

D10.7 Quality Assurance final report

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Do It Yourself in Education: Expanding Digital Competence to Foster Student Agency And Collaborative Learning European Commission Educations Audio-visual and Culture Executive Agency -71400ALLPA4A3541A4AESAKA1MP



CHARLES
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D10.7 Quality Assurance, final report

Authors

Miroslava Černochová, Petra Vaňková, Tomáš Jeřábek

Public report

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1 Introduction

The Quality Control Assurance in the DIYLab project was based on an external peer review system. There were three external steering committees established, one per country, comprised of a group of experts (policymakers, academics, and professionals from the education sector).

During the working meeting in Barcelona 2014 the partners P1, P2 and P3 jointly defined criteria for becoming a member of a steering committee of external evaluators. He/she should be an expert who understands and has relevant experience in:

- national and school curricula in the context of digital literacy
- methodology and didactics of ICT (ICT pedagogy)
- Learning Object Repositories (LOR), Open Educational Resources (OER) and web systems
- methodology and didactics of ICT in practice (educational applications of ICT in schools)

If possible, the members of steering committees should be external experts who have following qualification preconditions:

- Teacher educator/school inspector
- expert in digital LOR (web)
- ICT co-ordinator/experienced teachers of ICT/ professors of ICT and pedagogy/Professional union of ICT teachers

The Partner P1 (Spain) deputed **Dr. Adriana Gewerch** (professor of Educational Technology, University of Santiago de Compostela), and **Jordi Vivancos** (Coordinator of the Technology for Learning and Knowledge Area, Department of Teaching, Generalitat de Catalunya) to be members of the steering committee from Spain.

The Partner P2 (Finland) appointed **Mrs Eija Ruohomäki** (*Advisor*, Internationalisation, Education and Culture Services, City of Oulu, Centre for Learning and Resources) to be a member of the steering committee from Finland.

The Partner P3 (Czech Republic) designated **Dr. Pavel Pešat** (IT teacher educator, University in Ústí nad Labem, ÚJEP, Faculty of Education, Dept. of pre-school and primary education), **Dr. Jan Berki** (IT teacher educator, Technical University in Liberec, TUL, Faculty of Science, the Humanities and Education, Dept. of Applied Mathematics), and **Glynn Kirkham** (Ministry of Education, Praha) to be members of evaluators from the Czech Republic.

All three steering committees reviewed the correspondence between planned (designed in the Project Proposal) and achieved results, and the consistency between these results

and the specific objectives that the project intended to satisfy, as well as features considered by the target group.

2 Methodology and findings

The steering committees intervened in two critical phases (see Annex 1, Annex 2). The Partner P3 has developed a guideline and indicators for evaluation by the steering committees (see Annex 3, Annex 4).

2.1 Phase 1

The first review took place at the end of the implementation phase (WP4) and the conclusions informed the assessment of the DIY Lab implementation (WP5). At this stage, the review checked the possible differences between what has been foreseen and what had been realised, with the aim of implementing preventive and corrective actions. In the Phase 1 a following set of documents and materials were available for the evaluation:

- D1.6 Report on Digital Competence in Schools
- D2.6 Developing a DIY Lab in Primary, Secondary and Higher Education
- D3.1 DIYLab Hub (a review of online activity)
- Local implementation reports (D4.1 - D4.5; country by country)
- D4.6 The DIY labs in action - General report
- D4.7 DIY digital objects

The steering committees analysed materials according to a ready-made set of criteria developed by the partner P3 in accord with the aims and tasks' description specified for WP1, WP2, WP3 a WP4 in the original approved project documentation (Annex 3).

