training course to realize what expectations and to what extent were met. There is a broad variety of methods existing for</p>

	<p>dealing with expectations of participants, however, most of them include the following aspects: content related expectations, expected learning results; level of personal engagements and contribution.</p> <p>Step 2 – „Expectation tree“: a large sheet of paper with a tree drawn on it is prepared. The drawing must consist of three parts – the branches (the top), the trunk and the roots. Each participant has to individually think about his/her attitude and expectation towards the activity with regard to the following aspects: hopes (What do I (as a person, as a teacher, as a member of Professional community, etc.) expect from this training course?); fears (or things/aspects I would like to avoid) and input (how can I contribute to the success of the seminar? What can I offer to other participants?) Each aspect is written on a small-size coloured paper or a sticky note and is stuck to the tree in the following sequence: hopes are placed on the branches, the input/personal contribution – on the trunk and fears – on the roots.</p> <p>The expectation-tree remains accesible and visible throughout all training and is used for the purposes of evaluation to see how the training has met expectations of participants (<i>for more detailed description of the method used, see the section Training material</i>).</p>
Learning material	Pre-evaluation form
Training material	Gailius Ž., Malinauskas A., Petkauskas D., Ragauskas L. (2015) Handbook for people working with youth groups

Intro to TC programme	
Objective of the activity	<ul style="list-style-type: none"> • Introducing logic flow of TC program to participants
Description of the activity	<p>It is common practice to start TC by introducing main objectives, thematic parts of TC, its timetable, specific events to be held or organized within the program. It is recommended instead of going into small details of the daily timetable, to present the logic flow and thematic blocks at the beginning of the training course, leaving details for daily catch-up.</p> <p>Getting to know the timetable often provokes discussions that lead to the setting of on common agreements (rules) for the training course (e.g., be in time; be polite; respect opinion of other participant; contribute to the content of the training course when you feel you can, etc.). In our case, as the training course lasts 5 days, setting some common agreements for being together are reasonable thing to do.</p>

Intro to evidence based school improvement	
Objective of the activity	<ul style="list-style-type: none"> • Raising participants awareness of the factors for effective education

	<ul style="list-style-type: none"> Introducing the concept of evidence based school improvement for the better quality and better achievements of students
Description of the activity	<p>Step 1 – A key question is given to the group of participants: <i>“One thing that makes a school (lesson, involvement of students, teaching, etc.) effective...”</i> Participants are invited to share their insights and ideas. Key messages from the discussion/sharing are written down by the trainer or a volunteer (flipchart, projector, etc. may be used) and summarized.</p> <p>Step 2 – Presentation on <i>Evidence based school improvement</i> is given by the trainer (for the summary on <i>Evidence based school improvement</i> see the section of Training material).</p> <p>Step 3 – After the presentation participants are asked to reflect on it in the groups of 4-5. After discussing for 10 min, the groups are asked to share their most “urgent” messages with the rest of the groups. Generalizing by the trainer follows.</p>
Training material	Evidence based school improvement

How to improve quality of teaching in our school? (group work, reflection)	
Objective of the activity	<ul style="list-style-type: none"> Sharing opinions and discussing how to improve quality of teaching at school
Description of the activity	<p>Step 1 – Theoretical input on <i>Four key levels of public accountability</i> given by the trainers (for the summary on <i>Four key levels of public accountability</i> see the section of Training material).</p> <p>Step 2 – During the presentation, participants are asked to write down 3-4 ideas/statements inspired by information received on what changes in strategies or programmes might lead to results that are more effective.</p> <p>Step 3 – Participants form pairs and discuss the ideas that seem relevant to mention. The task for the pair is to select 3–4 meaningful ideas that could be brought to the further level (up to 10–15 min).</p> <p>Step 4 – Work in groups of 4 (2 pairs form the group), discussing and selecting 3-4 ideas from the lists brought by pairs to be presented in plenary.</p> <p>Step 5 – Presentation of selected ideas in plenary explaining why those ideas are chosen to be the most important. All ideas named are put down into the list by a trainer or volunteer (flipchart, projector etc. may be used).</p> <p>Step 6 – Prioritizing. Each participant receives 3 colored stickers that can be stick next to 3 chosen ideas s/he wants to prioritize (if ICT is used to prepare the list of ideas there might be another way to organize polling process).</p>

