POLICY MAKER SCENARIO

CONTENT CREATION

Scenario facts

PROJECT: Creative Classrooms Lab

TOPIC: Content Creation

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DEVELOPED: First Mainstreaming workshop 21 May 2013, Brussels
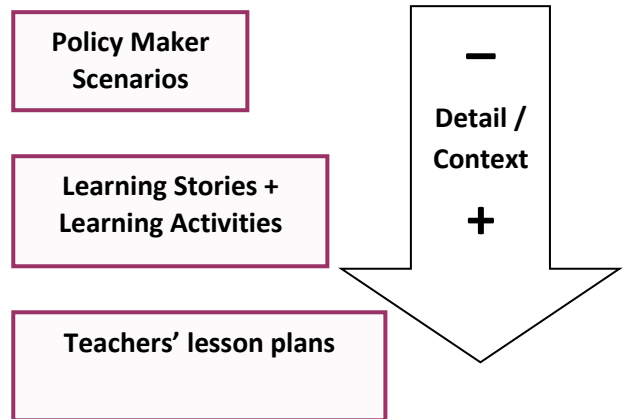
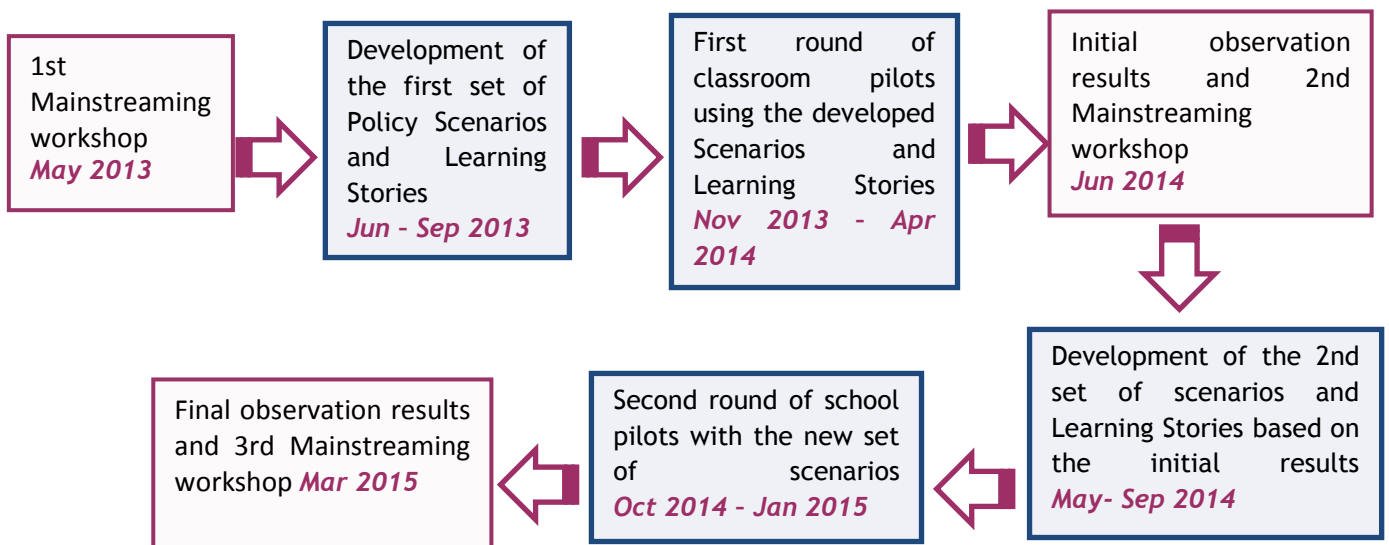**TO BE IMPLEMENTED:** Pilot Cycle 1 (November 2013 - April 2014)

BACKGROUND

During the 1st Mainstreaming Workshop of the project in May 2013 in Brussels, CCL policy makers developed **four Policy Maker Scenarios** on the topics personalisation, collaboration, content creation and Flipped Classroom.

On the basis of the Policy Maker Scenarios, policy makers and lead teachers developed **learning stories** together during a Pedagogical Scenario Development workshop in June 2013. Finally, all the CCL teachers will derive their **lesson plans** from these learning stories.

This outcome of this process will guide the CCL teachers in the use of the tablets during the **first round of pilots** starting in November 2013. Hence, this Policy Maker Scenario serves as the basis for learning stories/ activities and lesson plans guiding the use of tablets on the topic **Content Creation**.

Policy Maker Scenarios	
Learning Stories + Learning Activities	**Detail / Context**
Teachers' lesson plans	

CCL PROJECT LIFECYCLE

1st Mainstreaming workshop *May 2013*	Development of the first set of Policy Scenarios and Learning Stories *Jun - Sep 2013*	First round of classroom pilots using the developed Scenarios and Learning Stories *Nov 2013 – Apr 2014*	Initial observation results and 2nd Mainstreaming workshop *Jun 2014*

Final observation results and 3rd Mainstreaming workshop *Mar 2015*	Second round of school pilots with the new set of scenarios *Oct 2014 – Jan 2015*	Development of the 2nd set of scenarios and Learning Stories based on the initial results *May- Sep 2014*

POLICY MAKER SCENARIO: CONTENT CREATION

CHALLENGES THE SCENARIO IS RESPONDING TO

The challenges are to engage students with the use of interactive digital textbooks in **STEM education**:

- to improve their **motivation, participation** and **achievement** in STEM education;
- **change** the **teaching/learning practices** *(lesson models, assessment, school work, teaching methodology)* related to STEM;
- move from the use of traditional digital textbooks towards the use of **digital interactive textbooks** accessible on students' devices;
- **engage students reluctant to traditional models** of teaching *(which favour a passive role of the student)* by considering different types of learning styles *(as digital media can meet different learning needs)*; and
- investigate how upper secondary education **students can contribute to the creation of digital textbooks.**

SCENARIO NARRATIVE PLANNING

WHO IS INVOLVED IN THE SCENARIO? WHAT ARE THEIR ROLES?

Teachers:	- to guide students activities *(e.g. group work)* - to monitor the process - to assign homework - to engage students in collaborative activities - to act as remote publisher
Students	- to perform research activities in and outside the classroom - to do homework - to create and personalise digital learning resources
Remote experts:	to give webinars *(from outside the school)*

WHAT TECHNOLOGY IS USED IN YOUR SCENARIO? HOW IS IT USED?

- tablets with built in cameras, multimedia production tools, measurement apps, mind mapping tools and STEM subject specific apps *(to gather/edit data)*
- interactive whiteboards or 3D projectors to showcase results
- virtual learning environment/cloud computing systems to store files and to collaborate
- blog to store and display content
- wiki like environment to edit and publish content
- wireless connection
- printer

WHAT IS THE CORE PURPOSE OF YOUR SCENARIO?

Why would those involved decide to change their practice? In response to which particular challenges or opportunities?

- to **motivate and engage students** through involving them more actively in content creation, problem based learning, collaboration and peer assessment
- to **raise students interest in STEM**
- to **improve learning outcomes** of students
- to improve students research skills, 21st century skills *(problem based learning)* and their ability to cooperate
- to **change** the **teaching practices** in STEM education
- to foster **collaboration among teachers**
- to give teachers access to good learning resources
- to enable teachers to be remote publishers

WHERE DOES THE SCENARIO TAKE PLACE?

- inside school, for example in the library *(for group work and presentations)*
- outside of school during after school activities *(for data collection)*

WHEN DOES THE SCENARIO TAKE PLACE?

- mainly during school lessons
- during follow- up activities after school

WHAT HAPPENS?

Phase 1	Students create digital resources in STEM education
Teacher:	• to provide/ suggest a theme to be researched by students • to initiate a brainstorming session • to divide students in groups *(with different roles for each student)*
Students	• to identify research questions around the themes *(problem based)* • to collect and analyse data • to produce/edit the interactive digital learning resource • to present the final product via the interactive whiteboard to other students • to use digital portfolios to showcase the results of the work • to select the best digital resources to be included in an e-book *(to be published)* • to peer assess the digital resources produced by the other groups
Phase 2	**Teachers select learning resources produced by students and publish the best ones**
Teachers	• to edit the resource *(adding interactivity options)* • to add didactical guidelines to the resource • to discuss the resources to be included in the online working environment with other teachers from other topics *(e.g. via videoconferencing)* • to edit the content for the publication *(e.g. wiki, digital textbook)* using multimedia tools

STUDENTS FROM GRADE 10 STUDYING BIOLOGY DEVELOP DIGITAL CONTENT

Students from grade 10 studying biology are to develop learning resources in a wiki like environment or as part of an interactive e-book:

Phase 1: Creation of the digital learning resources by students

The biology teacher decides on the topic *"protected plants in the region"* for students to work on and collects first ideas on the topic during a brainstorming session. Students will work in groups, according to the plants they are interested in. Each student has a specific role in the group according to their learning preferences and capacities:

- **Marc is responsible for digital content retrieval:** He needs to look for digital materials for the research.

- **Jane is the coordinator**: Her main task is to help the teacher in the organization of the workflow and deliverables.

- **Bruce is the editor**: He collects the digital resources and gives them coherence.

- **Katja is the critical fellow of the group**: She assesses the work of the other groups providing hints and new ideas to her own group.

Group A formulates a research question and collects evidence where needed *(online, offline, expert consultation, libraries, inside school, outside),* analyses the data and creates the learning resource.

All groups use tablets with a range of tools and applications, e.g. built in cameras for taking pictures inside and outside the classroom, multimedia production tools for the presentation of the e-book, specific apps for collecting data, mind mapping tools and other subject specific STEM related apps. Students and teachers also use some of the following tools: interactive whiteboards or 3D projectors, virtual learning environments, cloud systems to store documents and to collaborate, wiki like working environments and eportfolios for assessment.
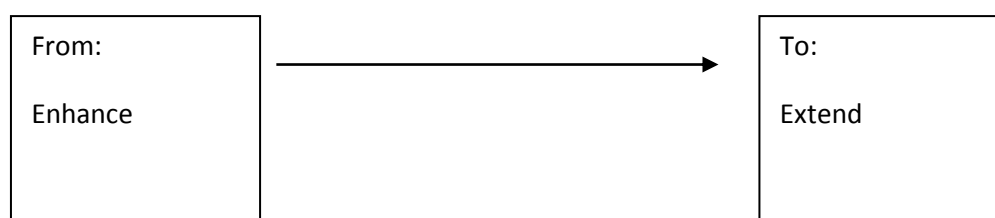
After the completion of the tasks, group presenters present the final product to the other groups in class. Students from other groups assess the resources developed *(using voting systems and an interactive whiteboard)*. The biology teacher also assesses the resources and the teacher and students decide together on the best resources to be included in the e-book/online wiki based environment.

Phase 2: Teachers publish the resource with didactical guidelines in the online environment *(e.g. wiki)*

The biology teacher gets in contact *(via an online space, conference tools)* with other biology teachers of the same or other schools in order to exchange about the resources developed by their students. The biology teacher edits the learning resources *(multimedia, interactive),* adds pedagogical guidelines and publishes them online.

APPENDIX 1: iTEC INNOVATION MATURITY MODEL

The iTEC Innovation Maturity Model has been developed in the framework of the iTEC project (http://itec.eun.org).The model shows a number of **progressive stages of innovation maturity of an institution**, e.g. school. As educational institutions move from one stage to the next in the direction of the arrow, the innovation maturity of the institution progresses, e.g. the implementation of a scenario that moves an institution from the 'Exchange' stage of the model to the 'Enrich' stage would be defined as innovative in that institution's context. In this **self-assessment activity** an organisation's/institution's stakeholders and/or workshop participants identify the organisation's current position on the maturity model. The aim of the self-assessment (which was part of the first CCL Mainstreaming workshop in May 2013) is to reflect on the aim of introducing new technologies in school and to ensure through this process the quality of produced scenarios.

From: Enhance	→	To: Extend

The stage of the innovation

5	**Empower** Redefinition & innovative use	o Technology supports new learning services that go beyond institutional boundaries. o Mobile and locative technologies support 'agile' teaching and learning . o Learner as co-designer of the learning journey, supported by intelligent content and analytics.
4	**Extend** Network redesign & embedding	o Ubiquitous, integrated, seamlessly connected technologies support learner choice and personalisation beyond the classroom. o Teaching and learning distributed, connected and organised around the learner. o Learners take control of learning using technology to manage own learning.
3	**Enhance** Process redesign	o Teaching and learning 'redesigned ' to incorporate technology, building on research in learning and cognition. o Institutionally -embedded technology supports the flow of content and data, providing an integrated approach to teaching, learning and assessment. o Learner as 'producer ' using networked technologies to model and make.
2	**Enrich** Internal Coordination	o Technology used interactively to make differentiated provision within the classroom. o Technology supports a variety of routes to learning. o Learner as 'user' of technology tools and resources.
1	**Exchange** Localised use	o Technology used within current teaching approaches. o Learning is teacher-directed and classroom-located. o Learner as 'consumer' of learning content and resources