Findings from Spain

The evaluators from Spain drew a conclusion that *„the DIYlab project is complex, provocative and timely“* (D10.1, p. 14). *“The DIY philosophy stimulates the generation of contradictions in the school's curriculum.”* *“Noteworthy is this project's valuable contribution in involving parents from the outset, as well as other parties involved in the education of children and youth. However, more information and deeper analysis into the basics concepts used in the project would be of interest.”*

Findings from Finland

The evaluator from Finland pointed (D10.2) that: *“It was heart-warming to read about the profound discussions, agreements, jointly shared ideas and ownership of the DIY philosophy”* and what DIYLab means for universities, too. ...The Finnish partners *“have built a common*

and sustainable ground for development tasks during the project (and in the future). Based on my experiences of international projects, I would suggest discussion on the following concepts that were mentioned in the application and that are relevant to the project. It seems to me that may not have been discussed yet in your schools/faculties or in the project face-to-face meetings or virtual meetings/platforms: entrepreneurship (education), and competence. What about technology, without much knowledge of the situation in other countries, I would presume there is a lot of variation and therefore challenges to construct the DIYLab model. Once again, a reason for the model to be mainly built on the (DIY) philosophy - designing, creating, sharing and learning. It is also a sustainable way of conducting a project. Technology changes, philosophy prevails."

Findings from the Czech Republic

The evaluators from the Czech Republic come to the conclusion (D10.3) that: *"in this project, there is great potential to return learning to the learner in a supporting and facilitating context. Despite the inaccessibility of some data and the lack of clarity around the data, the project has great strength and the evaluators look forward to seeing the further work emerging from this very worthwhile and significant innovation. The external evaluators applaud the project team for the work completed so far."*

Summary

All three steering committees have stated that aims of WP1, WP2, WP3 a WP4 were accomplished. The Spanish evaluators provided tangible recommendations and ideas how to improve and supplement HUB DIYlab (D10.1 p. 10), based on some findings and results of projects and research studies financed by EC. *"Strong attention should be paid to the fair use of licensed third party content on the students' productions (pictures, music and other proprietary Web 2.0 platforms). An example of non-Digital Competence conformity is the Hub material, "Stereotypes in the XX1e siècle (21st century) and their consequences", has a copyrighted music as soundtrack of the video, "All of Me", by John Legend, material that has been uploaded to Youtube, for public dissemination."*

2.2 Phase 2

The review for Phase 2 came at the end of the project and the final report (D10.7) collected and summarised the findings. This review verified compliance with proposed quality standards and tells of the achievement of project objectives.

In Phase 2, the following set of documents was available for the evaluation:

- D5.1 - D5.5 Evaluation and Revised DIY Labs Specifications reports (from each country)
- D5.12 Final evaluation report: Implementing a DIY Lab in the primary and secondary school and in higher education

All three steering committees carried out the evaluation according to a ready-made set of criteria developed by partner, P3, in accordance with the aims and the task description specified for WP5 in the original approved project documentation (Annex 4).

All evaluators agreed that the main aim of WP05 was completed, the only thing which was not so clear was a number of participants of focus groups. In Finland and the Czech Republic there had sometimes been fewer participants than anticipated in meetings and focus groups. Nonetheless, all consortium partners participated in the focus groups. The meetings with participants of focus groups contributed to the identification of strengths and weaknesses for the implementation of DIY into everyday teaching practice and into teacher education. All participants came to the conclusion that it would be most suitable and necessary to continue to implement and integrate DIY into school education and teacher training after the conclusion of the project.

The Project DIY had a declared focus on the development of digital literacy. It would, therefore, have been expected that the partners prepare a set of indicators indicating how to identify the pupils'/students'/student teachers' improvement in digital literacy via DIYLab activities and how it might be possible to monitor and study how the DIYLab approach really contributed to the enhancement of digital literacy.

The local reports D10.4, D10.5 and D10.6 do indicate how an up-dated DIY approach could be integrated into teaching and learning at all levels of education (including university level) using examples and demonstrations on videos and presentations already published on the DIYLab web.

Findings from Spain

The report D5.3 introduces *“the strengths, the weaknesses and changes or evolutions experienced by participants throughout the development of different activities carried out from DIYLab”* and presents recommendation for improvements for future DIYLab implementation (D10.4, p. 3). The evaluators state that eight focus groups were organised

and that the main aim of WP5 was achieved. Nevertheless, there were two aspects that didn't follow compliance: (1) the number of participants in focus groups; (2) the indicators for monitoring improvement of digital competence have not been found in reports reviewed (D10.4, p. 3).