	Participants may be asked to give quick reaction to TOP5 ideas (insights, comments, proposals etc.).
Training material	Four key levels of public accountability

Practical examples of good practices on teaching methods	
Objective of the activity	<ul style="list-style-type: none"> • Linking the outcomes of previous session with the concrete examples of teaching practices
Description of the activity	<p>As experience shows, participants often reveal the following themes: personalization of teaching and learning; assessment for education; changing role of teacher: from instructor towards mentor; technology enhanced teaching etc.</p> <p>Providing practical examples of daily teaching practices would help participants to recognize and explore these themes in their daily contexts.</p> <p>If there is a possibility 2-3 practitioners can be invited to share examples of their practices (from teacher presenting his/her innovative lesson to head master telling about activities of professional learning community at his/her school).</p> <p>Good practices can be also shared by some of participants, however, this need to be arranged beforehand as participants would need a proper time to prepare.</p> <p>Good practices may be also shared by trainers (try to make use of available videos, organize online interviews with experts, use some examples of good practices provided by participants of the project “Innovative teacher – motivated student: collaborative problem solving” etc.). <i>For more links see the section Training material.</i></p>
Training material	Example of Alytus Putinai Gymnasium Good practices collected at the project “Innovative teacher – motivated student: collaborative problem solving”

Ideas for learning scenario/training unit	
Objective of the activity	<ul style="list-style-type: none"> • Setting idea-based teams for the development of learning scenario/training unit
Description of the activity	<p>Teams of participants are asked to come up with ideas they want to develop into learning scenario/lesson plan or training unit. However, it is important to follow three basic rules:</p> <ul style="list-style-type: none"> - Keep creative spirit and think out-of-box - Justify cause and effect - Ensure diversity of views (intercultural aspect, diverse experiences and backgrounds etc.)

	<p>Step 1 – Participants are invited to take part at the Idea-fair: creatively portray and present their ideas related to the thematic areas of the training course (<i>Changing education paradigm and role of teacher, STEAM, Collaborative problem solving, ICT and Gamification</i>). For this participants can use pictures, magazines, colours, crayons, etc. After the idea is captured on a paper, participants have to present it to as many people as possible (time for the task – 30 min maximum). They can walk along designated working area, present their ideas to each other, listen, comment and give instant feedback. Ideas shouldn't be presented to the groups bigger than 3 persons.</p> <p>Step 2 – After the task is completed (or time is over), the list of all ideas is being made and participants should select 4-6 ideas they would like to continue working on. There are different methods and techniques how to select top 4 or top 6 topics and group themselves accordingly, e.g., a method „Four Corners“ might be adapted (<i>see p.125 of recommended Training material</i>). However, it is important that the final result of the task could be 4-6 groups of participants (3-5 persons in a group, balanced partner organization or country-wise, etc.), each group working on different idea.</p> <p>The Idea-groups are active throughout the training course, also working as reflection groups.</p>
Training material	Gailius Ž., Malinauskas A., Petkauskas D., Ragauskas L. (2015) Handbook for people working with youth groups

Reflections	
Objective of the activity	<ul style="list-style-type: none"> • Reflecting, analysing and evaluating feelings, states and behaviour; giving and receiving feedback; summarizing the experience gained.
Description of the activity	<p>As training course lasts for several days, it is wise to keep one “reflection line” throughout all course. This means following the same reflection group composition (i.e., members of Idea-teams) and method. When the same reflection method is repeated it soon becomes a habit and allows members feel safer and concentrate on the content rather than form.</p> <p>As reflection of the day is run in the Idea-groups, it is natural that reflection on day's learning outcomes (as individual and as the group) as well as on the development of learning scenario/lesson plan should take place.</p> <p>Depending on the group maturity, facilitation of the reflection might be approached in two different ways:</p> <ul style="list-style-type: none"> - Reflection might be self-organized by the group; - Reflection might be facilitated by a member of the trainers' team.

