

**Scenario Title:**  
Investigating the  
creation and use of  
interactive content

**Countries: Belgium  
Flanders, Italy**

<b>Time (no. of one hour lessons)</b>	1	1	1	3+	2	2	1
<b>Activities</b>							
<b>Goal (learning objectives, match to curriculum)</b>	<p>The goal is to create interactive content for tablets in STEM education e.g. an interactive online textbook, short learning sequence, game.</p> <p>The learning story should make sure that the resulting learning objects will be pedagogically used in the classroom teaching. This raises the important question for which pedagogical purpose (e.g. which learning outcomes to be developed) the created content should be used. This must be communicated to students right from the beginning, so that they know the requirements and targets of the setting.</p>		<p>The goal is to identify the best resources for the agreed learning objective, applying negotiated criteria.</p>	<p>It is important throughout to keep the idea that production and learning are strongly related to each other; i.e. that learning takes place during this process.</p>		<p>Content produced is of sufficient quality to be used for subsequent teaching and learning in this and other schools.</p>	
<b>Description of each learning activity</b>	<p><b>Teacher:</b></p> <ul style="list-style-type: none"> <li>explains assignment.</li> <li>➤ The specific topic is negotiated between teachers and students.</li> </ul>	<p><b>Students:</b></p> <ul style="list-style-type: none"> <li>explore different types of resources;</li> <li>check the resources against a checklist</li> </ul>	<p><b>Students:</b></p> <ul style="list-style-type: none"> <li>make further selection of resources and explore them deeper;</li> </ul>	<p><b>Students:</b></p> <ul style="list-style-type: none"> <li>create a digital resource (learning object):</li> <li>➤ If it is a movie: story board;</li> </ul>	<p><b>Students:</b></p> <ul style="list-style-type: none"> <li>present results to other groups in different phases:</li> </ul>	<p><b>Students:</b></p> <ul style="list-style-type: none"> <li>integrate valuable feedback to further develop the learning object.</li> </ul>	<p><b>Students:</b></p> <ul style="list-style-type: none"> <li>publish and distribute:</li> <li>put in app store, upload to educational portal,</li> </ul>

	<ul style="list-style-type: none"> <li>Students and teacher agree what the end product should be and produce a plan to get there.</li> <li>Teacher makes clear expectations and ambitions (keep next phase of the curriculum in mind).</li> <li>➤ There will be an audience they will be working for: app store, portal, etc.</li> </ul> <p><b>Students:</b></p> <ul style="list-style-type: none"> <li>define research questions, brainstorm and present ideas with post-its, interactive whiteboard;</li> <li>group display post-its and form groups based on interest.</li> </ul>	<p>(provided by teacher or students create the list with quality criteria);</p> <ul style="list-style-type: none"> <li>agree how to add to that list.</li> </ul>	<ul style="list-style-type: none"> <li>reject some and identify gaps where there is a need for new resources;</li> <li>create top 10 resources;</li> <li>fine-tune the project plan, developing next steps in a more concrete way.</li> <li>➤ The activity should promote the correct use of referencing conventions when using digital content, e.g. Creative Commons–licensed material where appropriate.</li> </ul>	<ul style="list-style-type: none"> <li>➤ If it is a game: type and scenario.</li> <li>➤ Cross-curricular: by language, accessibility (for students with disabilities)</li> <li>Students create a storyboard, e.g. in a blog or learning journal, to demonstrate their understanding of the topic, and add content material that supports that story.</li> <li>Peers provide feedback which will then again be considered in the improvement of the resources.</li> </ul>	<ol style="list-style-type: none"> <li>What does your family think of it?</li> <li>What does your class/teacher think of it?</li> <li>What will the world think of it?</li> </ol>		<p>write article on wikipedia,...</p> <p>Follow up: content produced is used for teaching purposes (cf. prosumer approach where students are consumers of material they produce).</p>
<p><b>Learning Environment(s) (the physical or virtual setting(s) in which learning takes place)</b></p>	<ul style="list-style-type: none"> <li>physical classroom but can be anywhere: stimulating brainstorming environment</li> </ul>	<ul style="list-style-type: none"> <li>Open Learning Centre and classroom</li> <li>can be outside school (home, library, café...)</li> </ul>	<ul style="list-style-type: none"> <li>any environment with wifi</li> <li>can be outside school (home, library, café...)</li> </ul>	<ul style="list-style-type: none"> <li>depends on chosen tasks and outcome</li> <li>can be outside school (home, library, café...)</li> </ul>	<ul style="list-style-type: none"> <li>formal moment, in class</li> </ul>	<ul style="list-style-type: none"> <li>any environment</li> </ul>	<ul style="list-style-type: none"> <li>class display to each other</li> <li>virtual platform for publication can be portal, VLE, Wikipedia, app store</li> </ul>
<p><b>Digital technologies and tools</b></p>	<ul style="list-style-type: none"> <li>a camera to capture and picture the groups' post-its</li> <li>Mindmapping tools</li> <li>interactive whiteboard to support brainstorming</li> </ul>	<ul style="list-style-type: none"> <li>built in multimedia tools</li> <li>search engine</li> <li>Evernote for workflow learning wise and is collaborative</li> <li>Delicious or Diigo for collecting sites and annotating</li> <li>Wi Fi is necessary from this phase on</li> </ul>	<ul style="list-style-type: none"> <li>Mindmapping</li> <li>Evernote</li> <li>Create a sharing space, for example in the cloud (or a closed learning environment), for providing an opportunity for students to publish and showcase their illustrations, demonstrations, digital stories, etc.</li> </ul>	<ul style="list-style-type: none"> <li>depends on chosen outcome e.g.: movie</li> </ul>	<ul style="list-style-type: none"> <li>use blogs, ePortfolios, wikis if necessary to share interim results</li> </ul>	<ul style="list-style-type: none"> <li>same tools</li> <li>➤ depending on chosen outcome</li> </ul>	<ul style="list-style-type: none"> <li>depending on chosen outcome</li> <li>➤ Content is accessible from a range of places and contexts, and adapted to different user needs (including those with disabilities).</li> </ul>

<p><b>Roles (teacher, students, parents, experts, etc.)</b></p>	<p><b>Teacher:</b> The teacher is a coach and his role is mainly supportive, but the teacher should have a clear idea of the pedagogical goal before starting to work. Time always becomes a very restrictive factor in the implementation of such scenarios. Targets should not be too ambitious. Smaller and less time consuming learning resources, combined with phases of reflection and discussion, will make the performance more predictable and motivating than complex content production processes. <b>Students :</b> Student-centred learning: decisions arise from their discussions. Students are expected to self-organise work groups (supported by teacher).</p>	<p><b>Experts:</b> Involve librarian or resource centre if exist, as expert. <b>Teacher:</b> Teacher creates list of websites. <b>Students:</b> Explorer Stress the project character of the scenario: Students work over an extended period in small groups where individuals are responsible for different parts of the learning and content production. So students should become responsible for teaching others in the peer group core knowledge and skills.</p>	<p><b>Students:</b> Students create top 10 list of resources, having discussed and agreed selection criteria.  <b>Teacher:</b> The teacher is coach and monitors the content creation process, suggesting other resources.</p>		<p><b>Teacher:</b> The teacher gives feedback and oversees peer review in a safe environment.  <b>Students:</b> Students present and give feedback on others. Also learn lessons from the process: importance of learning from each other – listening, taking criticism, making constructive suggestions, assertiveness.</p>	<p><b>Students:</b> Students constructing learning objects. <b>Experts:</b> Experts help if necessary. Technical support if students get stuck. <b>Teacher:</b> Teacher is coach.</p>	<p><b>All stakeholders:</b> All stakeholders give feedback. <b>Students:</b> Students are producers of content. Other students are consumers of content produced by their peers. <b>Teacher:</b> Teacher collates resources, investigates possibility of making resources available under OER licence or Creative Commons.</p>
<p><b>Collaboration, team work</b>  <b>Individual work, personalisation</b></p>	<ul style="list-style-type: none"> <li>starting individually</li> <li>➤ post-its</li> <li>forming groups</li> <li>➤ Students decide on roles and workflows within groups, supported by the teacher.</li> </ul>	<ul style="list-style-type: none"> <li>individual: looking up for resources</li> <li>in groups: presenting resources in team and reflection</li> <li>➤ Pupils +teachers have worked together on the checklist.</li> </ul>	<ul style="list-style-type: none"> <li>individual</li> <li>in groups</li> </ul>	<ul style="list-style-type: none"> <li>in groups</li> </ul>	<ul style="list-style-type: none"> <li>in groups</li> </ul>	<ul style="list-style-type: none"> <li>in groups</li> </ul>	<ul style="list-style-type: none"> <li>in groups</li> <li>different roles</li> </ul>
<p><b>Reflection (reflecting upon one's learning and reporting activity status and progress)</b> <b>Assessment (type, instruments)</b></p>	<ul style="list-style-type: none"> <li>The teacher keeps an eye on rationale why pupils chose one approach rather than another.</li> <li>Considerations about the appropriate level of pre-knowledge should be critically debated as part of the scenario.</li> </ul>	<ul style="list-style-type: none"> <li>check resources with checklist</li> <li>Students could create small 'knowledge nuggets' or interactive flashcards with the information, images and videos collected to demonstrate learning, shared with peers and</li> </ul>	<ul style="list-style-type: none"> <li>peer review: <ul style="list-style-type: none"> <li>Students make the digital content / tool and give it to another group and observe the group quietly.</li> <li>Are we looking back and forward – are we keeping track?</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>the availability of a prototype of a learning resource</li> <li>it should aim at attitudes, skills and knowledge</li> <li>self-assessment: <ul style="list-style-type: none"> <li>Have I used the top list of resources?</li> <li>How was that?</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>immediate peer feedback during the content creation phase, sharing interim results</li> <li>➤ Feedback from 3<sup>rd</sup> parties is crucial but has to be safe.</li> <li>consider the audience</li> <li>learn from the feedback, taking lessons</li> </ul>	<ul style="list-style-type: none"> <li>a remade product</li> </ul>	<ul style="list-style-type: none"> <li>teacher assessment</li> <li>feedback posted in VLE</li> <li>peer review during final showcase moment</li> <li>collect and store evidence of collective and individual achievement</li> </ul>

	<ul style="list-style-type: none"> <li>Teachers may need to develop different educational approaches for different complexity levels, e.g. preliminary instruction on the topic (e.g. discussions, presentations etc) will be necessary for students with little or no pre-knowledge before the brainstorming is effective, especially in subjects where contexts are new or of high complexity. This should be considered in the learning story.</li> <li>Keep an eye on planning; are all skills in the group?</li> </ul>	<p>teacher who provides expert feedback.</p>		<ul style="list-style-type: none"> <li>reflection booth</li> <li>checklist for quality control</li> <li>Students demonstrate their learning by creating weekly summaries, possibly using an e-portfolio.</li> </ul>			
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### Additional comments from Advisory Board:

- Production and learning are two strongly related activities that have to be linked together.** Learning becomes part of material research, content production, and continuous reflection of that content. Therefore the process of content creation is no longer static: While in traditional learning settings when the content was developed by teachers or experts in the field relied on static content, one-to-one computing and particularly tablet teaching becomes more a living system with continually updated and/or changed educational resources. Therefore, it would be good if the scenario tried to develop a more interactive content development approach where content production and reflection become an integral part of the bigger knowledge loop (see Baumgartner 2004).
- Encouraging students to take the role of a producer is a challenge.** Teachers are advised to lower the complexity of a topic in order to encourage the students to do that. This requires a climate of open innovation at the schools as well as teachers and students willing to contribute their ideas in. Teachers will also need to develop different educational approaches for different complexity levels. Preliminary instruction on the topic (e.g. discussions, presentations etc) for example may be necessary for students with little or no pre-knowledge before the brainstorming is effective, especially in subjects where contexts are new or of high complexity. In addition to that, practice reports (or narratives) that emerge from other practitioners' practice or expert support from peer teachers will be valuable.
- Teachers need to be provided with more specific examples.** A list of hyperlinks to the best short videos or a concrete description of learning story would be very useful. Lithuania does not have good innovative interactive textbooks, but there is much interactive digital content as digital learning objects for free (<http://hokusiene.wordpress.com/category/ikt-ugdyme/plansetiniai-mokymuisi/>).

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