Discussions in focus groups showed some areas for development or limitations for future DIYLab implementation: (1) teachers need assistance for this type of projects; (2) clarification as how to manage pupils'/student autonomy of learning; (3) contradictory (or combative) demands on time needed to cover required curriculum content and the time for DIYLab activities.

The focus groups pointed out that collaboration with families together with pupils'/students' self-reflection of the learning process are the great strengths of the DIYLab implementation.

The Spanish evaluators greatly appreciate recommendations for developing the DIYLab at the university level; principally, the challenge is to extend the experience to other subjects and also to extend a deep influence on the teaching process (D10.4, p. 4).

Findings from Finland

In their report D10.5, the evaluators from Finland indicated some areas needing development for DIYLab implementation which were discussed in focus groups with pupils, students, parents and teachers: (1) a lack of time; (2) the principal use of ICT still appears to cause some concern; (3) the assessment of the development of digital competency. *"The follow-up work that follows the project in the respective countries focuses more on the assessment issues in the context of curriculum of the countries"* (D10.5, p. 1); (4) indicators for monitoring and assessment of digital competency are not clearly defined and visible. *"The report focuses more on digital objects or apps rather than on the actual competency."*

The strengths highlighted by the Finnish evaluators emphasise that *"the biggest change was achieved in the attitudes rather than in practical issues"* and that *"the time invested in the "philosophical" discussions alongside with the practical considerations/worries that had to do with the change was worth it."* (D10.5, p.1)

Findings from the Czech Republic

The DIYLab project puts stress on capturing/recording the learning process in a visual way. This idea was defined in opposition to "traditional or fossilised" approaches applied in school education and sometimes to reserved opinions and rigid approaches to pupil

learning which still dominate in some schools. Nevertheless, the evaluators are convinced that all three partners (each in its own specific way) have coped with these approaches and conditions how it was just possible. If we compare conditions for implementation any changes into school formal education into teaching practice and educational strategies in these three countries (Spain, Finland, the Czech Republic), it was the Czech Republic where the biggest barriers for implementation were to be found since the funding for education and thus teachers and accessible technology are more limited than in the two partners in this project.

The evaluators appreciate that, *“the partners mention many different ways as to how they intend to continue with DIY in their institutions”* and the DIYLab has become and will form an integral part of pedagogical approaches in how to develop and improve digital literacy in compulsory courses for student teachers at Bachelors’ and Masters’ degree level.

3 Conclusion

The DIYLab project sits well with pedagogical philosophy of such as that within Rousseau’s ‘Emile’, Steiner Waldorf education, the work of Sugara Mitra and earlier educational thinkers, who put the learner and the learner’s interests at the centre of learning (see D10.6).

After having examined and studied all available materials including those on the web-based DIYLab Hub, the evaluators feel that the work in hand has many positive and innovative features. The teams in the three countries have worked hard to create a dynamic learning environment for students in a normally locked, disciplines-centred and controlled context. This is to be applauded. The challenges faced during the project were significant and some remain as not insignificant.

It is unfortunate that the reports were not required to incorporate, *“the opportunity to offer an integrated vision of DIYLab, identifying common recommendations or issues affecting more than one country or educational level.”* (D10.4, p. 5)

All key performance indicators defined in the project proposal have been achieved. All the partners involved in DIYLab project in collaboration with DIYLab activities’ participants, pupils, students, parents, university teachers and teacher educators appreciate DIYLab as a promising, reasonable and progressive approach to learning which is transferable to all levels of education including university level and teacher education (both initial teacher education and continuing professional development).

