Scenario Title:
Personalisation
(topic: friction)

Countries: Czech Republic, Lithuania, UK

Activity							
Time **(in no. or % of lessons)**	10%	30%		50%			10%
Goal **(learning objectives, match to curriculum)**	Example subject and topic: To learn about the topic of friction in the physics curriculum. One goal is to personalise teaching and learning. Another goal is to develop 21st century skills of problem solving, collaboration, and learning to learn.	The goal is to develop skills of self-discovery, curiosity, effective research, framing (re)search questions.		The goal is to learn about making videos.			The goal is to develop online publishing skills.
Description **of activities**	• **debate the appropriate level of personalization as part of the scenario** **Teacher:** • presents the design brief and suggested success criteria; • ensures that individualised learning experience corresponds to individual learning needs, learning biographies, and cognitive skills; • frame a 'big question' for each group (or class if	**Students:** • brainstorm ideas to cross learning boundaries, which promotes creative learning and knowledge integration; • data collecting; • research, e.g. searches. **Teacher:** • help students evaluate the information.	• identify the learning issues for research that promote active learning and critical thinking **Students:** • Mind mapping, charts/data; • compare and contrast; • mapping can take place in a flipped classroom; • groups decide on final product/outcome to be produced. **Teacher:**	• research to construct; action plans promoting new knowledge development • drafting and redrafting; • make the prototype.	• workshop to present; prototype and thinking to other groups (expert advisors, teachers) • Feedback.	• reflect on feedback; • agree on changes in the group; • some tuition on what makes effective and useful feedback; • remake the product (possibly in the flipped classroom).	• report research findings to the groups, promoting peer-to-peer learning to complete the final products; • public exhibition of product; • online exhibition of learning journey/process and end result e.g. make a video, blog, publish book, website, learning journal for whole project.

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	appropriate) e.g. "Why are your hands warm when you rub them?" **Students:** • Discussing the problem scenario in groups, which promotes communication skills and cooperative learning		• Teachers approve final ideas.				
Learning Environment(s) **(the physical or virtual setting(s) in which learning takes place)**	• as flexible as possible (home, hospital, school, outdoors, etc.)	• flexible, depends on the problem ➢ exploration can take place in a flipped classroom	• classroom	• linked to the product • making can take place in a flipped classroom	• school • video conference/Skype	• linked to the product	• school or special (relevant) location
Digital technologies and tools	➢ **important to justify the need for 1:1 access to tablets, and their added educational value; focus on content, educational objectives, not form** (tablets, tools) • Web 2.0 tools such as Team up for grouping and Reflex • Google sites for e-portfolios and learning journey • TACKK for blogging • VLE able to offer personal learning journey and info about individuals in class, e.g. Moodle • Woki (use of fun avatars)	• semantic web • Google • somewhere to record findings • exploit features of tablets rather than desktop computers **Throughout: There must be an individual collection of resources in a personalised learning environment on the tablet, including personalised apps, content and/or learning activities.**	• Mind mapping • Spreadsheets • Graphics • Graphic organisers (chosen by students with direction by teachers)	• linked to product but camera to record progress	• presentation tools • Multimedia • Online conferencing	• Online test tools but depends on products • Same as make	• show web content • E-portfolio • digital camera or video
Roles (of teacher, students, parents, experts, etc.)	**Teacher:** Teacher as facilitator and initial ideas/design brief. Teacher needs to be experienced and to work more creatively, unconstrained. Important to match activities to timetable constraints. **Students:** Students as consumers and influencers. Age: over 10. It is	Learning is **personalised for students throughout, i.e. have clear and demonstrate innovative teaching and learning concepts that builds on the interests, needs and biographies of students and that used tablets for that purpose.**	**Students:** as analysts/critics. **Teacher:** as guide.	**Students:** Students as creators, understanding the difference between plagiarised and original work. Individual roles within group. **Teacher:** Teacher as guide, here ensuring that students are aware of plagiarism **Experts:** as advisors.	**Parents:** as experts/advisors. **Students:** as presenters. Students could use expert peer tutors or mentors to scaffold their completion and personalisation of tasks Specify how students will work with experts.	**Students:** as producers. **Teacher**: as assessor.	**Students**:as experts.

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	important that the teacher knows each student well and has accurate information about their environment. Students should be highly motivated. **Parents:** Parents need to be engaged as this scenario takes free time after school, as supporters and supervisors. **Experts:** Experts as creators of intelligent tools (maybe even present brief), check what is practical/possible, role models, judges. Consider roles for gifted students and those with special needs.	**Throughout: teacher must work together with the student to facilitate a differentiated learning experience, supported by personalised learning services e.g. tutoring, mentoring, or also personalised apps and learning spaces. Teachers can facilitate this process, e.g. through personalized learning environments.** **Students:** as researchers. **Teachers:** as guide. **Parents:** for home activity.					
Collaboration, team work **Individual work, personalisation**	• learners could be divided into groups according to their learning styles e.g. using Web 2.0 tools such as TeamUp • collaboration could be face-to-face and Web 2.0 tools	• research within teams • share with other groups and questions question findings • groups' internal collaboration activities could be applied Throughout: **an individual learning plan or individual learning activities must be negotiated between the teacher and the student in the end of a teaching lesson**	• teams explain their chosen method to peers and review and comment on each other's work	• all team members have a personally defined role	• all to present prototypes • everyone has a role • everyone shares their involvement • Groups' activities could be combined with the other groups in Discussion and Reporting.	• personal roles	• Groups' activities could be combined with the other groups in Discussion and Reporting.

