CCL work being done at a national level in Lithuanian classrooms.
Good practice examples for the other teachers

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We implement personalised learning approach by dividing students into distinct groups according to their learning styles. We use learning styles (or preferences) grouping method proposed by Honey & Mumford (1992), namely, Activist, Theorist, Pragmatist, and Reflector:

- Activists learn by doing; their preferred activities are: brainstorming, problem solving, group discussion, puzzles, competitions, and role-play.

- 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.

- 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.

- Theorists like to understand the theory behind the actions; their preferred activities are: models, statistics, stories, quotes, background information, and applying theories.
Lithuanian personalisation scenario

- We have prepared a number of typical problem solving sets of activities (i.e. scenarios) based on personalised learning approach using Web 2.0 based group work, flipped classroom, outdoor study, and content creation methods for piloting in Lithuanian CCL schools.

- We have developed e-questionnaire and software to automatically establishing students’ learning styles – students fill in the e-questionnaire using tablets.

- We have interconnected learning styles with suitable learning activities, types of learning objects, and tablets’ apps. This approach guarantees that, in their groups, students could learn using suitable learning activities, content, and apps.
Example of interconnection of Activists Brainstorming learning activity with suitable apps and learning objects types

<table>
<thead>
<tr>
<th>IOS</th>
<th>Android</th>
<th>IOS/Android</th>
<th>Types of LOs</th>
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<tr>
<td><strong>Idea Sketch</strong> – lets you easily draw a diagram – mind map, concept map, or flow chart - and convert it to a text outline, and vice versa. You can use Idea Sketch for anything, such as brainstorming new ideas, illustrating concepts, making lists and outlines, planning presentations, creating organizational charts, and more!</td>
<td><strong>Mindjet for Android</strong> – rated as one of the best mind mapping apps for Android. Create nodes and notes, add images of your own or icons provided, and add attachments and hyperlinks. Sync to your Dropbox</td>
<td><strong>Mind Mapping</strong> – lets you create, view and edit mind maps online or offline and lets the app synch with your online account whenever connected. You can share mind maps directly from the device, inviting users via email. You can add icons, colours and styles, view notes, links and tasks and apply map themes, drag and drop and zoom</td>
<td>Application, Broadcast, Enquiry-oriented activity, Glossary, Open activity, Presentation, Reference, Role play, Simulation, Tool, Website</td>
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Lithuanian learning stories / scenarios:

• Archimedes’ Principle, or Why do Ships Flow? (Physics, Klaipeda)
• Why Materials Change in Nature? (Biology, Kaunas)
• How to Help a Friend Choose a New PC? (IT, Kaisiadorys)
• Research on Phenomena with One Variable Properties (Math, Siauliai)
• Why the Clothes Become Dirty? (Physics, Vilnius)

Detailed information available on Lithuanian CCL website
http://ccl.emokymasis.com/
General approach:

- e-Questionnaire and software to automatically establishing students’ learning styles using tablets
- Interconnecting learning styles with suitable learning activities, types of learning objects, and tablets’ apps
- Using a proper sequence of personalised teaching and learning methods (problem solving, group work, flipped classroom, outdoor study, and content creation) to achieve higher students motivation and better learning outcomes in terms of improving both subject and general competences
Using multiple teaching and learning methods in a proper way makes learning more qualitative by effective use of the best educational features of tablet devices:

- Using different activities and assignments for different learners having personal devices
- Using suitable apps to personalise / improve learning
- Possibility to perform outdoor studies (e.g. museums)
- Making films and photos for research and presenting the results etc.
Using suitable tools:

- Using Qrafter (QR code identification tool) to analyse students’ learning styles
- Using TeamUp tool to create students groups
- Using Popplet tool to improve students mind mapping skills
- Using suitable apps for suitable activities both in IoS (i.e. Idea Sketch, Mind Mapping) and Android (e.g. Mindjet for Android) operating systems
Thank you for your attention

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