	<p>In both cases, it is crucial that reflection would have a concrete aim and a clear sequence, perceived by every group member.</p> <p>The following aspects should be approached (according Greenaway, 2011):</p> <ul style="list-style-type: none"> - Facts and feelings. Taken together these stages typically involve storytelling (stories of experience). Focusing on facts produces a descriptive account of what happened and focusing on feelings draws attention to individual and group feelings experienced during the event being described. - Findings. This stage involves digging deeper into the reasons why things happen. The review methods at this stage help people to find and discover new learning from their experiences. - Future - while still making strong connections with experiences and learning so far. <p>Single review sessions would generally include at least one complete reviewing cycle, but over the programme as a whole, reviewing methods that bring out FACTS and FEELINGS tend to be used most near the beginning, methods that are good for bringing out FINDINGS are most useful in the middle, and methods that look to the FUTURE are most useful towards the end.</p>
Training material	<p>Gailius Ž., Malinauskas A., Petkauskas D., Ragauskas L. (2015) Handbook for people working with youth groups</p> <p>Greenaway R. (2002) The Art of Reviewing/ Journal of the Institute of Training and Occupational Learning, Vol.3, No1</p> <p>Greenaway R. (2013) Zooming In and Out when Facilitating Learning</p> <p>Greenaway R. (2011) Designs for reviewing</p> <p>Jakubė A., Jasiene G., Taylor M. and Vandenbussche B. (eds). (2016) Holding the space. Facilitating reflection and inner readiness for learning</p>

DAY 2: STEAM

From STEM to STEAM	
Objective of the activity	<ul style="list-style-type: none"> • Making participants aware about the growing importance of STEM fields in our lives, interconnectedness between STEM fields and the importance of social dimension in these fields, which is a basis of STEAM.
Description of the activity	<p>Step 1 – Participants are divided in teams of 4. The trainer asks 1 member from the team to come up and look at the picture for 1 minute. After it passes participants have to go back to team and draw what they saw. Meanwhile other team delegates (1 from each team) are asked to look at the picture for 1 minute. Then they return and add more details to the picture. The activity is finished when the last team member adds final details to the picture (<i>for the example of the picture, please see slide No3 of S.T.E.A.M.-1 presentation in section Training material</i>).</p> <p>Step 2 – Each team is asked to present their drawing, explain what difficulties they had, what strategy used to draw the picture they saw. Trainer reveals the picture and teams can compare what is missing. Trainer explains that drawing a picture is like the construction of knowledge – firstly we learn the basic and general concepts and only later we dig into more detailed knowledge. Trainer makes a parallel between the scientific inquiry and this group exercise – each team member brings in more knowledge about the picture like each scientist brings in a valuable piece of understanding to the whole phenomena.</p> <p>Step 3 – Then trainer presents the most recent and advanced changes in STEM fields, the societal challenges caused by human activity and technological advancement. The theoretical input is finalized by explanation of STEM and STEAM concepts and shifting paradigm in science education. (<i>for the presentation, see S.T.E.A.M.-1 in section Training material</i>).</p> <p>Step 4 – Participants are invited to have a second exercise. Trainer picks up a very recent / important issue for participants (e.g. Refugees in Europe) and writes a question: how can STEAM help us understand and solve the issue? Participants are divided in teams of 4. Each team randomly picks a discipline. Together they brainstorm ideas:</p> <ol style="list-style-type: none"> a) what problems related to refugees it can solve? b) how it would explain the causes of refugee crisis? Each team presents results. Trainer asks participants to discuss the question: do you think incorporation of other disciplines would have helped you with your task? Would other disciplines have enriched your answers? Participants are

	asked to reflect and share how often they show connections between the subjects for their students.
Learning material	Learning material that can be helpful for Step 3: https://www.technologyreview.com/s/526491/agricultural-drones/ https://www.technologyreview.com/s/526521/microscale-3-d-printing/ https://www.technologyreview.com/s/526536/agile-robots/ https://www.technologyreview.com/s/600772/10-breakthrough-technologies-2016-tesla-autopilot/ https://www.technologyreview.com/s/513691/prenatal-dna-sequencing/
Training material	S.T.E.A.M. – 1