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	Features: • understanding the profile of the individual; • use of data and understanding of students to inform the grouping of students; • grouping by similar starting points; • may work at different speeds; • different resources may be available for different students; • could be a different topic for different groups (different big question) depending on needs; • differentiate work for gifted students and those with special needs.						
Reflection (reflecting upon one's learning and reporting activity status and progress) **Assessment (type, instruments)**	• Teacher should ensure that **personalisation recognises the value of prior experiences and learning biographies, and makes use of individual learning preferences.** • Teacher should communicate to the class how the project will be assessed. • Students negotiate the success criteria. • Use of a taxonomy to help visualise the learning gained throughout the project e.g. Solo taxonomy or Anderson's revised taxonomy. • Outcomes/success criteria negotiated. • Students/groups may enter the project at different points.	• Self assessment and peer assessment Throughout: **teacher must specify appropriate learning outcomes against which the student must collect evidence of achievement over a period of time, using ePortfolios or blogs.** • Define and provide examples of instruments to make the formative assessment.	• Teacher assesses progress, skills and competencies so far. He ensures **use of ICT is directed to educational ends**, not for itself (i.e. the aim is to learn about, for example, friction, not video and online publishing). • Students involved in self assessment and peer feedback plus response time. • Teacher and students should **beware of copy-paste from internet, plagiarism**, without learning taking place.	• Self assessment **Students develop a learning journal or an ePortfolio as well as use personalized online services or apps to plan individual learning targets, learning activities and set their individual learning goals.**	• Feedback from presentations • Reflection on feedback; implications for next phase **Students extend their learning by sharing with peers, teachers and parents as part of personalised learning conversations with explicit feedback.**	• Check that project still meets the brief. • Personal assessment from advisors. • Final changes needed. • Teacher does final assessment of end product and process. **Throughout: Students demonstrate their knowledge and skills by reflecting on their learning and adding artefacts to a digital portfolio.**	• Build feedback loop into information published. • Review progress against start points and targets.

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	• Target setting by students/groups in negotiation with teacher (may be different entry/exit points).						

Definitions:

Personalised learning is more effective in comparison with the traditional "one size fits all' approach usually applied at schools currently. The **Personalised learning approach is implemented here by division of learners into distinct groups according to their level of knowledge and learning styles**. We use the learning styles (or preferences) grouping method created by Honey and Mumford (1992), namely, **Activist, Theorist; Pragmatist and Reflector**: (1) Activists learn by doing; their preferred activities are: brainstorming, problem solving, group discussion, puzzles, competitions, and role-play; (2) Reflectors learn by observing and thinking about what happened; their preferred activities are: paired discussions, self-analysis questionnaires, personality questionnaires, time out, observing activities, feedback from others, coaching, and interviews; (3) Pragmatists need to be able to see how to put the learning into practice in the real world; their preferred activities are: time to think about how to apply learning in reality, case studies, problem solving, and discussion; (4) Theorists like to understand the theory behind the actions; their preferred activities are: models, statistics, stories, quotes, background information, and applying theories. There are different methods to determine students' learning styles, e.g. questionnaires, learners' interviews, analysis of their e-portfolios, data mining etc. In personalised LS, learners should be divided into distinct groups according to their learning styles before or just after Discussion stage of the problem solving activity.

The **flipped class** is a pedagogical model in which the typical lecture and homework elements of a course are reversed. Short video lectures are viewed by students at home before the class session, while in-class time is devoted to exercises, projects, or discussions. The value of a flipped class is in the repurposing of class time into a workshop where students can inquire about lecture content, test their skills in applying knowledge, and interact with one another in hands-on activities. During class sessions, instructors function as coaches or advisors, encouraging students in individual inquiry and collaborative effort.

Useful resources:

- In Lithuanian:
  - http://www.iklase.lt/category/nauja/
  - http://norbertas.blogspot.com/p/ikt-li-list-style-none-margin-0-p.html
  - http://it.main.lt/irankiai/

The work presented on this document is supported by the European Commission's Lifelong Learning Programme – project Creative Classrooms Lab (Grant agreement 2012-5124/005-001). The content of this document is the sole responsibility of the consortium members and it does not represent the opinion of the European Commission and the Commission is not responsible for any use that might be made of information contained herein.