WP5 Cycle 2 Evaluation

iTEC Webinar

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Outline

▶ Context

▶ Training and support

▶ Headline findings: benefits

▶ Enablers

▶ Barriers, challenges, drawbacks

▶ Final thoughts

iTEC

- ▶ Innovative Technologies for an Engaging Classroom

- ▶ Large-scale, high-profile, European project from Sep 2010 – August 2014 with up to 1000 teachers trying out new ideas in the classroom, over 5 cycles

- ▶ Targeted at lower-secondary and upper-primary levels

Cycle process

▶ Production of educational scenarios

▶ Pre-piloting, adopting participatory design processes, to produce Learning Stories and Learning Activities together with prototype tools and resources

▶ Piloted with teachers over a period of four months

▶ Evaluation

Evaluation data

▶ 2 teacher online surveys (completed by all teachers)

▶ 3 case studies in each country

– Lesson observation, teacher interview, learner group interview, head teacher interview

▶ National Pedagogical Coordinator interview

Piloting support

- ▶ National Pedagogical Coordinator and National Technical Coordinator: localisation, training and support
- ▶ Learning Story documentation
- ▶ TeamUp documentation
- ▶ iTEC Teacher Community
- ▶ Local online communities

Learning Activities in Cycle 2
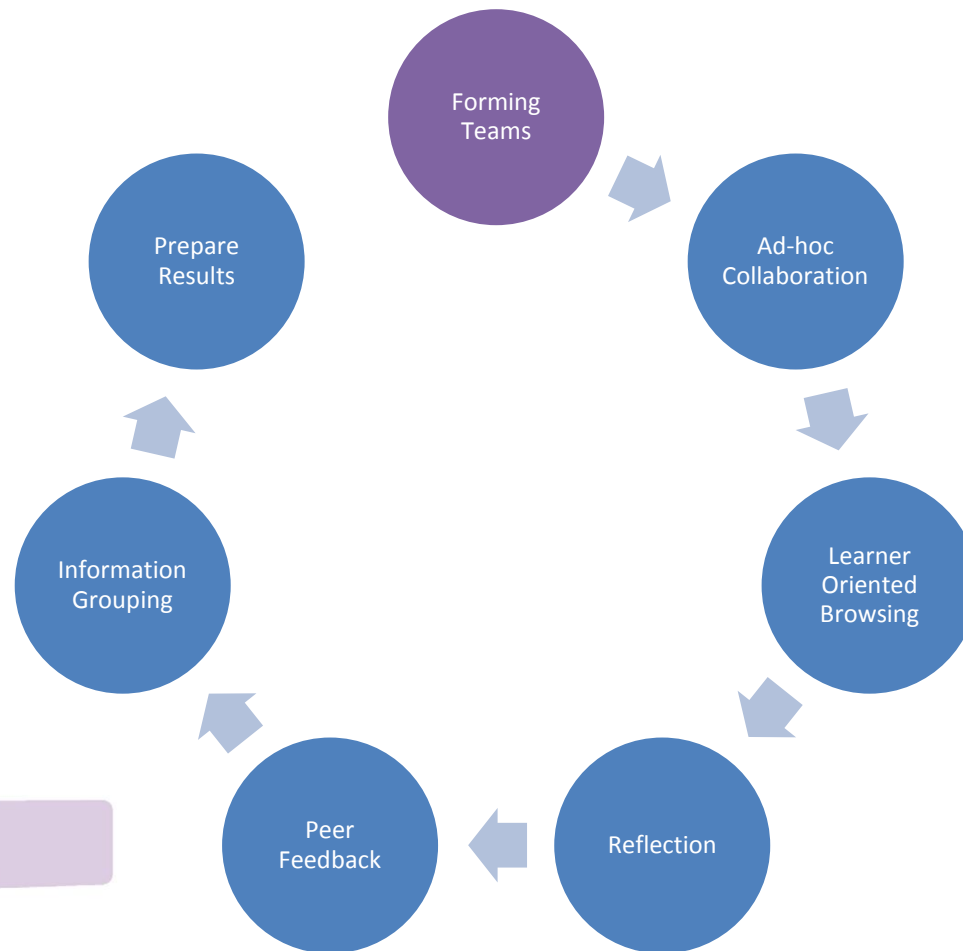
Learning Stories in Cycle 2

▶ **Mathematics in a multicultural setting (MMS):** This scenario uses the language of mathematics to improve participation and communication in a multicultural setting. Groups explain mathematical concepts linking to online resources via a wiki using their own language and link to other group's explanations in native or other languages.

▶ **Embedding exam preparation in learning activities (EEP):** The scenario provides both teachers and students with useful and innovative ways of using technology to build a bank of resources that can be used for ongoing learning and revision. Students create resources for homework such as podcasts, puzzles, questionnaires, or notes in wikis. Students also arrange ad-hoc collaborative sessions with other students nationally and internationally.

▶ **Students creating (science) resources (SCR):** Students support one another to learn difficult concepts in science or other subject areas. They create exhibits (for example, posters, podcasts, simulations) for younger students to teach a concept from the curriculum, with mixed-experience teams focussing on different concepts.

Cycle 2 data

- 15 countries participated to different degrees: 421 pilots, with 13 providing case study data
- 298 (71% response rate) sets of questionnaires received from 261 teachers
  - SCR: 212 cohorts (190 teachers)
  - EEP: 68 cohorts (56 teachers)
  - MMS: 18 cohorts (15 teachers)

- As in Cycle 1, some countries participated on a small scale

Exemplar: SCR

▶ Produced video tutorials for Chemistry, in teams of 4-5 using video camera or smartphone, subsequently uploaded to private YouTube area

▶ Benefits
  – Students found it motivating, purposeful, that it made them articulate their knowledge very clearly and they could easily show their parents their work
  – The teacher felt that students with good oral skills could show their understanding, it enhanced student autonomy

▶ Challenges: students were anxious to begin with, policies on smartphone use need to be revised

Results: Headlines

Learning Story	Innovation potential	Continued use	Recommend
C2: Mathematics in a Multicultural Setting (6 countries)	Limited uptake	Limited uptake	Limited uptake
C2: Embedding Exam Preparation (10 countries)	HU, SK, TR	HU, TR	HU, TR
C2: Students Creating (Science) Resources (13 countries)	AT, EE, HU, IT, LT, NO	AT, EE, HU, IT, LT, NO	AT, EE, HU, LT, NO

What are the Headline Findings?

▶ Experienced and ICT confident teachers have found the Learning Stories, Learning Activities and/or ICT innovative

▶ Benefits

– Increased use of ICT in the classroom with 2/3 of teachers using tools they had not used before

– The majority of teachers felt that the implementation led to new pedagogical practices/approaches to learning

– Perceived positive impact on student motivation and learning outcomes

– iTEC Teachers were very positive about the experience and enjoyed the opportunity to experiment and take risks

– Participation has had a positive impact on teachers' use and understanding of digital tools

– New assessment approaches (peer assessment) (C2)

– Improvements in learning outcomes

Main benefits

	Benefits: Main	Benefits: Supplementary
New approach to learning	AT, EE, ES, IS, IT, LT	CZ, DE, HU, NO, PT, TR
Increased student motivation	EE, ES, FR, IS, LT	AT, CZ, HU, IT, PT, NO, SK, TR
Enhanced student autonomy	FR, IS, PT, SK, UK	ES, HU, IT, LT, TR
Increase in collaboration	HU, SK	AT, CZ, EE, FR, IT, LT, PT, TR
Effective	ES, UK	AT, EE, IT, LT, PT, TR
Development of group work	ES, SK	FR, IT, LT, TR
Increased use of ICT	ES, NO	PT, LT, TR

C2: overall perceptions of benefits

▶ Led to new pedagogical practices 89%

▶ Enables me to do things differently in the classroom 89%

▶ Enables assessment in new ways 80%

▶ More opportunities to do collaborative work 92%

▶ Increases the development of new skills for collaboration 94%

▶ Increases use of digital tools to support collaborative work 94%

▶ Positive impact on students' attitude to learning 81%

▶ Positive impact on students' attainment 81%

C2: impact on practice

▶ I will use digital tools more often in the future 86%

▶ It has increased my skills in digital tools 83%

▶ It has improved my pedagogical knowledge of digital tools 82%

▶ It has improved my understanding of the potential of digital tools for teaching and learning 81%

Main enablers

Enablers	Enablers: Main	Enablers: Supplementary
Student motivation	AT, EE, ES, FR, IS, IT, LT, NO, PT, SK, TR	HU, UK
ICT access/infrastructure	FR, DE, HU, IS, SK, TR, UK	AT, CZ, EE, ES, IT, PT, LT
Teacher motivation	AT, DE, ES, IT, LT, PT, NO	EE, HU, TR
Support of school leaders	ES, HU, NO, SK	IT, PT, TR
Support of colleagues	IS, IT	EE, HU, LT, NO, PT, SK
ICT support	NO, ES	EE
NPC	SK	AT, ES, IT, LT, NO, UK
Prior experience (Cycle 1)	SK	ES, PT, LT
iTEC resources and TeamUp		ES, HU, IS, IT, LT, NO, SK, TR

Data: Enablers

*"I had never used Facebook before in class and it can be very useful for communicating with the teacher, clearing up doubts, exchanging ideas, it was useful."*Student Interview, Portugal

*"The teachers in [our school] are innovative so they are open and receptive to these new approaches and methods. They never hinder development and innovation."*Head teacher, Hungary

*"My knowledge grew up thanks to this project, mostly because of the exchange of ideas with other teachers involved in the project, and different technologies."*Teacher Interview, Italy

Main challenges

Challenges	Challenges: Main	Challenges: Supplementary
Time required to prepare and undertake the work	DE, EE, ES, FR, HU, IS, IT, LT, PT, SK, TR, UK	CZ,
Sufficient ICT access	AT, ES, HU, IT, LT, NO, TR, UK	EE, DE, PT
TeamUp	ES, HU, IS, IT, PT, SK, TR,	CZ, EE, FR, LT
Timetabling/curriculum constraints	AT, ES, HU, IT, NO, SK, TR	CZ, PT, UK
Unreliable Internet access	ES, FR, HU, IT, NO, PT, TR	LT, SK
Organising groups	ES, FR, HU	AT, CZ, DE, EE, IT, LT, PT, SK, TR
Technical problems: software glitches, site registration issues	ES, NO, UK	AT, FR, HU, IT, LT, SK, TR
Lack of home access	ES, SK	HU, IT, LT, PT, TR
Security (filtering/internet controls)	NO, TR	DE, ES, IT

Data: challenges

" *"I do see that for someone who has a problem maintaining structure, it might be a problem when we begin working with seven tools and have seven user accounts and seven log-ins and we have to switch back and forth between things." (teacher interview, Norway)*

"The groups did not always work; some groups had a good dynamic between them – they learned how to be more flexible and work together. But in some groups there was the 2-3 that did all the work while others did nothing. Some groups also had a harder time working together because they didn't get along." (case study report, Israel)

Results: iTEC technologies in C2

▶ TeamUp: 162 teachers, 73% found it easy to use, about half felt that it was essential for the pilot, offered benefits in relation to both other ICT tools and non-digital tools

▶ dotLRN: piloted by 18 teachers in Austria and Turkey. Broadly positive responses.

▶ Teacher Community: continued to be a challenge for many teachers in Cycle 2, has now been replaced by website with forums

Concluding remarks

▶ 7 of the 12 main benefits relate to pedagogical practices, although they are supported by the technology

▶ Student motivation is a main benefit and enabler in 13 countries, but also a challenge in 8 of these countries

▶ TeamUp was still not reliable (server issues) and only seen to be beneficial/an enabler by a small number of teachers

▶ Half the main challenges are technology related; infrastructure is still not sufficient in many countries

For further information

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