Good practice features

Objective of the activity	<ul style="list-style-type: none"> Increasing participants' awareness about core features of STEAM activities.
Description of the activity	<p>Step 1 – Trainer presents core features of good practices described at MARCH project report (<i>for more information, see section Learning material</i>). Participants are given an overview of the logic behind identification of these features. Participants are introduced with the very core of STEAM discourse. Also participants are briefly presented with 6 different types of STEAM activities attractive for students (<i>for more information on S.T.E.A.M.-2 see the section of Training material</i>).</p> <p>Step 2 – After the presentation participants are asked to reflect on it in the groups of 4-5 participants. After discussing for 6-8 min, the groups are asked to share their most “urgent” messages with the rest of the groups. The session is closed by the summary of trainer.</p>
Learning material	Loreta Statauskiene, Ruta Mazgelyte (2016) “ Defining a good practice in STEM education within MARCH framework ”.
Training material	S.T.E.A.M. - 2

STEAM approaches and integration levels

Objective of the activity	<ul style="list-style-type: none"> Providing participants with practical ideas for STEAM activities in their classrooms and encouraging to plan integrated, interdisciplinary lessons.
Description of the activity	<p>The session takes up from the previous part and develops participants understanding about STEAM subject possible connections.</p> <p>Step 1 – Participants are asked about the most usual practice to integrate subjects in their schools and classes. Participants share their experiences with everyone. Trainer invites participants to learn more about variety of integration.</p>

	<p>Participants are presented with 6 progressively difficult integration levels (<i>for more information about Integration levels, see section Training material</i>).</p> <p>Step 2 – Participants are presented 6 different international experiences – good practices with different learning goals and briefly described learning activities. Each of these experiences is presented briefly, outlining main ideas (<i>for more information on S.T.E.A.M.-3 see the section of Training material</i>).</p>
Learning material	More examples of good practice.
Training material	<p>Integration levels: http://www.nap.edu/read/18612/chapter/5#54</p> <p>Integration levels and good practices: S.T.E.A.M. - 3</p>

Analysis of STEAM good practices, ideas for improvement, peers’ feedback	
Objective of the activity	<ul style="list-style-type: none"> Applying STEAM session ideas in STEAM activity design, encourage collaborative work and reflection on STEAM practice in the classroom to empower participants to try new approaches in their lessons.
Description of the activity	<p>Step 1 – Participants are split in teams of 4. They are asked to select one presented good practice or a practice they brought with them (that is even better, but participants should be asked to do that before the session), to discuss problematic areas for implementation in their classrooms and to enrich it on the basis of facilitator delivered theoretic/practical input and the needs of their students. Teachers are once again shown attributes of good practice as discussed in session part II (<i>for Attributes of Good Practices, see S.T.E.A.M.-4 in section Training material</i>). Teams discuss and brainstorm 1-3 solutions for improvement. Each team takes turns and present results to the rest of teams. After each presentation teams are encouraged by the trainer to provide a feedback, comments, observations what could be improved.</p> <p>Step 2 – Trainer gives extra time for teams to discuss if any additional revisions are needed and revise if necessary. Teams report to everyone, whether any suggestions by other groups were used and present the final teaching example (lesson, lesson cycles, project etc.).</p> <p>Step 3 – The session is finalized with reflection questions for participants: do I feel more confident about STEM and STEAM? What was the biggest insight in this module? What I am willing to apply in my classroom?</p>
Training material	S.T.E.A.M. - 4

DAY 3: COLLABORATIVE PROBLEM SOLVING (CPS)

Brainstorming on definition of CPS	
Objective of the activity	<ul style="list-style-type: none"> • Sharing understanding and raising awareness on what is understood by Collaborative Problem Solving • Fostering innovative and critical thinking of participants by using collaborative team work
Description of the activity	<p>Step 1 – Participants in the groups of 5-6 brainstorm on what is their concept (understanding) and ideas involved in the term “Collaborative Problem Solving”.</p> <p>Step 2 – Each group shares ideas that are written and put up into <i>group’s common definition</i> using word cloud, e.g.:</p> <div style="text-align: center;"> </div> <p>Step 3 – The trainer invites participants to reflect on what could be a general framework for collaborative problem solving. Participants work in the same groups discussing steps/phases/framework of CPS.</p> <p>Example of framework:</p> <ol style="list-style-type: none"> 1. Work in teams (learn with and from others) 2. Identify the problem 3. Identify strategies, and choose an approach 4. Draw a plan 5. Execute the plan to solve the problem 6. Reflect on the process <p>Step 4 – Presentation of group work results. It is a task of the trainer to summarize and conclude.</p>
Learning material	<p>http://www.wordle.net/</p> <p>http://www.mentimeter.com</p>

Input on collaborative problem solving and new learning-teaching paradigm	
Objective of the activity	<ul style="list-style-type: none"> • raising awareness of the changes in education paradigm in the context of 21st century skills
Description of the activity	<p>Step 1 - Theoretical input by trainer on collaborative problem solving and new learning-teaching paradigm taking into consideration students’ ‘21st century’ skills. In order to foster the development of students’ 21st century skills</p>

	<p>a transformation of educational policies by integrating innovative and e-learning teaching techniques and learning environments are needed. It is also recommended to use comparison of transversal 21st century skills proposed by the following projects: P21, EnGauge, ATCS, NETS/ISTE, EU and OECD (Voogt, Roblin, 2010) (for the most relevant <i>Transversal competences</i> frameworks available, see section Training material). It is also important to highlight that the learning-teaching process is summarized in the acronym KSAVER (<i>Knowledge-Skills-Attitudes-Values-Ethics and Responsibility</i>).</p> <p>Step 2 – After the presentation trainer organizes group work to discuss new teaching – learning paradigm: participants work in groups of 4-5 discussing the main elements and changes in the paradigm (15 min). The trainers take their own element and focus on ASSESSMENT.</p> <p>Step 3 – Each group gives presents their conclusions. The trainers also give their feedback which may include at least examples of assessment in the new learning-teaching paradigm, such as:</p> <ul style="list-style-type: none"> • Rubrics • Performance-based assessments • Students self-assessment • Peer assessment • Student respond systems • E-portfolio • Teacher assessment <p>The learning paradigm diagram on the presentation means a complete change of the learning teaching learning process:</p> <ul style="list-style-type: none"> – We need to reinvent ourselves as teachers – There are social changes – Challenges for schools – People become the centre of change – We are in the era for collaboration ... <p>EDUCATION must be GLOBALLY TREATED not by parts, fragmented where:</p> <ul style="list-style-type: none"> • strong focus is given to student-centred approaches/ methodologies. • new innovative contexts are being found • old approach that makes innovation more difficult abandoned • approach that focuses, facilitates and impulses innovation is taken
Learning material	<p>The use of ICT for the Assessment of Key Competences, JRC Scientific and Policy Reports, IPTS (2013).</p> <p>Assessment for Learning & ePortfolios. CORE Education (2012).</p>

	Strategic framework. Education & Training 2020 (2014). Key competences for lifelong learning . Europa (2009) 21 st Century Skills (ATCS project) description. Binkley, Herman, Raizen, Ripley, Miller-Ricc and Rumble. (2012) Australian Learning Lecture project .
Training material	Transversal competences

Strategies/ Best practices/ Activities to promote collaborative problem solving

Objective of the activity	<ul style="list-style-type: none"> Analyzing and focusing on different activities to promote and focus on collaborative problem solving
Description of the activity (what and how)	<p>Theoretical input provided by trainers sharing different examples on:</p> <ol style="list-style-type: none"> Learning/ working students – teachers groups-team Learning/ working teachers – teachers groups-teams Learning/ working students - students groups-teams ICT environment/tools (see the section Training material) <p>It is important to save some time for participants' questions and comments.</p>
Training material	Examples of activities to promote CPS

Lesson planning on CPS

Objective of the activity	<ul style="list-style-type: none"> Getting to know to a webquest tool for planning and implementing lesson/educational unit
Description of the activity	<p>Step 1 - A webquest tool is presented to participants. Participants in their Idea-groups (those working on learning scenarios/training units) go through webquest template and view the examples provided (see the section on Learning material).</p> <p>If there would be a need, a plenary explanatory session might be held.</p> <p>Step 2 - Idea-groups develop a webquest on their thematic ideas using the template given (even if the original idea chosen by the group does not concern CPS, the group might decide to develop a webquest for one of the elements/phases of their lesson/training unit).</p> <p>Step 3 – Idea-groups exchange their webquests. Evaluation of a webquest prepared by another group according to the following criteria, providing feedback:</p> <ul style="list-style-type: none"> - relevance of learning goals and objectives - eligibility of methods/activities to learning objectives - diversity and balance of methods/activities - relevance of evaluation

	Step 4 – Reflection of the exercise (what did work best, what was the most/least useful etc.).
Learning material	The Webquest design process Webquest examples: http://centros.edu.xunta.es/cpiocruce/materiales/dickens/dickensi/index.html http://centros.edu.xunta.es/cpiocruce/etm/arhivos/wq/wqsespanol/roadsantiago.htm http://centros.edu.xunta.es/cpiocruce/etm/ainvencible/ai/index.htm
Training material	Webquest tool

Recapitulation of the key issues in CPS	
Objective of the activity	<ul style="list-style-type: none"> Analyzing the key issues dealt with during the workshop day session.
Description of the activity	<p>Step 1 - Plenary reflection “Do we realise that the day’s session in itself a collaborative problem solving process?” The most important ideas are written down and left up visible for the rest of the course sessions.</p> <p>Step 2 - RECAP: Do we all agree that “Collaborative Problem Solving” means? Participants discuss in small groups of 4-5 first, present summary of their discussions in plenary (the meaning of CPS). The previous ideas can be a possible result, e.g., <i>Communication, Cooperation, Responsiveness, Exchange of knowledge, Exploring and understanding, Representing and formulating, Planning and executing, Monitoring and reflecting.</i></p>

DAY 4

Theory on games and gamification in learning, followed by examples of best practices	
Objective of the activity	<ul style="list-style-type: none"> Introducing participants with the types and directions of gamification in teaching; providing examples of best practices
Description of the activity	<p>Step 1 - A theoretical input on games and gamification in learning is provided to participants. The theoretical part also includes examples of good practice (see section Training material).</p> <p>Step 2 - After the input participants are divided into the groups of 4-5 people. In order to accommodate the transfer of information, groups are asked to reflect on the theme and personal experience of participants and discuss “what are the challenges and possibilities of games and gamification in today’s school”. Top 3 items of each list are presented in plenary and discussed.</p>
Learning material	<p>Lee, J. J. & Hammer, J. (2011). Gamification in Education: What, How, Why Bother? <i>Academic Exchange Quarterly</i>, 15(2),</p> <p>Macie Hall. What is Gamification and Why Use It in Teaching?</p> <p>Michael Logarta. The gamification of education: Why playing is the future of learning,</p> <p>Rambo Levin. A Practical Way To Apply Gamification In The Classroom,</p> <p>Yu-kai Chou. What is Gamification,</p> <p>Yu-kai Chou. Gamification in Education: Top 10 Gamification Case Studies that will Change our Future,</p> <p>The gamification of education. Infographics,</p> <p>Increase student engagement by gamifying your classroom,</p> <p>Game-Based Learning: from A to Z.</p>
Training material	<p>A theory input on games and gamification (alternative 1)</p> <p>A theory input on games and gamification (alternative 2)</p>

Discussion "How would you use games and gamification for learning and evaluation?"	
Objective of the activity	<ul style="list-style-type: none"> exploring effects and possibilities of gamification in education sharing examples of use of game elements and game thinking in classroom
Description of the activity	<p>Step 1 – Participants are divided into groups of 6-7. Each group discusses and selects one problem/challenging situation at the school/classroom/teaching, e.g., students do not prepare homework; talented students are often bored in the lessons etc. (10 min)</p>

	<p>Step 2 – situations are being collected, shifted and re-distributed among the groups. The task for the group – to take a creative approach and prepare a few steps’ plan how gamification or game thinking could help in the situation received. (20-25 min)</p> <p>Step 3 – Each group presents the results of their discussions to the rest of participants. Group is encouraged to contribute with the examples of their practices. (25-30 min)</p>
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Practicing ICT tools for learning and evaluation	
Objective of the activity	<ul style="list-style-type: none"> Improving abilities of participants using innovative teaching methods and ICT in their teaching practice.
Description of the activity	<p>Interactive introduction by the trainer of the variety of ICT tools for use in teaching and evaluation.</p> <p>Presentation can be combined with short practical individual or group tasks in order to help participants better understand the meaning and purpose of ICT tools (<i>for more information on use of ICT tools, see section Training material</i>).</p>
Learning material	<p>Priyanka Gupta. Tools, Tips & Resources Teachers Must Know to Learn About Gamification of Education https://www.blendspace.com/ http://www.wikispaces.com/content/teacher https://drive.google.com https://skydrive.live.com http://en.linoit.com/ http://padlet.com/ http://www.cobbk12.org/centraloffice/instructionaltechnology/IL/Web2_0/Web_2.0_Tools_for_Teachers.pd www.quizizz.com https://create.kahoot.it/#login?next= https://plickers.com/</p>
Training material	<p>Use of ICT tools for gamification</p>

Developing a game / gamification elements for learning	
Objective of the activity	<ul style="list-style-type: none"> Acquiring techniques and practicing to develop innovative tools and elements needed to make learning/teaching process more attractive and motivating. Creating educational content for participants’ teaching practices
Description of the activity	<p>Step 1 - A template for gamification of learning and evaluation process is presented to participants (<i>see the section on Training material</i>).</p> <p>Participants in their Idea-teams (those working on learning scenarios/training units) choose what part/phase of their scenario they want to gamify/integrate a game.</p>

	<p>Step 2 - Idea-teams develop plans for gamification of their ideas (using template for the reference).</p> <p>Step 3 – Each Idea-teams presents their plan in the plenary. Other groups listen carefully and – after short internal discussions within their own groups - provide their comments and feedback. The group that presented gamification plan collects feedbacks from all groups. After every group has shared their gamification plans and received peer-feedback, they go to Step 4 of the exercise.</p> <p>Step 4 – Idea-teams discuss feedback received and improve their gamification plans accordingly.</p> <p>Step 5 – Reflection of the exercise (<i>what worked/what did not work, what was the most/least useful, etc.</i>).</p>
Training material	Template for gamification

DAY 5

Developing and presenting, learning scenario/training unit, providing peer feedback	
Objective of the activity	<ul style="list-style-type: none"> • Enabling participants to enrich their teaching practices by developing innovative tools, techniques and ways to make teaching and learning more attractive and motivating. • Improving presentation, observation and feedback giving skills of participants • Developing active listening skills, learning to discuss constructively.
Description of the activity	<p>Step 1 – Participants work in their Idea-teams finalizing learning scenario/training units they have been developing throughout the week.</p> <p>Step 2 – Each team should introduce their learning scenario/training unit to the rest of participants and choose an element (max 15 min) to implement (test).</p> <p>Step 3 – After each Idea-team has shared their learning scenarios, the participants are divided into groups of 3 (members of Idea-teams split into different groups).</p> <p>The structure of group work:</p> <ul style="list-style-type: none"> • 1 person speaks, shortly reminding the idea of the scenario developed by his/her team, others stay silent and listen carefully (up to 5 minutes) • After a person has spoken, s/he stays silent, others give their feedback and suggestions (up to 5 minutes) • All participants discuss the scenario presented (up to 5 minutes) <p>After 15 minutes group members swap roles and other members present their idea.</p> <p>Step 4 – After group has finished its work, participants come back to their Idea-teams and share news from colleagues' consultations and feedback received. Decisions might be taken what could be improved, skipped or added in the learning scenarios/training units.</p> <p>Step 5 – Reflection.</p> <p>Reflection may be held in plenary. Questions to discuss:</p> <ul style="list-style-type: none"> • <i>Were consultations with colleagues useful and if so, how?</i> • <i>What was difficult/easy when conducting discussions in such a structured manner? Why?</i> • <i>What main problems were solved?</i>
Training material	Gailius Ž., Malinauskas A., Petkauskas D., Ragauskas L. (2015) Handbook for people working with youth groups ,

Future plans

Objective of the activity	<ul style="list-style-type: none"> • presenting opportunities to participants for their further professional development at national and European levels • providing space for participants to discuss and agree on needs and ways of their further communication and cooperation
Description of the activity	<p>Step 1 – if relevant, participants are being introduced to opportunities for professional development (e.g., training courses, learning communities / platforms, MOOCs, etc.)</p> <p>Step 2 – Discussion “How we’d like to cooperate after the training course is finished” is open for participants. It is important that trainer would not interfere or bring in his/her proposals. Recommended role for the trainer – rapporteur (write down the agreements reached by the group).</p>

Evaluation of the training course	
Objective of the activity	<ul style="list-style-type: none"> • Evaluating the impact of the training course and extent to which the expectations of participants were met; • Evaluating awareness and knowledge progress of participants; • Receiving feedback from participants as well as suggestions for improvement.
Description of the activity	<p>Evaluation part usually is linked with the beginning of the training course and identifying participants’ awareness level and expectations. Depending on the overall aim of evaluation. the course might consist of many different aspects and elements. In this programme, the evaluation maintains clear links and seeks to identify learning progress achieved by participants, their learning outcomes; it is also linked to expectations of participants at the beginning of the course – to what extent they have been fulfilled during 5 days’ programme. It also covers evaluation of the content, programme and its implementation.</p> <p>Sufficient time should be allowed for the evaluation of the learning process. Practice suggests that Getting to know each other, Ice-breaking activities, Identification of Expectations and Evaluation parts together might take 20-25 % of the training time.</p> <p>Step 1 – Awareness and learning progress self-evaluation. Participants are asked to fill in the Evaluation form that has integrated questions from the Pre-evaluation form (marking level of experience in four thematic areas of the course). <i>For the example, of Evaluation form, see the section of Training</i></p>

	<p><i>material</i>. In order to track the progress, participants are asked to attach their Pre-evaluation forms together.</p> <p>In case if an instant feedback is needed, <i>Google forms</i>, <i>mentimeter.com</i> etc. can be used to develop on-line questionnaire. After filling it in, the summary of evaluation aspects may be visualized on the screen.</p> <p>Step 2 – Learning outcomes. Trainers should choose the method that would help participants to name and conclude the experience gained and lessons learnt (naming the most important things, lessons, conclusions, discoveries, achievements, challenges, remaining questions, etc.). A great variety of methods exist. However, in this training course, we recommend to use “Suitcase method”. A big sheet of paper, as well as online tools (e.g., <i>Padlet</i>, <i>mentimeter.com</i>) may be used. Suitcases are drawn on large sheets of paper. Participants “pack” them (write down) with everything they received, experienced, understood during the training course and what everyone takes away from the session. After an idea is written down, the suitcase is passed around (in a circle). There can be two or more suitcases so that participants do not need to wait until the suitcase makes an entire circle. After the suitcases are “packed”, someone reads aloud everything that has been written. Exercise may take up to 20-25 min.</p> <p>Step 3 – Link to expectations. A large sheet of paper with the Expectation tree is brought to the centre: hopes are placed on the branches, the input is put on the trunk and the fears – on the roots. Participants are asked to find their own sticky notes and do the following:</p> <ul style="list-style-type: none"> - Take away the hopes that were fulfilled; - Take away the inputs that were realized; - Take away the fears that did not become true. <p>The sticky notes remaining on the tree should be read, commented and discussed.</p> <p>Step 4 – the Last round. The team of participants and trainers has the last chance for the last sentence. The topics should not be limited.</p> <p>Step 5 (optional) – Certificates.</p>
Learning material	Evaluation form
Training material	Gailius Ž., Malinauskas A., Petkauskas D., Ragauskas L. (2015) Handbook for people working with youth groups ,

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