4 Resources

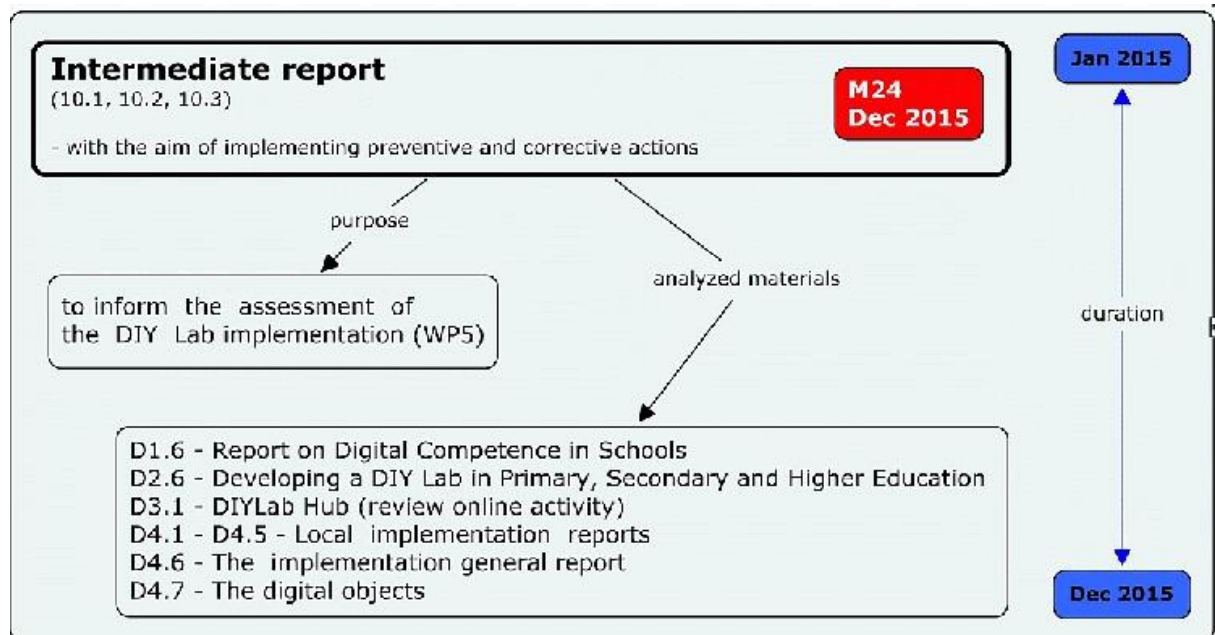
D10.4 External Quality Assurance final report – Spain

D10.5 External Quality Assurance final report – Finland

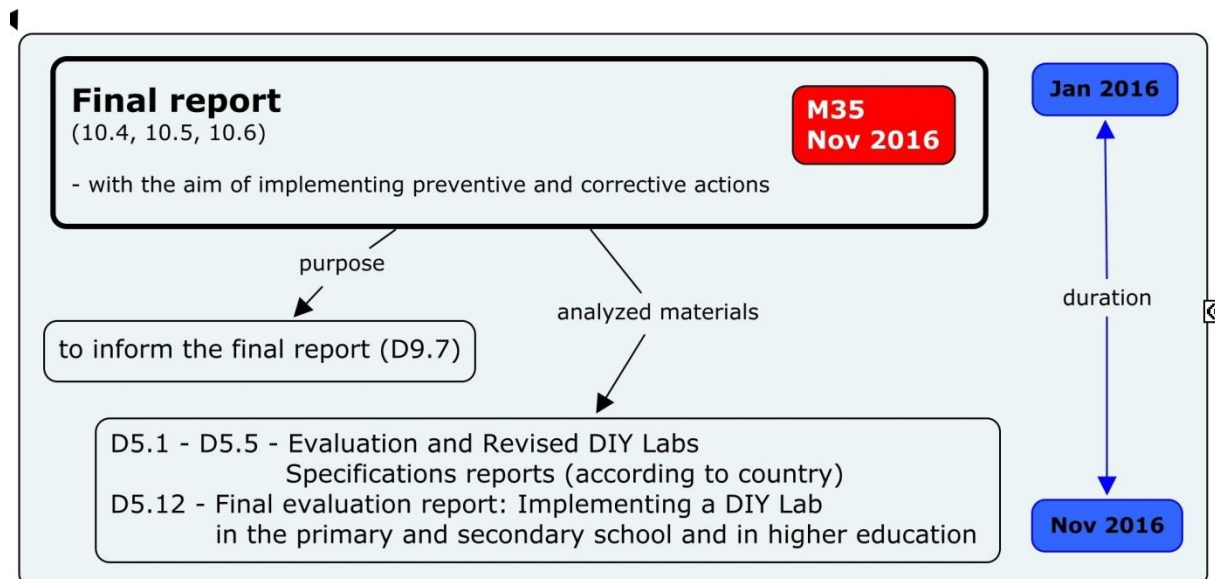
D10.6 External Quality Assurance final report – Czech Republic

5 Annexes

5.1 Annex 1: Phase 1 (M13-M24)



5.2 Annex 2 Phase 2 (M25-M36)



Do It Yourself in Education: Expanding digital competence to foster student agency and collaborative learning (DIYLab)

Program: Education, Audiovisual and Culture Executive Agency, KA3 ICT Programme

Project number: 543177-LLP-1-2013-1-ES-KA3-KA3MP

5.3 Annex 3: A set of indicators for Phase 1

5.3.1 WP1

Criteria related to WP1 for evaluating progress in DIYLab

- Structure: I. Formal parameters
 II. Qualitative parameters
 III. Indicators following accomplishment of the main aim
 IV. Indicators related to another WPs
 V. Other comments

I. Formal parameters

Indicators - Questions	evaluators' comments	Score (0-10)
How many focus groups were organised altogether?		
<i>Notice: It was planned to organise 22 focus groups.</i>		
How many focus groups were organised by P1, P2, and P3?		
<i>Notice: P1 had to organise 8 focus groups: at primary: 3 focus groups with 54 people, at secondary: 3 focus groups with 54 people, at higher 2 focus groups with 24 people; P2 had to organise 6 focus groups: at primary: 3 focus groups with 54 people, 3 focus groups with 54 people; P3 had to organise 8 focus groups: at primary: 3 focus groups with 54 people, at secondary: 3 focus groups with 54 people, at higher 2 focus groups with 24 people</i>		
How many people were involved into focus groups at primary level?		
How many people were involved into focus groups at secondary level?		
How many people were involved into focus groups at higher education level?		
<i>Notice: For this calculation is possible to use list Table-1.</i>		
Did WP01 follow a schedule for WP01?		
7. Was the final report D1.6 translated in Catalan? In Spanish? In Finnish? In Czech?		

II. Qualitative parameters

Indicators - Questions	evaluators' comments	Score (0-10)
Did P1 develop the work schedule? Did P1 collect information from P2 and P3?		
2. Did/did focus groups analyse the strengths and weaknesses of teaching practice in relation to the development of digital competences? Did P1, P2 and P3 analyse the results of their country's focus groups?		

III. Indicators following accomplishment of the main aim

Indicators - Questions	evaluators' comments	Score (0-10)
Was the main aim of WP01 carried out? Were identified the best practices in developing key competences (especially digital competences) taking into account their difficulty in providing students with purposeful learning experiences to foster lifelong and life-wide learning skills?		
Curriculum analysis: Does curriculum analyses identify it, or how primary and secondary curriculum and the selected undergraduate studies for each country include digital competence and its development? Did P1, P2 and P3 analyse the respective curricula?		
Curriculum analysis: Did P1, P2 and P3 analyse emerging bibliography?		
Focus groups analysis: Does the analysis of content of focus groups allow to foresee the needs of each institution prior the DIYLab in support of lifelong and life-wide learning? Did the analysis of content of focus groups allow to foresee the kind of professional development to be provided to link to open educational practice?		
Digital competence: Does the report D1.6 allow to share the methodology and results of WP01 that offers a European perspective on digital competence?		
Digital competence: Does the report D1.6 analyse how digital competence can be better integrated in curricula and connected to learning outcomes, not only at all levels of formal education but also in informal and non-formal learning?		
Digital competence: Does the report D1.6 draw on cutting-edge bibliography and curriculum analyses to provide a state of the art on digital competence in education exploring how to build on current practice?		

IV. Indicators related to another WPs

Indicators - Questions	evaluators' comments	Score (0-10)
Did WP01 provide background information for WP02 development (summary of the current situation in participating schools and universities: infrastructure, organisation, and school culture regarding digital competence:		
Does the report D1.6 recognise direct (teachers, students, parents) and indirect (policy makers) stakeholder contributions?		
Does the report D1.6 offer a clear set of challenges and propose sound pedagogical and technological suggestions for meeting them?		

V. