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

COLLECTION OF DIGITAL LEARNING OBJECTS

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Collaborative Problem Solving
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ERASMUS + KA 2

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Content

Project partners

Project coordinator

- Education development centre, Vilnius, Lithuania

Project partners:

- Alytus Putinai gymnasium, Alytus, Lithuania
- Business Finance College – Sofia, Bulgaria
- OU MIKSIKE, Estonia
- 1o Genico Lykeiothesalonikis, Greece
- Epimorfotiki Kilkis Single Member llc, Greece
- Congregazione suore Francescane Missionarie del sacro cuore (Roma), Italy
- Jēkabpils, Center for Education Initiatives, Jekabpils, Latvia
- Educational Resources and Training Centre, Sesimbra, Portugal
- Conselleria De Cultura, Educacion E Ordenacion Universitaria, Santiago de Compostela, Spain


The introduction

This collection of digital learning objects (DLO) is one of the intellectual outputs developed during the lifetime of "Erasmus+" KA2 project "Innovative teacher – motivated student: collaborative problem solving". Project partners representing 8 European countries (Bulgaria, Estonia, Greece, Italy, Latvia, Lithuania, Portugal and Spain) created digital learning objects and ideas for creating digital learning objects.

The aim of this collection is to provide handy examples and ideas for teachers to improve their work in the classroom. And also to make teachers work easier. The Collection includes digital learning objects on CPS skills and aimed to enrich existing database of digital learning resources and contribute to increasing students' learning achievements. All DLO developed by international teams of participants and tested.

DLO are small, modular, discrete units of learning designed for electronic delivery and use. To facilitate reuse with a minimum of effort, a learning object is "packaged" to include a lesson, an activity, and an assessment.

DIGITAL LEARNING OBJECTS

1. Algoritms

Title	Algoritms
Content/ Subject areas	IT, English, art
Target group: age range and size of the group	8–12 years old students. 15 students in the group.
Educational level	Primary, basic school
Learning objectives / competences	Using the games and creative tasks learn the basics of programming / learning to learn, creativity, cognition, communication
Description of overall activity	1. The students are introduced about programming concepts. 2. Playing ScottieGo! are learning steps of programming. 3. Solution of tasks: "Trees", "Anthills", "Mountains climbing" to enhance knowledge. 4. The students' paints and create similar task. 5. Presentation of created tasks. 6. Self-assessment and assessment. 7. Lesson reflection.
Assessment	The self-assessment tool "Cobweb"
Timing	2x45
Prerequisites: *- technology requirements; before viewing the DLO*	Computers, laptops, interactive whiteboard, Apps ScottieGo!
The sources for the information	• ScottieGo!: https://scottiego.pl/en/ • Trees: https://sodas.ugdome.lt/grotuvas/64afcc66-f1d1-4cd8-9cb4-ecc0423a324a?showLocaleChangeLinks=true • Anthill: https://sodas.ugdome.lt/grotuvas/e758eea2-2c9b-444f-8ac5-856b7236c891?showLocaleChangeLinks=true##mo1 • Mountain climbing: https://sodas.ugdome.lt/grotuvas/6a27b21b-522e-48f0-a4c0-fa63eda411d5?showLocaleChangeLinks=true##mo1 • Cobweb: http://www.ugdome.lt/kompetencijos5-8/mmkvi/isivertinimo-irankis-voratinklis/
Contacts	Education Development Centre, info@upc.smm.lt

2. Insects

Title	Insects
Content/ Subject areas	Natural Science, IT, English
Target group	11-13 years old students, size of the group 20-24
Learning objectives / competences	Get to know with a variety of insects and life of ants / cognition, learning to learn, creativity
Description of overall activity	1. Brainstorming about insects. 2. The teacher and students talk over lesson topic and objectives 3. Talk about a variety of insects. 4. The game „The green investigator“, part „Anthill“. 5. Task „Anthill“ 6. Working groups: using the Internet, textbooks and other literature to prepare presentation about life of ants, the main words could be written in English. 7. Presentation, discussion, evaluation, self-assessment, assessment. 8. Lessons reflection.
Assessment	Cake distribution
Timing	2x45
Prerequisites *- before viewing the DLO*	Computers, interactive whiteboard none
The sources for the information	• The green investigator: https://sodas.ugdome.lt/grotuvas/d5397a42-9dfa-4c15-ad40-4b353d234062?showLocaleChangeLinks=true • Anthill: https://sodas.ugdome.lt/grotuvas/e758eea2-2c9b-444f-8ac5-856b7236c891?showLocaleChangeLinks=true##mo1 • Cake distrubution: http://www.ugdome.lt/kompetencijos5-8/wp-content/uploads/2013/01/Grupes_darbo_isivertinimas_pyrago_dalijimas.doc
Contacts	Education Development Centre, info@upc.smm.lt

3. IT Olympic day

Title	IT Olympic day
Content/ Subject areas	IT
Target group: age range and size of the group	12–15 years old, 20 students in the group
Learning objectives / competences	To encourage to interest to IT, to learn coding / learning to learn, creativity, personal
Description of overall activity	1. The students will get prepared tasks. The task package may be prepared with this tasks: *Exploring paths*, *Many trails*, *Beetroot soup*, *Beaver lodges*, *Beaver school*, *Trees*, *Mountain climbing*, *Anthill*, *Chocolate bars*, *During a break* 2. In the second stage, the students created the tasks themselves: junior can create on the paper, the elders – in computer. 3. Presentation of created tasks. 4. Jury evaluation. 5. Award the winners. 6. Event reflection.
Assessment	The best students will awarded by prizes.
Timing	2x45
Prerequisites: - technology requirements; - skills which the learner must have before viewing the DLO	Computers none
The sources for the information	• Exploring paths: https://sodas.ugdome.lt/grotuvas/f10baebe-c1e2-4e10-bdb9-ba413aed3ef2?showLocaleChangeLinks=true##mo1 • Many trails: https://sodas.ugdome.lt/grotuvas/8de60755-496b-49d6-b27e-b95b0f53c586?showLocaleChangeLinks=true##mo1, • Beetroot soup: https://sodas.ugdome.lt/grotuvas/2ef13bab-0d7d-471e-8cdf-a97c8a972c31?showLocaleChangeLinks=true##mo1 • Beaver lodges: https://sodas.ugdome.lt/grotuvas/5658f2ef-198a-400b-89ac-0eabc36e3c20?showLocaleChangeLinks=true##mo1 • Beaver school: https://sodas.ugdome.lt/grotuvas/89e67bc9-eeae-483f-a429-ebc8f6f3f6ef?showLocaleChangeLinks=true##mo1

	• Trees: https://sodas.ugdome.lt/grotuvas/64afcc66-f1d1-4cd8-9cb4-ecc0423a324a?showLocaleChangeLinks=true • Mountain climbing: https://sodas.ugdome.lt/grotuvas/6a27b21b-522e-48f0-a4c0-fa63eda411d5?showLocaleChangeLinks=true##mo1 • Anthill: https://sodas.ugdome.lt/grotuvas/e758eea2-2c9b-444f-8ac5-856b7236c891?showLocaleChangeLinks=true##mo1 • Chocolate bars: https://sodas.ugdome.lt/grotuvas/d80cc335-9ffc-4ff7-b376-7cb89a971c1c?showLocaleChangeLinks=true##mo1 • During a break: https://sodas.ugdome.lt/grotuvas/69a6434e-ea80-4cab-8a73-01ad15c3fa08?showLocaleChangeLinks=true
Contacts	Education Development Centre, info@upc.smm.lt

4. Probability

Title	Probability
Content/ Subject areas	Mathematic, IT
Target group: age range and size of the group	14- 15 years old students, group of 20–24 students
Educational level	Basic school
Learning objectives / competences	Students will learn to calculate the relative frequency of the outcome of the test and, based on it, will have a simple conclusions about the likelihood of the outcome / learning to learn, creativity, cognition
Description of overall activity	1. Task "Chocolate bars" 2. The teacher and students talk over lesson topic and objectives. 3. The students clarifying the main principles solution of this type tasks, solution it and learn to formulate conclusions. 4. Self-assessment. 5. Homework: to create one probability task (on the paper). 6. Lessons reflection.
Assessment	The self-assessment tool "Cobweb"
Timing	45'
Prerequisites: - technology requirements; - skills which the learner must have before viewing the DLO	Computers, interactive whiteboard none
The sources for the information	• Chocolate bar: https://sodas.ugdome.lt/grotuvas/d80cc335-9ffc-4ff7-b376-7cb89a971c1c?showLocaleChangeLinks=true • Cobweb: http://www.ugdome.lt/kompetencijos5-8/Irankiai/Voratinklis/index.html
Contacts	Education Development Centre, info@upc.smm.lt

5. Route planing

Title	Route planning
Content/ Subject areas	Physical Education
Target group: age range and size of the group	16 years old students 20-24 students in the group
Learning objectives / competences	The students will learn to plan tourist route in different areas / cognition, creativity, learning to learn.
Description of overall activity	1. Student watch a short excursion scene. 2. Brainstorming about the main parts of excursions plan. 3. Discussion about the main principle for planning tourist route. 4. Working group: using the Internet students plans chosen tourist route. 5. Presentation of created tourist routs. 6. Talk over the created tourist routs, self-assessment and assessment. 7. Student solve the task "Mountains climbing" 8. Discussion why namely this task was solved and what can be learned from it. 9. Lesson reflection.
Assessment	The self-assessment tool "Cobweb" Classmates assessment
Timing	2x45
Prerequisites: - technology requirements; - skills which the learner must have before viewing the DLO	None None
The sources for the information	• Mountain climbing: https://sodas.ugdome.lt/grotuvas/6a27b21b-522e-48f0-a4c0-fa63eda411d5?showLocaleChangeLinks=true##mo1 • Cobweb: http://www.ugdome.lt/kompetencijos5-8/mmkvi/isivertinimo-irankis-voratinklis/
Contacts	Education Development Centre, info@upc.smm.lt

6. Soups

Title	Soups
Content/ Subject areas	Technology, Foreign language, IT
Target group: age range and size of the group	age range 13–14, group size 12–16
Learning objectives / competences	Using the Internet, textbooks and other literature to prepare the visual material about soups, to cook the soup made, to develop a bilingual illustrated dictionary of soups / competences: communication, creativity, learning to learn, cognition.
Description of overall activity	1. Creative task DLO "Beetroot soup". 2. Talk about the themes of lesson cycle and objectives. 3. Brainstorming: what kind of soups you know? 4. Working groups. The recommended group size - 4 students. Task: using the Internet, textbooks and other literature to prepare the visual material about soups (it can be poster, presentation and etc.) 5. Presentation, discussion, evaluation, self-assessment. 6. Working groups. Task: to prepare cooking technology card of selected soup. 7. The cooking of selected soup, serving table, tasting soups. 8. Discussion, evaluation, self-assessment. 9. Working groups. Task: to develop a bilingual illustrated dictionary of soup (using presentation and practical work). 10. Presentation, discussion, evaluation, self-assessment. 11. Lessons reflection
Assessment	Cake distribution, cobweb
Timing	6x45'
Prerequisites: - technology requirements; - skills which the learner must have before viewing the DLO	Computers, internet access None
The sources for the information	• Beetroot soup • Cake distrubution • Cobweb
Contacts	Education Development Centre, info@upc.smm.lt

7. The sum

Title	The sum
Content/ Subject areas	Mathematic, IT, English
Target group: age range and size of the group	7-10 years old students, size of the group – 20 students
Learning objectives / competences	Learn / repeat the sum using of IT / competences: learning to learn, creativity.
Description of overall activity	1. Task: the students count the one-digital numbers. 2. The teacher and students talk over lesson topic and objectives. 3. The students solve the computer tasks: „Beavers school“, „Anthill“, „Mountain climbing“, „Beaver lodges“ 4. It discusses how students fared. Self-assessment. 5. Group working: the students created similar task (posters, presentation). 6. Tasks presentation and solution. 7. Lessons reflection
Assessment	The self-assessment methods: Cake distribution, cobweb
Timing	2x45’
Prerequisit: - technology requirement; - skills which the learner must have before viewing the DLO	Computers, interactive whiteboard None
The sources for the information	• Beavers school: https://sodas.ugdome.lt/grotuvas/89e67bc9-eeae-483f-a429-ebc8f6f3f6ef?showLocaleChangeLinks=true, • Anthill: https://sodas.ugdome.lt/grotuvas/e758eea2-2c9b-444f-8ac5-856b7236c891?showLocaleChangeLinks=true, • Mountan climbing: • Beaver lodges • Cake distribution • Cobweb: http://www.ugdome.lt/kompetencijos5-8/wp-content/uploads/2013/01/Isivertinimo_metodas_Voratinklis.doc
Contacts	Education Development Centre, info@upc.smm.lt

8. Time management

Title	Time management
Content/ Subject areas	Healthy lifestyle, IT / biology, IT / class meeting
Target group: age range and size of the group	12–13 year old, 20–24 students in the group
Learning objectives / competences	Access to importance of time management to human health, to learn to plan their activities / personal, social, learning to learn
Description of overall activity	**1.** Talk about students' habits to manage the time. **2.** Working group: Searching of the information about importance of time management for presentation. **3.** Presentation of groups works. **4.** Discussion about connection between time management and healthy lifestyle. **5.** Time management: DLO "During a break" **6.** Self-assessment. **7.** Home work: to create one day in your life. **8.** Reflection.
Assessment	Self-assessment tool "Cobweb"
Timing	45'
Prerequisit: - technology requirement; - skills which the learner must have before viewing the DLO	Computers, internet access None
The sources for the information	• During a break: https://sodas.ugdome.lt/grotuvas/69a6434e-ea80-4cab-8a73-01ad15c3fa08?showLocaleChangeLinks=true • Cobweb: http://www.ugdome.lt/kompetencijos5-8/wp-content/uploads/2013/01/Isivertinimo_metodas_Voratinklis.doc
Contacts	Education Development Centre, info@upc.smm.lt

9. Adjectives/adverbs

Title	Adjectives/adverbs (revision lesson using Quizzes)
Content/ Subject areas	Foreign language (English)
Target group: Educational level	14-15-year-old students (basic level)
Learning objectives / competences	1. To systematize the information. 2. To develop English Usage skills.
Description of overall activity	Having learnt how to use adjectives and adverbs (comparatives, superlatives, order of adjectives, etc.), students will revise the use. 1. The teacher reminds the theoretical part of the subject. 2. The teacher distributes handouts to revise the subject (appendix 1). 3. Students complete the given tasks and check them. 4. The teacher introduces the beforehand prepared quiz on QUIZIZZ, https://quizizz.com/login 5. Students do the quiz individually or in pairs in their mobile phones. 6. Students get the feedback on ones' progress.
Description of the process and teaching/ learning strategies used	**1.** The teacher opens the prepared quiz. https://quizizz.com/admin/quiz/58d663385c01086e58552605 **2.** The teacher presses PLAY LIVE button. **3.** The teacher presses PROCEED button. **4.** The teacher asks students to enter the address join.quizizz.com and the code displayed on the teacher's screen into their mobile phones. **5.** The students are asked to enter their names which appear on the teacher's screen after they have done that. **6.** The teacher presses START GAME button. **7.** Each student does the quiz in his/her mobile phone. **8.** After having finished the game, each student sees his/her score on the teacher's screen. **9.** While looking at the teacher's screen, students analyze the concrete mistakes made and correct them.
Evaluation/ types of assessment	Students are assessed according to the given criteria (peer-assessment, self-assessment and summative are used)
Materials and tools	Tools needed: computer network, Internet connection, mobile phones; Materials and sources used: https://quizizz.com/admin/quiz/58d663385c01086e58552605 (prepared by Vida Brindziene, an English teacher of methods)
Timing and learning environment	45 minutes
Conclusion	Teamwork and cooperative learning; IT usage in the lesson. One mobile phone may be used for two students.
Contacts	Alytus Putinų gymnasium gimnazija@putinai.alytus.lm.lt

10.Personal finance

Title	Personal finance
Subject area/ Topic	Personal finance (may be adapted)
Target group:	
- age range	16-17 years old
- size of the group	32 students
- level of difficulty	Intermediate
Learning objective/ competences	To check students awareness on income, work, personal budget, taxes and salaries while using the program Smart Notebook 16.1.
Description of activity	Students will do a test in the mobile phones when using the program SMART Notebook 16.1 - SMART response2. 1. Write the address www.classlab.com and the generated code, press the button *Enter*. 2. In the box *Your name* write your name and press the button below *Join the Activity*. 3.Wait for the teacher‘s command *Start the activity.* 4. Do the test and press *Submit All Answers*. 5. Wait for the teacher‘s command *Finish.* 6. The teacher uploads the results into her/his computer.
Assessment	Reflection of the learning results during the lesson (0,5 point for each correct answer.)
Timing	45 min.
Prerequisites: technology requirements	Tools needed: Internet connection, computer network, a smart board or Multimedia, the program SMART Notebook 16.1 installed in the computer. Each student is to have a smart phone or a tablet and the access to the NET. 30 Geography lessons and samples of Good Practice are uploaded in this website http://pamokos.bmk.lt/lt/pamokos/search (Basic education - Geography: ID: 2011, ID: 1932, ID: 1831, ID: 1756, ID: 1731, ID: 1696, ID: 1695, ID: 1693, ID: 1692, ID: 1683).
Skills which the learner must have before viewing the DLO	Making a test is not complicated, basic IT skills are sufficient.
The sources for the information	Annex.DLO Notebook. To use this program: 1) open the website http://pamokos.bmk.lt/lt/idiegimo_failai, 2) choose the file SMART Notebook 16.1 version (for the ones having the code of version 16.1.), 3) download it and install following the provided instructions http://pamokos.bmk.lt/lt/pamokos/id=2584
Contacts	Jolita Noruvienė, n.jolita@gmail.com Alytus Putinai gymnasium, gimnazija@putinai.alytus.lm.lt

11. Italian Culture: Customs & Traditions, Food

Title	Italian Culture: Customs & Traditions, Food
Subject area/ Topic	To know more about the Italian food, to create pizza recipes and learn to work with Padlet and AutoCollage programs and make pizza in the kitchen.
Target group:	
- age range	15-16
- size of the group	12
- level of difficulty	Intermediate
Learning objective/ competences	a) To learn how to use Padlet and AutoCollage programs and IT tools. b) To combine theory with practice. c) To learn to collaborate. d) To learn more about other cultures.
Description of activity	Lesson 1 1.Students discuss the Italian traditions https://www.youtube.com/watch?v=_Mc4cbQSyDw http://italian.food.com/ http://www.food.com/topic/pizza-italian 2. Using Quizes program students do Italian Quizz. https://quizizz.com/admin/quiz/5936822864209d170066d954 3. Working in groups of 4 students create their own pizza recipes. 4. A teacher introduces to the students the program Padlet. www.padlet.com https://www.youtube.com/watch?v=UkBnwPqaIjA 5. All groups send the created pizza recipes to the teacher. A group B group C group https://padlet.com/virga_petrulionyte/9ewmdwh2k6bs Lesson 2 1. A teacher gives the questions to the students and they search for the answers on the Internet. Question about Italian.doc 2. Everybody discusses the chosen answers. 3. A teacher introduces the program AutoCollage 2008, https://microsoft-autocollage-2008.en.softonic.com/ 3. Students create the pizza auto collage using the ingredients of their own created recipes. 4. Students send the teacher the pizza auto collages. https://padlet.com/virga_petrulionyte/9ewmdwh2k6bs Lesson 3and Lesson 4 Students make pizzas in the same groups of 4 in the kitchen.
Assessment	The assessment of the results consists of the complexity of the chosen: recipe+pizza auto collage+ baked pizza. (pizza assessment criteria: more than 10 ingredients, real Italian taste, solid group work in the kitchen.)
Timing	4 lessons x 45min.

Prerequisites:

- technology requirements	Internet , computers, mobile phones.
- skills which the learner must have before viewing the DLO	How to work with Padlet and AutoCollage programs. (Useful but not compulsory)
The sources for the information	www.youtube.com , http://www.food.com https://www.tes.com/lessons/-EnDau5aMUVI9w/edit https://padlet.com/virga_petrulionyte/9ewmdwh2k6bs Italian Culture Customs, Traditions, Food.doc Italy.ppt Italian_quiz.ppt
Contacts	Alytus Putinų gymnasium gimnazija@putinai.alytus.lm.lt Virginija Vasiliūnienė virga.petrulionyte@gmail.com

12.Corruption levels in a social environment

Title	**Corruption levels in a social environment**
Subject area/ Topic	Business and management, citizenship basics
Target group:	
- age range	16 - 19
- size of the group	20 - 24
- level of difficulty	
Learning objective/ competences	Using the Internet http://www.transparency.lt/korupcijos-suvokimo-indeksas-ksi/, to analyze the level of corruption perception in Lithuania, to assess corruption level in business in the context of Alytus city, to create social advertising.
Description of activity	1. Talk about the themes of lesson cycle and objectives (5 min.) 2. Practical task http://www.transparency.lt/korupcijos-suvokimo-indeksas-ksi/, (25 min.) 3. Theoretical introduction. (15 min.) 4. Working groups. The recommended group size - 4 students. Chosen form: "fish bone diagram", https://create.kahoot.it/#poll/a1f12af3-590e-4964-bef1-8cffb777af7b, https://create.kahoot.it/#poll/a5f811ba-bdf8-479d-8132-f12213aad80c to assess the causes of corruption (45 min). 5. Presentation, discussion, evaluation (15 min.) 6. Advertising plan is being created (20 min.) 7. Presentation of the plan (10 min.) 8. Advertising is being created by the chosen form (drawing, photo, video). 45 min. (collage) 9. Evaluation of advertising www.kahoot.it, http://www.ugdome.lt/kompetencijos5-8/wp-content/uploads/2013/01/Isivertinimo_metodas_Voratinklis.doc reflection (45 min.)
Assessment	www.kahoot.it, cobweb,
Timing	5x45
Prerequisites:	
- technology requirements	Computers, internet access
- skills which the learner must have before viewing the DLO	none
The sources for the information	• https://create.kahoot.it/#poll/a1f12af3-590e-4964-bef1-8cffb777af7b, https://create.kahoot.it/#poll/a5f811ba-bdf8-479d-8132-f12213aad80c • Cobweb , cardboard camera
Contacts	Alytus Putinai gymnasium, gimnazija@putinai.alytus.lm.lt

13.Direct and inverse proportionality

Title	Direct and inverse proportionality
Subject area/ Topic	Direct and inverse proportionality (Mathematics, technologies)
Target group:	
- age range	Grade 5-6 (10-12years old)
- size of the group	N.A.
- level of difficulty	Easy
Learning objective/ competences	To strengthen knowledge about the direct and indirect proportionality. To strengthen technology competences. To develop a logical thinking, initiative, creativity. Communication and co-operation.
Description of activity	DLO is created by the sudents of 5th and 6th grade in mathematics with the direct goal – to strengthen knowledge about the direct and inverse proportionality. But also, for creating of this DLO, technology skills as well as communication an creativity were involved. Therefore, the use of this DLOs can be diverse: 1. It can be used by teacher as ilustration of the topic and as initiation of discussion about examples of the direct and inverse proportionality in real life. 2. It can be used aslo as an example for creating learning videos by students.
Assessment	Self- assesment (Pupils themselves can check the understanding of the topic)
Timing	7 min
Prerequisites:	
- technology requirements	Individually: the mobile phone or the computer with Internet connection In a group: computer and projector
- skills which the learner must have before viewing the DLO	Knowledge how to use a mobile phone or computer to play the DLO.
The sources for the information	Video of DLO (attached)
Contacts	Eva Lasmane, Sanita Eglite, Valmiera Primary school sanitaeglite.vs@gmail.com

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14.The national flags of European Union countries

Title	The national flags of European Union countries
Subject area/ Topic	Social sciences, geography, history
Target group:	
- age range	From grade 6 (12 years and more)
- size of the group	~20 students
- level of difficulty	Easy
Learning objective/ competence	To get more knowledge about EU countries, their national symbols. European citizenship, technology.
Description of activity	DLO is created using program „Quizizz.com“. Teacher can use this DLO without signing in. 1. Go to the link: https://quizizz.com/admin/quiz/59258231c7d7581000dca0fe 2. Press the button „Play Live“. 3. Press on the red line at the bottom of the popup window. 4. Press the button „Proceed“, and the game code from 6 number will appear. 5.Students can join the game through their mobile phones, tablets or computers, by goint to https://quizizz.com/join/ and entering game code. 6.When students are registered, teacher starts the game.
Assessment	Each child can see his/her own answers - correct or incorrect, as well as number of received points and place in the class to compare with others students. The teacher can see results of each child, all correct and incorrect answers.
Timing	Individual, ~10-20 minutes.
Prerequisites:	
- technology requirements	Computer, mobile phones or tablets, Internet connection
- skills which the learner must have before viewing the DLO	Knowledge how to use a mobile phone or computer to play the DLO. Basic knowledge about flags of EU countries.
The sources for the information	https://quizizz.com/admin/quiz/59258231c7d7581000dca0fe
Contacts	Liga Krumina, Secondary School of Aluksne district likrumina@inbox.lv

15.Paper

Title	Paper
Subject area/ Topic	Experiment "Paper glass - pot" (Science, physics, technologies)
Target group:	
- age range	Grade 5-6 (10-12years old)
- size of the group	20 students
- level of difficulty	Easy
Learning objective/ competences	To clarify the properties of paper. Is it possible to boil the water for the tea in a paper glass? Problem solving, Communication and co-operation, Critical thinking
Description of activity	1. The teacher divides the group in pairs. 2.The teacher asks to prepare materials for the experiment. 3. The teacher shows the DLO to the students and then students make sure that they have got all the materials to start the experiment. 4.After watching DLO, students start doing experiment step by step. 5. Students perform the experiment. 7. The whole group draw conclusions about experiment. Discuss the properties of paper and how to use them in real life. 8. Make some tea.
Assessment	Self- assesment (The experiment is successful if the water in the paper glass is hot.)
Timing	20 min
Prerequisites:	The safety and health instruction Materials for experiment: 2 glass jars, solid wire, 1 paper glass, a candle, matches, awl, water, a spoon, a packet of tea .
- technology requirements	The mobile phone or the computer
- skills which the learner must have before viewing the DLO	Practical work skills and communication and co-operation skills. Safety in the experiment. Knowledge how to use a mobile phone or computer to play the DLO.
The sources for the information	Video of DLO:
Contacts	Lolita Trauliņa, Valmiera Primary school lolita.traulina@inbox.lv

16. Video Game “Schrath“

Title	Video Game “Schrath”
Subject area/ Topic	Art
Target group:	
- age range	16-18 years old
- size of the group	9 students
- level of difficulty	Medium difficult
Learning objective/ competences	To know how to use animation programmes, cad software and come in touch with information technology principals
Description of activity	The children are divided into 3 groups. The first group is responsible for the creation of the programme. The second group prepares the Q&A and the third group is assigned to design the video game
Assessment:	The assessment of the results is carried out via the correspondence of the players through the social media
Timing:	4 hours
Prerequisites:	Scratch interface, Graphical assets
- technology requirements:	Computer network, internet connection, animation Programmes and cad software
- Skills	Technological skills the learner must have before viewing the DLO
The sources for the information	World wide web
Video Game Link	https://scratch.mit.edu/projects/113776942/
Contacts	1st General Lyceum of Thessaloniki mail@lyk-thess.thess.sch.gr María Joaquina Izquierdo Naziri nacomar2@gmail.com

17. Video Game " History of modern and contemporary"

Title	Video Game: "History of modern and contemporary world"
Content/ Subject areas	An evaluation game that contains questions about different historical periods of modern and contemporary world. The aim is to control knowledge and to increase pupils' critical ability through a humorous approach. Working in groups students solve tasks creatively. Thus students' motivation rises to apply current knowledge and seek for higher educational achievements. This CPS - Gamification action is suitable to improve Knowledge skills and creativity in Modern history.
Target group	Aged 16-17, three groups of 7-8 students
Learning objectives / competences	To consolidate knowledge in history through critical thinking. To assess themselves according to the results of questionnaire done.
Description of overall activity	The children are divided into 3 groups. The first group prepares the historical questions. The second group prepares the answers of the questions. The third group is responsible to create and design the video game.
Description of the process and teaching/ learning strategies used	Training appliances: tablet computers (for creation and designing the video game), Tablets and mobile phones for the Gamification activity. Methods: group work, gamification. Course: 1. Preparation - •10 minutes – topic announcement. Presenting teaching/learning aims. •5 minutes – formation of three groups. The students divided into three groups with historical names. •10 minutes for each group to 1) To search for historical questions, 2) to "create" 3 wrong questions for a right answer 3) to answer the questions. • 10 minutes – presenting of a group: matching group's and teacher's answers, analysing errors, presenting correct answers, solutions 10. minutes – summarising of activity and results. Course 2. Action. 5 minutes – formation of three groups. The children are divided into 3 groups for the creation of the game. 30 minutes: The first group prepares the historical questions. The second group prepares the answers of the questions. The third group is responsible to create and design the video game. • 10 minutes Presentation and playing the game
Evaluation/ types of assessment	Self-assessment through the right answers, highlight the winners with the highest score of the right answers
Materials and tools	Tablet computers, https://create.kahoot.it, https://en.wikipedia.org, http://www.un.org, etc.
Timing and learning environment	2 courses 45 minutes +45 minutes, IT classroom, library, classroom where WiFi is available
Conclusion	The activity is innovative as it has been accomplished using mobile devices. CPS skills training through the gamification. Students learn to self-evaluate and measure input in team work
Contacts	1st General Lyceum of Thessaloniki, mail@1lyk-thess.thess.sch.gr Souridi Lucia, souridi@gmail.com Maria Zioga, ziogmari@yahoo.gr

18. F1 in Schools team's site

Subject area/ Topic	F1 in Schools team's site
Target group:	
- age range	16-17 years old
- size of the group	3 students
- level of difficulty difficult	difficult
Learning objective/ competences:	to know how to site designing software, come in touch with information technology principals and basic graphic design
Description of activity :	Three students were responsible for the design and upkeep of the site. One handled the writing of the articles. Another updated the multimedia content. And the last design the site's layout.
Assessment:	the assessment of the results is carried out via the correspondence of the players through the social media
Timing:	2 months
Prerequisites:	Wix site designer, Graphical assets
- technology requirements:	computer network, internet connection, photo editing software
- skills which the learner must have before viewing the DLO	Computer and site design skills
The sources for the information	world wide web, http://falconf1inschools.wixsite.com/falcon
Contacts	1st General Lyceum of Thessaloniki mail@1lyk-thess.thess.sch.gr Dikarou Chrisanthi, chdikaro@gmail.com

19. Duolingo for schools

Title	Duolingo for schools
Content/ Subject areas	Learning a foreign language
Target group: age range and size of the group	8 years old and more
Learning objectives / competence	Learn a foreign language
Description of overall activity	1. The teacher creates a digital classroom 2.The teacher invites students to participate in this class 3.Students attend the lessons by using their computer, smartphone or tablet 4.The teacher sees the progress of each student but also the class
Assessment	There is an automatic assessment system provided by the platform
Timing	Every lesson takes 5 to 10 minutes to be completed
Prerequisit: - technology requirement; - skills which the learner must have before viewing the DLO	Computer, smartphone or tablet The learner must know how to use a computer (basic knowledge), smartphone or tablet
The sources for the information	https://schools.duolingo.com
Contacts	Epimorfotiki Kilkis sm llc, epimorf@otenet.gr, https://www.epimorfotiki.gr/eu

20. Computers hardware analysis

Title	Computers hardware analysis
Content/ Subject areas	IT
Target group:	8–12 years old students, no limited group size
Learning objectives / competences	Learning the basic parts of the computer case.
Description of overall activity	A student watches the interactive video. The video interrupted automatically, displaying a pop-up window and explained specific parts of the computer case. During the video, questions appeared in the screen checking the progress of the learning process of the student. A final questionnaire appeared at the end of the video assessing the learning activity
Assessment	Except for the final questionnaire, there are a lot of assessment questions during the video.
Timing	Every lesson takes 5 to 10 minutes to be completed
Prerequisit: - technology requirement; - skills which the learner must have before viewing the DLO	Computer, smartphone or tablet The learner must know how to use an internet browser
The sources for the information	https://h5p.org/node/105586
Contacts	Epimorfotiki Kilkis sm llc, epimorf@otenet.gr, https://www.epimorfotiki.gr/eu

21. Aurasma

Title	Aurasma
Content/ Subject areas	Enhanced learning
Target group:	12+
Learning objectives / competences	To enhance a learning visit to any place of interest with digital information such as graphics, animation, video, audio and 3D content
Description of overall activity	1. The teacher selects a point of interest in a place, an object for example 2. Then by using the (free) app, creates a trigger in which he connects the digital content (text, graphics, animation, video, audio or 3D) 3. The student should download the app (for free) 4. The student points his phone camera to that object (and any other object that teacher may add a trigger) and sees the providing material to his smartphone/tablet
Assessment	
Timing	
Prerequisit: - technology requirement; - skills which the learner must have before viewing the DLO	Download the Aurasma app to students' smartphone/tablet Smartphone/tablet How to use a smartphone/tablet
The sources for the information	https://www.aurasma.com
Contacts	Epimorfotiki Kilkis sm llc, epimorf@otenet.gr, https://www.epimorfotiki.gr/eu

22. Arithmetic quiz: Addition

Title	Arithmetic quiz: Addition
Content/ Subject areas	Mathematics
Target group:	7 years old
Learning objectives / competences	Check student learning achievements by practicing
Description of overall activity	A student is getting a numerical question. Six possible answers are appearing on the screen. Only one is right. The student has to answer ten questions to get the process finished
Assessment	At the end of the process, the student gets the results of his/her work
Timing	Every lesson takes 5 to 10 minutes to be completed
Prerequisit: - technology requirement; - skills which the learner must have before viewing the DLO	Computer, smartphone or tablet The learner must know how to use an internet browser
The sources for the information	https://h5p.org/node/144595
Contacts	Epimorfotiki Kilkis sm llc, epimorf@otenet.gr, https://www.epimorfotiki.gr/eu

23. Choose the right flag

Title	Choose the right flag
Content/ Subject areas	Geography
Target group	8–10 years old
Learning objectives / competences	To know which country is the flag, and where is that country on the map
Description of overall activity	A map appears on the screen with four countries' flags on the right. The student has to recognise to which country belongs each flag and then drag and drop it into the correct place on the map.
Assessment	At the end of the process, the student gets the results of his/her work
Timing	Every lesson takes 5 to 10 minutes to be completed
Prerequisit: - technology requirement; - skills which the learner must have before viewing the DLO	Computer, smartphone or tablet The learner must know how to use an internet browser
The sources for the information	https://h5p.org/node/144605
Contacts	Epimorfotiki Kilkis sm llc, epimorf@otenet.gr, https://www.epimorfotiki.gr/eu

24. Learning countries

Title	Learning countries
Content/ Subject areas	Geography
Target group:	8–10 years old
Learning objectives / competences	To get informed about more than a country on a map
Description of overall activity	The student selects a country on the map. A pop-up window appears on the screen with information about that country and its flag
Assessment	Self-assessment at the end of the course. (“Choose the right flag” DLO can be also used for assessment)
Timing	Every lesson takes 5 to 10 minutes to be completed
Prerequisit: - technology requirement; - skills which the learner must have before viewing the DLO	Computer, smartphone or tablet The learner must know how to use an internet browser
The sources for the information	https://h5p.org/node/144638
Contacts	Epimorfotiki Kilkis sm llc, epimorf@otenet.gr, https://www.epimorfotiki.gr/eu

25. Verbs

Title	Verbs
Content/ Subject areas	Language (English)
Target group:	8–15 years old
Learning objectives / competences	Learn to use the correct tense on verbs
Description of overall activity	The student has to fill the banks with the correct tense of the verb on the brackets.
Assessment	At the end of the activity the student gets the results of his/her work
Timing	Every lesson takes 5 to 10 minutes to be completed
Prerequisit: - technology requirement; - skills which the learner must have before viewing the DLO	Computer, smartphone or tablet The learner must know how to use an internet browser
The sources for the information	https://h5p.org/node/144662
Contacts	Epimorfotiki Kilkis sm llc, epimorf@otenet.gr, https://www.epimorfotiki.gr/eu

26. Memory game

Title	Memory game
Content/ Subject areas	Geography
Target group	8–10 years old
Learning objectives / competences	To increase students' memory and make them learn the flags of the EU countries
Description of overall activity	The students have to match all the flags in the board as fast as they can.
Assessment	A time counter is giving feedback to the teacher about the concentration and the reflections of the students
Timing	Every lesson takes 5 to 10 minutes to be completed
Prerequisit: - technology requirement; - skills which the learner must have before viewing the DLO	Computer, smartphone or tablet The learner must know how to use an internet browser
The sources for the information	https://h5p.org/node/144672
Contacts	Epimorfotiki Kilkis sm llc, epimorf@otenet.gr, https://www.epimorfotiki.gr/eu

27. World Capitals

Title	World Capitals
Content/ Subject areas	Geography
Target group:	9–15 years old
Learning objectives / competences	To learn the capitals of the biggest countries in the world
Description of overall activity	The students have to match the capitals of the countries by dragging their names in the correct sentence
Assessment	At the end of the process, the student gets the results of his/her work
Timing	Every lesson takes 5 to 10 minutes to be completed
Prerequisit: - technology requirement; - skills which the learner must have before viewing the DLO	Computer, smartphone or tablet The learner must know how to use an internet browser
The sources for the information	https://h5p.org/node/144686
Contacts	Epimorfotiki Kilkis sm llc, epimorf@otenet.gr, https://www.epimorfotiki.gr/eu

28. Find it

Title	Find it
Content/ Subject areas	Household economy
Target group	6-10 years old
Learning objectives / competences	To get to know the vegetables
Description of overall activity	The student has to find the vegetables among others (fruits etc.) by clicking on the photo of each one
Assessment	At the end of the process, the student gets the results of his/her work
Timing	Every lesson takes 5 to 10 minutes to be completed
Prerequisit: - technology requirement; - skills which the learner must have before viewing the DLO	Computer, smartphone or tablet The learner must know how to use an internet browser
The sources for the information	https://h5p.org/node/144698
Contacts	Epimorfotiki Kilkis sm llc, epimorf@otenet.gr, https://www.epimorfotiki.gr/eu

29. Learning Portuguese language

Title	Learning Portuguese language
Subject areas	Portuguese language
Target group	Portuguese language to foreigners Age - 10 years old and more Size of teh group – 20 Level difficulty - A1, A2
Learning objectives/ competences	1. Learning about Portuguese history and culture 2. Learning how to spell the basic daily useful things 3. Understanding the Portuguese language in a practical way.
Description of overall activity	a) The teacher asks the students to go to: www.menti.com where they must write three words in Portuguese language b) Than he creates a word cloud as a basis to start the learning part of the lesson, using the interactive board and the programme active inspire c) Introduction about Portuguese history and architecture d) Introduction to the Portuguese literature and traditional music (fado) e) Listening and spelling words in Portuguese language, while understanding the meaning. f) "Imagine you are going to fall down in an island: what do you need to take ? ": recognizing the correct words in Portuguese language and spelling it, moving the words to the correct place in the island, using interactive board. g) The students will be divided in groups of 4 and have to answer in quizziz: join.quizizz.com h) The teacher and the students make a final reflection about the work done
Assessment	The use of basic Portuguese words in an imaginary situation https://www.quizizz.com/admin/quiz/59b558d1e652ad26ec2f9f8d/start
Timing	45 minutes
Prerequisit: - technology requirement; - skills which the learner must have before viewing the DLO	None Active inspire software and interactive board Install it from https://www.dropbox.com/sh/4dmos0y5el2n6ol/AACc0oaDiZyVNsWI4uj-pAaea?dl=0 and use the code: 0015-9339-7276-7846-7516. Than go to the course DLO: https://www.dropbox.com/s/6eoy8qhb2qd9f2a/Learning%20portuguese%20language.flipchart?dl=0 How to work with an interactive board (Useful but not compulsory)
The sources for the information	Portuguese language dictionary Google translator "You tube
Contacts	CREF – Centro de Recursos Educativos e Formação www.cref.pt

30. Norma Ortográfica 1

Title	Norma Ortográfica 1
Content/ Subject areas	My personality
Target group:	Basic and secondary school students +10 years old B1
Learning objectives / competences	Effective personality typologies reveal and increase knowledge and understanding of individuals, as opposed to diminishing knowledge and understanding as occurs in the case of stereotyping. Effective typologies also allow for increased ability to predict clinically relevant information about people and ti develop effective treatment strategies. There is an extensive literature on the topic of classifying the various types of humen temperament and an equally extensive literature on personality traits or domains. These classification systems attempt to describe normal temperament and personality and emphasize the predominant features of different temperament and personality types; they are largely the provinces of the discipline of psychology. This lesson only intends to make students reflect about themselves and find good and less good things in themselves. The objective is to discover students' competences in order to promote the group work.
Description of overall activity	a) First step: preparing own photo or finding it in the Internet. b) Second step: open a folder with different personality photos and choosing 6 related with your personality (In your opinion). c) Third step: go to Microsoft Autocollage and create your OWN picture, with the 6 photos you choose and your picture. If you don`t have the programme in your laptop, you can download it from the internet at: https://www.microsoft.com/en-us/download/details.aspx?id=52033 d) Fourth step: download the picture created and present it to the class, explaining who you are, based on the picture. e) Fifth step: the teacher presents the real meaning of each picture in a prezi presentation and compare it with the students results. The prezi you can find at: https://www.dropbox.com/s/38x6vbksr59uef5/Prezi.exe?dl=0 f) Sixt step: publishing the results in a digital book, downloaded from: https://flippingbook.com/account/signup?products=Publisher2 g) Sixt step: final reflection of the work done based on the objective of knowing each other better, in order to start group work in the class.
Assessment	Evaluation of the work done, can be made here at: https://quizlet.com/93337629/my-personality-flash-cards/
Timing	90 minutes (2 lessons)
Prerequisit before viewing the DLO	Computer, Internet connection Computer and internet connection ICT basic skills
Contacts	CREF – Centro de Recursos Educativos e Formação www.cref.pt

31. Countries, nationalities

Title	Countries, nationalities
Subject areas	English language
Target group:	Level 1 students, 8 years old and more Group size – 20 A1 and A2
Learning objectives / competences	Learning English language with digital support
Description of overall activity	a) The teacher opens the lesson in the interactive board, using active inspire software b) In groups of 2 students, they are called to go to the interactive board to participate and complete the answers. c) Can you name those countries? d) What color are the flags? e) Put the words in the correct place f) Match the pictures with the flags g) Where are the animals from? h) Guessing game. Who am I? i) Choose a country and play TIC TAC TOE j) Finally they go to quizizz in order to evaluate their learning at: *https://quizizz.com/join/*
Assessment	Using online *quizizz* with the mobile phones You need to inscribe as user and than try to find: *"Countries and nationalities" published by CREF at:*
Timing	45 minutes (1 lessons)
Prerequisit: - technology requirement; skills which the learner must have before viewing the DLO	Smartphone and basic use of interactive board Active inspire software and interactive board Install it from https://www.dropbox.com/sh/4dmos0y5el2n6ol/AACc0oaDiZyVNsWI4uj-pAaea?dl=0 Or if you prefer, you can do it here at: https://support.prometheanworld.com/download/activinspire.html?custom_lang=pt and use the code: 0015-9339-7276-7846-7516 Than go to the course DLO: https://www.dropbox.com/s/h91no9fvma8eio9/Countries_Nationalities.flipchart?dl=0 How to use an interactive board
The sources for the information	Google translator
Contacts	CREF – Centro de Recursos Educativos e Formação www.cref.pt

32. Learning Portuguese language in a shop

Title	Learning Portuguese language in a shop
Content/ Subject areas	How to interact in a Portuguese shop or in a restaurant
Target group:	Learners of Portuguese language for foreigners +10 years old Group size – 20 A1 and A2
Learning objectives / competences	To be able to understand expressions and vocabulary of more frequent use related to the personal interest like, for example, going to a shop and talk with simple, short and clear message. To feel able to communicate in simple, routine, day-to-day situations, on usual subjects and activities that require only a simple and direct exchange of information. Taking part in brief exchanges of words, even thought not understanding enough to keep up the conversation.
Description of overall activity	1. Listening the dialogues in each shop: 2. Spelling the words in a correct way 3. Simulating a real situation in interaction with the colleagues 4. How to interactive in a Portuguese restaurant 5. Writing the correct answers 6. Final evaluation of the work done
Assessment	Using quizzes to evaluate the work done with 6 basic questions: 1. The teacher must inscribe in SOCRATIVE and create a questionnaire but to see how it works, can use CREF class. For it, ask the pupils to go to: https://b.socrative.com/login/student/ Inscribe in the class: CREF01, Put your name, Answer the questions: 2. What difficulties did you find when you entered in the shop? 3. In what shop you felt more difficulties to communicate? 4. Did they speak in a correct way for you in order to understand the message? 5. Choose three of the most difficult words for you to understand. 6. Are you already able to interact with a Portuguese person inside a shop? 7. How do you evaluate your practical experience?
Timing	100 minutes (2 lessons)
Prerequisit: before viewing the DLO	Internet basic skills Internet connection in the classroom Slideshare and socrative No basic skills of Portuguese language necessary
The sources for the information	https://www.slideshare.net/ https://www.socrative.com/
Contacts	CREF – Centro de Recursos Educativos e Formação www.cref.pt

33. Politeness in various cultures

Title	Politeness in various cultures
Content/ Subject areas	All subjects
Target group:	Students from basic and secondary school, +10 years old , B1.B2 (CPS)
Learning objectives / competences	This lesson plan is useful for any subject because the main objective is the inclusion of students from different cultures in the classroom, based on the class reflection and acceptance of the cultural differences. Starting with CPS methodology the students will be asked to develop, in group work, personal involvement and motivation emphasizing the constitutive role of one's openness to diversity, cooperation, creation, and exploration in a culturally rich educational environment. Also this lesson plan offers a meaningful learning that can lead both students and teachers to more responsible engagement in a wider multicultural community.
Description of overall activity	1. The teacher uses EDraw mind map software to Introduce the "problem": "Are we polite with somebody from other culture in the classroom?" 2. Students will be asked to start working in the same programme, in groups of 4 students. 3. Analysis of the current situation, based on a questionnaire prepared by the teacher, using Quizizz. 4. The final results of the questionnaire will be presented to the classroom by the teacher to all the class, as a starting point for group work. 5. Set goals: students recognize the targets that need to be worked on 6. Find out the reasons: students discuss in the group the reasons from the phenomenon. 7. Solutions: students investigate in the internet about solutions in order to solve the problem. Slack programme will be used to communicate inside the group when somebody is not working in a real situation. 8. Make detailed plan and present solutions in-group work, using EDraw and Slide share. 9. Final class reflection about the work presented and synthesis of it made by the teacher and the pupils in E Draw.
Assessment	Group self-evaluation and teacher evaluation of the group work
Timing	100 minutes (2 lessons)
Prerequisit: before viewing the DLO	Basic ICT skills 6 laptops/smatphones and internet connection Basic ICT skills
The sources for the information	Intercultural education digital books: "ICT as a Tool for Intercultural and Media Education" and "Universal Declaration of Cultural Diversity" from UNESCO
Contacts	CREF – Centro de Recursos Educativos e Formação www.cref.pt

34. Menina do mar

Title	Menina do mar
Content/ Subject areas	Book Reading guide
Target group:	Students from basic school 10 / 12 years old B1.B2 (CPS)
Learning objectives / competences	The effectiveness of an intervention aimed at the development of reading motivation and reading strategies within problem-oriented learning environments is the purpose of this lesson. The basic assumption underlying the intervention is that reading should occur in meaningful contexts and that reading and science should be regularly integrated. The intervention challenges pupils to investigate a self-formulated problem, read a book on the topic and report the results of their study. The participants have to work in small groups, using interactive *active inspire* program. The groups of students will reflect on their own learning making their self evaluation.
Description of overall activity	1. The students will be organized in groups of four. 2. Each student has a tablet to work on. 3. They open the interactive lesson at: https://www.dropbox.com/s/q2on0xyxjdxh4ht/meninadomar.flipchart?dl=0 4. Important: all the tablets installed previously the interactive software active inspire from: https://www.dropbox.com/sh/4dmos0y5el2n6ol/AACc0oaDiZyVNsWI4uj-pAaea?dl=0 5. The group can share ideas and help each other during the learning time. 6. The teacher will be only orienting the learning process. 7. The lesson will be divided in two moments: the first for reading and understanding the story. The second one to share ideas with the group.
Assessment	1. Oral debate among the groups about the book oriented by the teacher 2. Finally the students evaluate their own work at: https://www.mentimeter.com/s/9f3e21061b13b5d2775860780b678d55/2ebc0bab618e
Timing	4 hours
Prerequisit: - before viewing the DLO	Portuguese language B1 Set goals: students learn how to work together, to accept the other's ideas, recognize the targets that need to be worked on, developing and reading and comprehension competences. A significant difference in favour of the experimental group was also found for the Reading Motivation.
The sources for the information	Internet connection, you tube, mentimeter and interactive boards software active inspire.
Contacts	CREF – Centro de Recursos Educativos e Formação www.cref.pt

35. Comment poser une question en français?

Title	Comment poser une question en français?
Content/ Subject areas	French language
Target group:	Level 1 students, 2 years old and more, Group size – 20, A1 and A2
Learning objectives / competences	Learning French language with digital support
Description of overall activity	a) Listening a lesson with the use of "you tube" https://www.youtube.com/watch?v=4tYHwD4w2js b) Understanding of how to make questions in French language c) Dialogue between the students (asking and answering to 6 questions prepared by the teacher and based in what they have been learning. d) Writing the answers in the white board, using interactive board software (Active inspire). e) Registering all the work in their tablets. f) Using Quizizz program to evaluate what they have been learning, answering 10 questions prepared by the teacher. g) Listening the song "Vive le vent" in "you tube" and completing the missing words, previously given in a word page to their tablets, at the interactive board. h) https://www.youtube.com/watch?v=vkkiQWBFqT0 i) Singing the song in group work
Assessment	Using online quizizz with the mobile phones https://quizizz.com/admin/quiz/586a463c43d63d7402262d67 Important: you will need to login and find: Comment poser une question en français
Timing	45 minutes
Prerequisit: - technology requirement; - skills which the learner must have before viewing the DLO	Smartphone and basic use of interactive board Internet, smart phones and interactive board How to use a smart phone and an interactive board
The sources for the information	You tube
Contacts	CREF – Centro de Recursos Educativos e Formação www.cref.pt

36. States and capitals

Title	States and capitals
Content/ Subject areas	Geography
Target group:	Grade 8 (Estonian school) Students can go through the exercise individually or compete with each other. Group size is not defined. Medium
Learning objectives / competences	- Increase their knowledge about names of the capitals and the states; - Improving digital skills.
Description of overall activity	Exercise can be used while talking about different countries and its capitals.
Assessment	The program does assessment. Student will see his mistake and can continue only while adding the right answer.
Timing	Exercise will last 2 minutes but it can be done as many times as student/teacher wishes.
Prerequisit: - technology requirement; - skills which the learner must have before viewing the DLO	Computers Basic knowledge how to use a computer.
The sources for the information	Exercise: http://miksike.eu/en/gtests.html?test=1288&start=1
Contacts	Kristiina Rattasepp, kristiina@miksike.ee

37. English vocabulary

Title	English vocabulary
Content/ Subject areas	English language
Target group:	5th grade (Estonian school / English as a foreign language) 11-12 years old students. Students can go through the exercise individually or compete with each other. Group size is not defined. Medium
Learning objectives / competences	- memorize the spelling of English vocabulary; - improve their digital skills.
Description of overall activity	Exercise can be used while the lesson or given as a homework.
Assessment	The program does assessment. While doing the exercise student will see the mistakes and needs to correct them while solving the exercise.
Timing	Exercise will last 2 minutes but it can be done as many times as student/teacher wishes.
Prerequisit: - technology requirement; - skills which the learner must have before viewing the DLO	Computers Basic knowledge how to use a computer.
The sources for the information	Exercise: http://miksike.eu/en/lmtests.html?test=1290&start=1
Contacts	Kristiina Rattasepp, kristiina@miksike.ee

38. English proverbs

Title	English proverbs
Content/ Subject areas	English language
Target group:	10th-12th grade 15-16 years old students (9th grade, Estonian school / English as a second language) Students can go through the exercise individually or compete with each other. Group size is not defined. Medium
Learning objectives / competences	Students: – Increasing their knowledge of English proverbs; – Improve their digital skills.
Description of overall activity	Exercise can be used while the lesson or given as a homework. This is additional exercise with a purpose to wider the knowledge of English of the students.
Assessment	The program does assessment. While doing the exercise student will see the mistakes and needs to correct them while solving the exercise.
Timing	Exercise will last 2 minutes but it can be done as many times as student/teacher wishes.
Prerequisit: - technology requirement; - skills which the learner must have before viewing the DLO	Computers Basic knowledge how to use a computer.
The sources for the information	Spelling exercises: Exercise: http://miksike.eu/#keelemiks/en/lmtests.html?test=1289&start=1
Contacts	Kristiina Rattasepp, kristiina@miksike.ee

39. Adjectives

Title	Adjectives
Content/ Subject areas	Spelling (adjectives) (English language)
Target group:	Grade 7 (12-13 years old students) Students can go through the exercise individually or compete with each other. Group size is not defined. Easy. Words are selected according to the curriculum (English language as a second language / Estonian school 7th grade).
Learning objectives / competences	Students: - memorize the spelling of the adjectives; - increase their English language vocabulary; - improve digital skills.
Description of overall activity	Spelling exercises can be used while learning adjectives.
Assessment	Assessment is done by the program. While doing the exercise student will see the mistakes and needs to correct them while solving the exercise.
Timing	Exercise will last 2 minutes but it can be done as many times as student/teacher wishes.
Prerequisit: - technology requirement; - skills which the learner must have before viewing the DLO	Computers (can be done also while using a smartboard) Basic knowledge how to use a computer.
The sources for the information	Spelling exercise: Exercise: http://miksike.eu/en/lmtests.html?test=1286&start=1
Contacts	Kristiina Rattasepp, kristiina@miksike.ee

40. Addition and subtraction by heart

Title	Addition and subtraction by heart
Content/ Subject areas	Addition and subtraction (mathematics)
Target group:	Fits to all Students can learn individually or it can be arranged as a contest. Easy.
Learning objectives / competences	Students - increase their knowledge of addition and subtractions; - improve digital skills.
Description of overall activity	Students can compete with each other in the site or learn addition or subtraction by themselves (reaching to the higher level). They can solve the tasks according to their level. Points will be saved automatically and they will see their mistakes. Points can be compared with other teams and it is possible to take the test again and get better points and same time also learn more.
Assessment	Assessment is done by the program, where students also see their mistakes.
Timing	According to the students skills
Prerequisit: - technology requirement; - skills which the learner must have before viewing the DLO	A computer with internet connection Communication skills, basic knowledge how to use the computer
The sources for the information	http://miksike.eu/#pranglimine/training
Contacts	Kristiina Rattasepp, kristiina@miksike.ee

41. The present continious

Title	The present continious
Content/ Subject areas	Grammar
Target group:	Students of English 12-13 years In pairs Medium level of difficulty
Learning objectives / competences	The lesson can be divided in two parts; in the first part the teacher explains the use of the present continuous comparing it with the tenses of the Italian language (in this case the students are all Italian). In the second part the students have to play the game in order to verify if they have understood the right formation of the verb.
Description of overall activity	Each pair has to revise the present continuous form and then they have to start the game using the app.
Assessment	Considering the dedication, the cooperation among pairs and the right number of answers during the game.
Timing	1 lesson
Prerequisit: - technology requirement; - skills which the learner must have before viewing the DLO	The students have to revise the grammar structure of the present continuous with particular attention on the changes in the base form of the verb. A computer with the app The students have to revise the previous tenses studied in order to concentrate on the new one (the present continuous) and to avoid possible mistakes.
The sources for the information	Speak up your mind 1, Pearson ed; https://learningapps.org/2994955
Contacts	elisa.iannilli@hotmail.com

42. English culture

Title	English culture
Content/ Subject areas	English Grammar and culture
Target group:	Students of English culture 13-14 years In pairs Medium level of difficulty
Learning objectives / competences	The lesson can be divided in two parts: in the first part the students have to take notes during the explanation of the teacher about the city of Dublin. In particular, about the museums, the symbols and the icons of this important city. In the second part, with the use of an app, the students have to match the images and symbols of the city with their proper names.
Description of overall activity	Each student has to take notes during the explanation of the different monuments and then they have to revise the notes in order to memorize the descriptions and then they are ready to start the game.
Assessment	Considering the dedication, the cooperation among the pairs, and the number of the correct answers.
Timing	1 lesson
Prerequisit: - technology requirement; - skills which the learner must have before viewing the DLO	A study of the typical elements of the city of Dublin, in particular the monuments, the most important authors that were there and the symbols of the city. A computer with the app The students have to revise the previous explanation and then they have to concentrate on the game in order to remember the images related to the city of Dublin.
The sources for the information	Viewpoints Black cat ed. https://learningapps.org/2915953
Contacts	elisa.iannilli@hotmail.com

43. Pentatonic scales

Title	Pentatonic scales
Content/ Subject areas	Music
Target group:	14-18 years
Learning objectives / competences	The students have to know chords and initial rules of harmony
Description of overall activity	In the first part, the teacher recalls the properties of the scales, which should already have been addressed in previous studies. Then various examples are played. In the second part, the class is subdivided into groups of three, each of which comes with a guitar with plug in audio internet connection. After linking the guitars tracks to the link www.steinberg.net uses the application to record each frases to the corresponding solo.
Assessment	Considering the technique, dedication, imagination
Timing	4 lesson
Prerequisit: - technology requirement; - skills which the learner must have before viewing the DLO	Know the degrees of the major scale Analog and digital audio technologies (pc and beta) Knowing how to play your instrument together with other
The sources for the information	Book and internet's resources https://www.steinberg.net/forums/viewtopic.php?t=83989 Dropbox.com Meg.com
Contacts	mauro.gemelli@email.it

44. Chants of Catholic and Orthodox liturgies

Title	Chants of Catholic and Orthodox liturgies
Content/ Subject areas	Catholic and Orthodox liturgy
Target group:	17-18 years 23 people in groups of 6 Medium
Learning objectives / competences	The students have to organize a presentation explaining musical animation of catholic / orthodox liturgies
Description of overall activity	At the beginning, the teacher shows the musical moments of the two liturgies, which should already have been addressed in previous studies. Then several examples are illustrated. Next, the class is divided into six groups, each of which has a PC with Internet connection. After linking the audio inputs to the link www.steinberg.net and using the sibelius application to write on line every Gregorian song line share the files with other guides on Dropbox.com Meg.com.
Assessment	Considering the explanation, application, and specific music language
Timing	5 lesson
Prerequisit: - technology requirement; - skills which the learner must have before viewing the DLO	Knowledge of diatonic modal music A software with computer The student must know the main moments of the two liturgies
The sources for the information	Software, music book and internet's resources www.steinberg.net Dropbox.com Meg.com
Contacts	mauro.gemelli@email.it

45. Graph of the exponential and Log Functions

Title	Graph of the exponential and Log Functions
Content/ Subject areas	Math
Target group:	17-18 years 3 people for each group Medium
Learning objectives / competences	Students at the end of this activity must be able to recognize graphically the exponential and logarithmic functions trends and at the same time all the graphs deducible by them for translational along the x axis and along the y axis. They also consolidate the concepts of inverse functions and visualize how they can be represented on a Cartesian plane from the invertible function.
Description of overall activity	The proposed activity is divided into two parts: in the first part the teacher summarizes the principal properties of the exponential function and from it constructs its inverse function by graphical function, the logarithmic function. Reverse function also summarizes all analytical and graphical properties. Several examples are given here. This will prepare the students to face the second part. In the second part, each group uses an online tablet to connect to https://learningapps.org/2912179 and uses the application to reconnect each analytic function to the corresponding graph. In this way, students fortify the skills just acquired in the first part of the activity.
Assessment	The evaluation will take into account collaboration in-group work, ability to resolve proposed links and time spent.
Timing	1 lesson
Prerequisit: - technology requirement; - skills which the learner must have before viewing the DLO	Knowledge of Cartesian plan and representation of points and curves on it; knowledge of the main properties and characteristics of exponential function and its inverse; knowledge of translation properties in the plane along the coordinate axes; basic principles of computer science. A tablet or pc for each group and internet Wi-Fi Understanding the mathematical functions handled, showing functions on the Cartesian plane, using a tablet.
The sources for the information	The book and internet https://learningapps.org/2912179
Contacts	http://www.istitutoimmacolata.it/

46. Parabola, Circle, Ellipse and Hyperbola

Title	Parabola, Circle, Ellipse and Hyperbola
Content/ Subject areas	Math
Target group:	16-17 years 3 people for each group Medium
Learning objectives / competences	Students at the end of this activity must be able to recognize graphically the differences between analytical expressions of the parabola, circle, ellipse and hyperbola and their trends.
Description of overall activity	The proposed activity is divided into two parts: in the first part the teacher summarizes the principal properties of the parabola, circle, ellipse and hyperbola and from it constructs its graph in a Cartesian plane. This will prepare the students to face the second part. In the second part, each group uses an online tablet to connect to https://learningapps.org/2902401 and uses the application to reconnect each analytic function to the corresponding graph. In this way, students fortify the skills just acquired in the first part of the activity.
Assessment	The evaluation will take into account collaboration in-group work, ability to resolve proposed links and time spent.
Timing	1 lesson
Prerequisit:	Knowledge of Cartesian plan and representation of points and curves on it; knowledge of the main properties and characteristics of the parabola, circle, ellipse and hyperbola; knowledge of translation properties in the plane along the coordinate axes; basic principles of computer science.
- technology requirement;	A tablet or pc for each group and internet Wi-Fi
- skills which the learner must have before viewing the DLO	Understanding the mathematical functions handled, showing functions on the Cartesian plane, using a tablet.
The sources for the information	The book and internet https://learningapps.org/2902401
Contacts	http://www.istitutoimmacolata.it/

47. Property of the operations

Title	Property of the operations
Content/ Subject areas	Math
Target group:	13-14 years 3 people for each group Medium
Learning objectives / competences	Students at the end of this activity must be able to recognize and to use the main properties of the operations.
Description of overall activity	In the first part, the teacher recalls the properties of the operations, which should already have been addressed in previous studies. Then various examples are illustrated. In the second part, the class is subdivided into groups of three, each of which comes with a tablet with internet connection. After linking the tablets to the link https://learningapps.org/2844077 and uses the application to reconnect each expression to the corresponding property. In this way, students fortify the skills just acquired in the first part of the activity.
Assessment	The evaluation will take into account collaboration in-group work, ability to resolve proposed links and time spent.
Timing	1 lesson
Prerequisit: - technology requirement; - skills which the learner must have before viewing the DLO	Knowledge of operations and their properties; Use of a tablet. A tablet or pc for each group and internet Wi-Fi Understanding the mathematical properties of the operations handled, using a tablet.
The sources for the information	The book and internet https://learningapps.org/2844077
Contacts	http://www.istitutoimmacolata.it/

48. Electromagnetic Induction

Title	Property of the operations
Content/ Subject areas	Physics
Target group:	17-18 years 3 people for each group Medium
Learning objectives / competences	Students at the end of this activity must be able to recognize and to use the main properties of the operations.
Description of overall activity	In the first part the teacher explains what the experiments have led to establish the link between magnetic phenomena and electrical currents. It recalls the physical laws that describe the phenomenon of electromagnetic induction. In the second part, the class is subdivided into groups of three people, each of which is provided with a tablet with Internet communication. The so-formed groups can connect to the indicated link, https://learningapps.org/2912920, and after seeing the video summarizing electromagnetic induction laws students must complete the panels with the various definitions. In this way, students fortify the skills just acquired in the first part of the activity.
Assessment	The evaluation will take into account collaboration in-group work, ability to resolve proposed links and time spent.
Timing	1 lesson
Prerequisit: - technology requirement; - skills which the learner must have before viewing the DLO	Knowledge of operations and their properties; Use of a tablet. A tablet or pc for each group and internet Wi-Fi Understanding the physical principles that determine the behavior of the electromagnetic field and of induction, using a tablet.
The sources for the information	The book and internet https://learningapps.org/2912920
Contacts	http://www.istitutoimmacolata.it/

49. The Roman pantheon

Title	The Roman pantheon
Content/ Subject areas	Latin language and culture; art Learning by playing; gamification; cooperative learning; peer education
Target group:	14-16 years Variable Variable according to the age range
Learning objectives / competences	- Know how to operate links between information; - Know how to use a specific language; - To strengthen the home – made study; - Learn to self – evaluate your preparation; - Know how to apply the notions learned in books; - Know how to establish links between notions and images; - Strengthen the knowledge of a Latin sectorial vocabulary; - Learn new information about the Roman pantheon.
Description of overall activity	Here are two examples of games created with the help of the application *LearningApp.org*: http://LearningApps.org/watch?v=pi1nmp2uk17 This first example of didactic play aims to answer to the ministerial directives, which require Latin teachers not to focus solely on grammar studies, but also on classical history and culture. The game is therefore around the Roman pantheon: in fact the knowledge of the deities, their functions and their iconographic representations is considered to be propedeutic to the subsequent study of Latin literature. Students are called in this game to link the Latin names of the gods with the iconographic representations proposed: the proper conduct of the exercise presupposes that the students clearly have the connection between the sphere of action of the deity and its representation. Let's take an example: Minerva in the proposed image is presented with a helmet and an owl; therefore the students, by correctly linking the name and the image, will have clear that is the goddess of the war and the wisdom. Similarly, Venus is represented half - naked and close to a little Cupid: it will be clear to the learners that she represents love and reproduction, such as Apollo with lyre the music and the poetry. But the level of difficulty can be raised: http://LearningApps.org/watch?v=pqeeh4tg217 In this second game is asked to students to write one or more recurring iconographic elements in the traditional depiction of the deity: the three – headed dog, Cerberus, for Pluto, the cup of wine for Bacchus, the trident for Neptune, etc… Interdisciplinary, the game can be adapted for older students in collaboration with the art history's teacher: in addition to what has been explained so far, one might ask the students to remember where the statues are kept, with what materials have been built, by which techniques. The game is also designed to be played in teams of three or four students who

	are required to do the exercises properly and within the shortest time possible: so the learners are called to collaborate for a common goal, they can learn from others where they have uncertainties, but above all they can self - evaluate their preparation. The game also pursues the purpose of strengthening the study of the basic lexicon and Latin sectorial vocabulary: Latin names of gods have been proposed here, but the same game can be set up to study, to strengthen or assess the knowledge of sectorial vocabularies, such as those of the family, war, religion, school, food …
Assessment	Student's assessment will consider the correctness of the answers provided; at the same time students will be able to self – assess and reflect on the level of knowledge gained or to be strengthened.
Timing	One hour at the end of a teaching unit
Prerequisit: - technology requirement; - skills which the learner must have before viewing the DLO	 - Computers or tablet with a projector; - Lim; - Internet resources - Know how to use a pc or tablet; - Knowledge of the deities that are part of the Roman pantheon, their functions and their iconographic representations.
The sources for the information	https://learningapps.org/(the site can be visited in more than twenty languages) http://LearningApps.org/watch?v=pi1nmp2uk17 http://LearningApps.org/watch?v=pqeeh4tg217
Contacts	http://www.istitutoimmacolata.it/

50. France

Title	France
Content/ Subject areas	Geography and history Learning by playing; gamification; cooperative learning; peer education
Target group:	11-14 years Variable Variable according to the age range
Learning objectives / competences	- Recognize the typical elements of a geographic territory; - Being able to work with the main temporal concepts such as contemporaneity, anteriority, posteriority; - Know how to build diachronic and synchronous mental view of societies and cultures; - Know how to operate links between information; - Know how to use a specific language; - To strengthen the home – made study; - Learn to self – evaluate your preparation; - Know how to apply the notions learned in books; - Learn new information about France.
Description of overall activity	Here are three examples of games created with the help of the application *LearningApp.org*: http://LearningApps.org/watch?v=pppebsxbk17 In this first game, students must recognize and know how to locate correctly the French regions; here we have proposed only six regions to maintain a low level of difficulty, but requiring as many regions as possible can increase it. Through this game it is possible for students to easily memorize highly technical knowledge, as well as to test and increase their visual memory. The game is well suited for the study of each territory (in our case students of 11 or 12 years can learn to recognize and position the 20 Italian regions), but also to study the states that make up the individual continents (in this case for students older than 13 – 14 years). http://LearningApps.org/watch?v=ps6xr7w8j17 In this second game, students must be able to correctly place images with the century of belonging; in the specific case only five images have been proposed, maintaining a low level of difficulty, but the application does not limit the insertion of dates and images. But the level of difficulty can be further increased; in fact not only the century of belonging may be required (as in the image depicting Louis XIV or C. de Gaulle), but also the indication of a precise date (eg the year of Bastille's take). This game can help students remember the chronological succession of key events that characterize the history of a nation, as well as associate pictures, paintings, famous logos at a year or a historical period. http://LearningApps.org/watch?v=pq8f6vb1j17

	In this third and last example of didactic play, has been experimented the way of multiple responses. Based on the information contained in the textbook adopted by the school, five questions were asked about the morphology and features of French territory (the application allows up to maximum of fifteen questions). The positive aspect of this game is that dividing students into teams can also do it; this will allow them to strengthen relationship, but also to study together and collaborate for a common goal. As a next step, could then ask students to formulate themselves fifteen questions, creating with the teacher a new game, thus challenging students of other classes.
Assessment	Student's assessment will consider the correctness of the answers provided; at the same time students will be able to self – assess and reflect on the level of knowledge gained or to be strengthened.
Timing	One hour at the end of the study of a teaching unit (each unit matches the study of a European country).
Prerequisit: - technology requirement; - skills which the learner must have before viewing the DLO	- Computers or tablet with a projector; - Lim; - Internet resources - Knowledge of the territory and, in general, of French history, economy and culture (or any other state in which you want to create games); - Know how to use a pc or tablet
The sources for the information	https://learningapps.org/ (the site can be visited in more than twenty languages) http://LearningApps.org/watch?v=pppebsxbk17 http://LearningApps.org/watch?v=ps6xr7w8j17 http://LearningApps.org/watch?v=pq8f6vb1j17
Contacts	http://www.istitutoimmacolata.it/

51. Using Booktrailers

XUNTA DE GALICIA
CONSELLERÍA DE CULTURA, EDUCACIÓN E ORDENACIÓN UNIVERSITARIA

Title	Using Booktrailers
Subject area/ Topic	Booktrailers
Target group: Students	Secondary and Primary
- Age range	10-16
- Size of the group	30
- level of difficulty	Easy
Learning objective/	The general objective will be to students to: To animate students to read
Description of activity	Students create a trailer of a book to animate other students to read
Assessment	Pair assessment
Timing	2 lessons (100m)
Prerequisites:	None
- technology requirements	Any programme Toontastic, puppet pals, Imovie...
- skills which the learner must have before viewing the DLO	None
The sources for the information	Internet https://www.youtube.com/watch?v=d3FPE5CDUnE
Contacts	mtrigo@edu.xunta.es, maria.luz.ares.fandino@xunta.es

52. Using Booktrailers

XUNTA DE GALICIA
CONSELLERÍA DE CULTURA, EDUCACIÓN E ORDENACIÓN UNIVERSITARIA

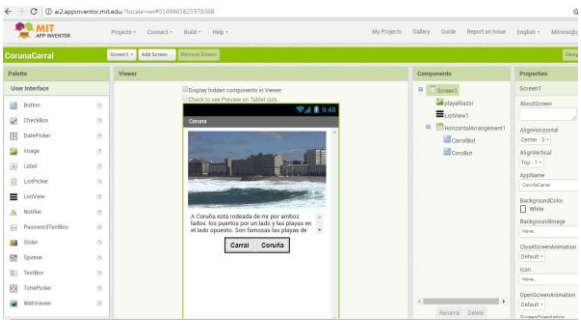
Title	**A Webquest: "You are a Librarian"**
Subject area/ Topic	Creating a Webquest in the project work: "Dickens time"
Target group: Students	Secondary and Primary
- Age range	10-16. in this web quest example for secondary education.
- Size of the group	30
- level of difficulty	Intermediate
Learning objective/	To integrate all the internet resources in the school curricula. To motivate students and to develop their critical and creative thinking and cooperative peer learning. To promote entrepreneurship among students.
Description of activity Timing	A webquest always has the same structure: Introduction/ Task/ Process/ Resources/ Assessment/ Conclusion and a Credits Didactic Guide. Teachers http://webquest.org/sdsu/templates/lesson-template1.htm 3 school lessons (150m)
Ttechnology requirements skills which the learner must have before viewing the DLO	Internet. Webquests template http://webquest.org/sdsu/templates/lesson-template1.htm None
-	
-	
The sources for the information	Examples of webquests in CPI O Cruce (Milagros Trigo's school) : 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 And webpages for resources: http://webquest.org/findlinks/ http://webquest.org/sdsu/searching/specialized.html
Contacts	mtrigo@edu.xunta.es, maria.luz.ares.fandino@xunta.es

53. Learning to code through App Inventor 2

XUNTA DE GALICIA
CONSELLERÍA DE CULTURA, EDUCACIÓN E ORDENACIÓN UNIVERSITARIA

Title	**Learning to code through App Inventor 2**
Subject area/ Topic	Language
Target group: Students	Secondary
- age range 11-16	
- size of the group 30	
- level of difficulty	Medium
Learning objective/	competences Students will learn to apply coding to produce Apps Students learn to create tests to choose images Communication. To strengthen technology competences. To develop a logical thinking, initiative, creativity Entrepreneurship, students learn to promote their interests .
Description of activity	students choose the topic they are going to do the App about object they are going to create the App. They select all images and texts they are going to include. Using App inventor 2 they create the App add all the information and finally using the image and the code they can see the App with a tablet or smart phone. The good side is that this activity engages very much students and they learn coding by palying
Assessment	Students present their App to to their collegues or teacher and comment it
Timing	(50 m)
Prerequisites:	No one
- technology requirements	App inventor2, texts and images
- skills which the learner must have before viewing the DLO	No one
The sources for the information	Internet
Contacts	mtrigo@edu.xunta. es, maria.luz.ares.fandino@xunta.es

CorunaCarral.apk



54. Dragon's laberyntht

XUNTA DE GALICIA
CONSELLERÍA DE CULTURA, EDUCACIÓN E ORDENACIÓN UNIVERSITARIA

Title	Dragon's laberyntht
Subject area/ Topic	Coding- videogames with Scratch
Target group: Students	Secondary
- age range 11-16	
- size of the group 30	
- level of difficulty	Medium
Learning objective/	competences Students will learn to apply coding to produce videogames. Students learn to manage with Scratch and when they achieve the knowledge. They design their videogame Students will work the following competences decision making, planning their videogame, ICT skills...learning to learn, creativity...
Description of activity	Students choose the topic and they design their scenario. They select all images and texts they are going to include and they produce the game. The good side is that this activity engages very much students and they learn coding by playing.
Assessment	Students present their game to to their collegues and they provide the feeback Other students try to play the game
Timing	(50 m) they can finish it at home
Prerequisites:	No one
- technology requirements	Scratch, texts and images
- skills which the learner must have before viewing the DLO	No one
The sources for the information	Internet, an example
Contacts	mtrigo@edu.xunta.es, maria.luz.ares.fandino@xunta.es

55. Using Augmented Reality (AR) in my class

XUNTA DE GALICIA
CONSELLERÍA DE CULTURA, EDUCACIÓN E ORDENACIÓN UNIVERSITARIA

Title	**Using Augmented Reality (AR) in my class**
Subject area/ Topic	Languages (Communication)
Target group:	
- age range	Grade 7-8 (12-13years old)
- size of the group	Individual work
- level of difficulty	Medium
Learning objective/ competences	Communication. To strengthen technology competences. To develop a logical thinking, initiative, creativity. Entrepreneurship, students learn to promote their interests .
Description of activity	DLO is created by the sudents of 7th and 8th grade in the subject Projects we were workin on „Virtal buiness plan“. Students create skills as well as communication an creativity were involved. Therefore, the use of this DLOs can be diverse: 1 To remark the importance of a product they like to sell, but it can be used to present a monument, to learn Natural sciences...
Assessment	Self- assesment (Pupils themselves can check the understanding of the topic)
Timing	20m min
Prerequisites:	
- technology requirements	A Computer and the programme Blippar
- skills which the learner must have before viewing the DLO	Knowledge about how to use Blippar to learn Sciences, Art.
The sources for the information	The information about Blippar use An example
Contacts	mtrigo@edu.xunta.es, maria.luz.ares.fandino@xunta.es

56. Basic Innovation Terms

Title	Basic Innovation Terms
Subject area/ Topic	All areas connected with Innovations and Innovation management study
Target group:	Students from Secondary Schools
- age range	10+ years old
- size of the group	4+
- level of difficulty	B1.B2 (CPS)
Learning objective/ competences	This Digital Learning Object lesson plan is suitable for any subject area/topic which includes studying the basics of innovations – what is an innovation, how is it different from discovery and invention, what is innovation management. The DLO will provide students with an interactive way to learn the basic innovation terms, including application of gamification principles, team working, discussions, brainstorming and creativity methods, presentation skills and peer-to-peer evaluation of the students' teams.
Description of activity	1. The lesson applies Honey and Mumford's learning styles methodology and starts with a discussion with the students on what is innovation, when do we say that we have innovation, is it equal to invention and discovery (Annex Innovations and Innovation Management). 2. Then a short theoretic presentation of the basic definitions of the terms discovery, invention and innovation is given by the teacher together with examples. 3. A discussion on what is innovation management is implemented and a short theoretic definition of the term is given by the teacher. 4. A game for recognizing the types of innovation terms shown on images is implemented. The game represents an individual competition between students, using their mobile smart devices (phones, tablets, etc.) to participate in the game. The game is developed with application Kahoot! and is available at address: https://play.kahoot.it/#/k/eb0df82a-4c5f-4a34-b00e-27a8aafc10a1 The game shows final scores with points for all participants in the game, as well as the right answers in the test. 5. Then students are divided into teams and are given a creativity task for creation of an innovative idea for a futuristic chair with any application (office, leisure time, dental chair, disabilities supporter, etc.). Teams work on their ideas for 20 minutes and should prepare presentation of the innovative ideas in any desired by them presentational method (PowerPoint presentation, picture, 3D model, theater presentation, etc.) 6. Teams are presenting their ideas in front of all class. 7. Then every team gives points (min 1- max 10 points) for the presenting team in three directions: (1) Good presentation of the

	innovative idea; (2) Potential of the innovative idea for success on the market; (3) Level of originality and innovativeness of the idea. 8. Teacher makes a summary of the basic outcomes of the lesson and evaluation of the group work
Assessment	Peer-to-peer team evaluation, individual self-evaluation and teacher evaluation of the group work
Timing	2 lessons (2 x 45 minutes)
Prerequisites:	Basic ICT skills
- technology requirements	A smartphone for each student, a laptop for each team, a projector for the game and the team presentations and Internet connection
- skills which the learner must have before viewing the DLO	Basic ICT skills
The sources for the information	„Innovation Management and New Product Development“ by Paul Trott
Contacts	www.bfc-bg.com

57. Lean Canvas

Title	Lean Canvas
Subject area/ Topic	All areas connected with Innovations and Innovation management study
Target group:	Students from Secondary Schools
- age range	10+ years old
- size of the group	4+
- level of difficulty	B1.B2 (CPS)
Learning objective/ competences	This Digital Learning Object lesson plan is suitable for any subject area/topic which includes studying the basics of innovations – what makes an innovation successful, what are the best tools to support the process of creating innovative ideas, lean canvas tool presentation. The DLO will provide students with an interactive way to learn the basic innovation tools, including application of gamification principles, team working, discussions, brainstorming and creativity methods, presentation skills and peer-to-peer evaluation of the students' teams.
Description of activity	1. The lesson applies Honey and Mumford's learning styles methodology and starts with a discussion with the students on what are the basic questions to consider when you create a successful innovative product/service, what factors define the success of an innovative product or service at the market. 2. Then a short theoretic presentation of the basic tool for development of innovative ideas – Lean Canvas is given by the teacher together with examples. 3. The students are divided into teams and are given a creativity task for creation of an innovative idea for a futuristic chair with any application (office, leisure time, dental chair, disabilities supporter, etc.), but the innovative idea should be described using the lean canvas. The teams use Lean Canvas Online Tool (http://www.leanstack.com) and work in teams. The online tool allows students working on shared Lean Canvas, where every student can work from their laptop/mobile phone/tablet, or they all can work together on the same computer. 4. Teams work on their ideas for 20 minutes and should present their innovative ideas developed with Lean Canvas. Presentation is made using Lean Canvas Online Tool (http://www.leanstack.com), PowerPoint presentation, additionally pictures, 3D model, theater presentation, etc. Teams are presenting their ideas in front of all class for maximum of 10 minutes per team. 5. Then every team evaluates every idea (quantitively and qualitatively) and gives points (min 1- max 10 points) for the presenting team in three directions: (1) Good presentation of the

	innovative idea; (2) Potential of the innovative idea for success on the market; (3) Level of originality and innovativeness of the idea. 6. Teacher makes a summary of the basic outcomes of the lesson and evaluation of the group work
Assessment	Peer-to-peer team evaluation, individual self-evaluation and teacher evaluation of the group work
Timing	2 lessons (2 x 45 minutes)
Prerequisites:	Basic ICT skills
- technology requirements	A smartphone for each student, a laptop for each team, a projector for the game and the team presentations and Internet connection
- skills which the learner must have before viewing the DLO	Basic ICT skills
The sources for the information	„Innovation Management and New Product Development“ by Paul Trott Lean Canvas
Contacts	www.bfc-bg.com

58. Types of Innovation 1

Title	Types of Innovation 1
Subject area/ Topic	All areas connected with Innovations and Innovation management study
Target group:	Students from Secondary Schools
- age range	10+ years old
- size of the group	4+
- level of difficulty	B1.B2 (CPS)
Learning objective/ competences	This Digital Learning Object lesson plan is suitable for any subject area/topic which includes studying the basics of innovations – what are the basic classifications in innovation types, as well as what is sustaining and what is disruptive innovation and the difference between the two basic types according the level of innovativeness. The DLO will provide students with an interactive way to learn the basic innovation types according the level of innovativeness, including application of gamification principles, team working, discussions, brainstorming and creativity methods, presentation skills and peer-to-peer evaluation of the students' teams.
Description of activity	1. The lesson follows Daniel Kolb's learning cycle methodology and starts with a discussion with the students on what types of innovation exist and why is it important to recognize the different types of innovations. 2. Next students are divided in teams and work on the ideas of basic innovation types according them. They use software XMind (http://www.xmind.net) to represent their ideas and present their work (in teams). Time for work on the ideas: 20 minutes. Time for presenting their ideas in teams: 5 minutes. 3. A presentation on the basic theoretic types of innovation classifications is implemented by the teacher and a deeper look on the types on innovations according the level and importance of innovativeness is implemented. The basic definitions of sustaining and disruptive innovations are presented (Annex Types of Innovation). 4. A game for recognizing the types of innovation types shown on images is implemented developed with Quizziz (http://www.quizziz.com/). The game represents an individual competition between students, using their mobile smart devices (phones, tablets, etc.) or laptops through browsers (http://join.quizziz.com) to participate in the game. The game is developed with application Quizziz and is available at address: https://quizizz.com/admin/quiz/58ad80ad9d8c6fba06b5511a The game shows final scores with points for all participants in the game, as well as the right answers in the test.

	5. A discussion on the question “What are the basic characteristics of sustaining and disruptive innovations?” is implemented in the class with the students. 6. Then students are divided into teams and are given a creativity task for creation of at least 2 examples of innovations from the studied two basic types – sustaining and disruptive innovations. Teams work on their ideas for 10 minutes and present their ideas in front of the class. 7. Then every team gives points (min 1- max 10 points) for the presenting team in three directions: (1) Good presentation of the innovative idea; (2) Potential of the innovative idea for success on the market; (3) Level of originality and innovativeness of the idea. 8. Teacher makes a summary of the basic outcomes of the lesson and evaluation of the group work.
Assessment	Peer-to-peer team evaluation, individual self-evaluation and teacher evaluation of the group work
Timing	2 lessons (2 x 45 minutes)
Prerequisites:	Basic ICT skills
- technology requirements	A smartphone/laptop for each student, a laptop for each team, a projector for the game and the team presentations and Internet connection
- skills which the learner must have before viewing the DLO	Basic ICT skills
The sources for the information	„Innovation Management and New Product Development“ by Paul Trott Types of Innovation
Contacts	www.bfc-bg.com

59. Types of Innovation 2

Title	Types of Innovation 2
Subject area/ Topic	All areas connected with Innovations and Innovation management study
Target group:	Students from Secondary Schools
- age range	10+ years old
- size of the group	4+
- level of difficulty	B1.B2 (CPS)
Learning objective/ competences	This Digital Learning Object lesson plan is suitable for any subject area/topic which includes studying the basics of innovations – what are the basic classifications in innovation types according the object of innovation. The DLO will provide students with an interactive way to learn the basic innovation types according the object of innovation, including application of gamification principles, team working, discussions, brainstorming and creativity methods, presentation skills and peer-to-peer evaluation of the students' teams.
Description of activity	1. The lesson follows Honey and Mumford's learning styles methodology and starts with a discussion with the students on what types of innovation according the object exist and why is it important to recognize the different types of innovations. 2. Next students are divided in teams and work on the ideas of basic innovation types according them. They use software SmartDraw Software (https://www.smartdraw.com/) to represent their ideas and present their work (in teams). Time for work on the ideas: 20 minutes. Time for presenting their ideas in teams: 5 minutes. 3. A presentation on the basic theoretic types of innovation classifications is implemented by the teacher and a deeper look on the types on innovations according the object of innovation is implemented. Definitions of the basic types of innovations according the object – technology innovations and technological product innovations are presented (Annex: Types of Innovation 2). 4. The students are divided into teams. Each team should present at least three examples of technological products innovations and their underlining technology innovations in a table given by the lecturer (containing columns: category, technological product innovation, underlining technology innovation). Time for development of the ideas: 10 minutes. The teams present their ideas in front of the class. Time for presentation per team: 5 minutes. 5. A presentation on other basic theoretic types of innovation according the object is implemented – product innovations, service innovations and marketing innovations are presented. 6. A game for recognizing the types of innovation types shown on images is implemented developed with Kahoot

	(http://www.getkahoot.it). The game represents an individual/team competition between students, using their mobile smart devices (phones, tablets, etc.) through the application Kahoot or laptops through browsers (http://kahoot.it) to participate in the game. The game is developed with application Kahoot and is available at address: https://play.kahoot.it/#/k/70d1800e-89e3-4233-b18e-4ac91a912c17 The game shows final scores with points for all participants in the game, as well as the right answers in the test. 7. A presentation of other basic types of innovations according the object are implemented: business model innovation and process innovation. Example are given by the lecturer. 8. Then students are divided into teams and are given a creativity task for creation of as many as possible examples of innovations from the studied basic types – product, service, technology, technological products, marketing, business model and process innovations. Teams work on their ideas for 10 minutes and present their ideas in front of the class. Time for presentation: 5 minutes per team. 9. Then every team gives points (min 1- max 10 points) for the presenting team in three directions: (1) Good presentation of the innovative idea; (2) Potential of the innovative idea for success on the market; (3) Level of originality and innovativeness of the idea. 10. Teacher makes a summary of the basic outcomes of the lesson and evaluation of the group work.
Assessment	Peer-to-peer team evaluation, individual self-evaluation and teacher evaluation of the group work
Timing	2 lessons (2 x 45 minutes)
Prerequisites:	Basic ICT skills
- technology requirements	A smartphone/laptop for each student, a laptop for each team, a projector for the game and the team presentations and Internet connection
- skills which the learner must have before viewing the DLO	Basic ICT skills
The sources for the information	„Innovation Management and New Product Development“ by Paul Trott Annex: Types of Innovation 2
Contacts	www.bfc-bg.com

60. Hierarchy of Innovations

Title	Hierarchy of Innovations
Subject area/ Topic	All areas connected with Innovations and Innovation management study
Target group:	Students from Secondary Schools
- age range	10+ years old
- size of the group	4+
- level of difficulty	B1.B2 (CPS)
Learning objective/ competences	This Digital Learning Object lesson plan is suitable for any subject area/topic which includes studying the basics of innovations – the basic hierarchy of innovations regarding technology and technological products innovation. The DLO will provide students with an interactive way to learn the basic hierarchy of innovations, including application of gamification principles, team working, discussions, brainstorming and creativity methods, presentation skills and peer-to-peer evaluation of the students' teams.
Description of activity	1. The lesson follows Honey and Mumford's learning styles methodology and starts with a discussion of the students on the interconnection between innovations and answering a question – can one innovation trigger the development of other innovations. 2. Then students are divided into teams and work on giving at least 2 examples of innovations triggering other innovations. The students use eDraw software (https://www.edrawsoft.com/) for development of mind maps to prepare and present their ideas. Teams work for 10 minutes and then they should give at least 2 examples in a short presentation with maximum duration 5 minutes. 3. A presentation on the basic theoretic hierarchy of innovation is presented by the teacher and a deeper look on the hierarchy on innovations including the differences in many aspects between science and technology innovations is implemented. Teacher provides clear example and discusses the stages of the hierarchy with the students (Annex. Hierarchy of Innovations) 4. The students are divided into teams. Each team should present as many as possible examples of hierarchy of innovations including the technology innovations, technological products innovations and available business models and business model innovations, following the given theoretic structure. Time for development of the ideas: 15 minutes. The teams present their ideas in front of the class. Time for presentation per team: 5 minutes. 5. Then every team gives points (min 1- max 10 points) for the presenting team in three directions: (1) Good presentation of the practical examples of hierarchy of innovations. 6. Teacher makes a summary of the basic outcomes of the lesson and evaluation of the group work.

Assessment	Peer-to-peer team evaluation, individual self-evaluation and teacher evaluation of the group work
Timing	2 lessons (2 x 45 minutes)
Prerequisites:	Basic ICT skills
- technology requirements	A smartphone/laptop for each student, a laptop for each team, a projector for the game and the team presentations and Internet connection
- skills which the learner must have before viewing the DLO	Basic ICT skills
The sources for the information	„Innovation Management and New Product Development“ by Paul Trott Annex. Hierarchy of Innovations
Contacts	www.bfc-bg.com

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Collaborative Problem Solving
2015–2017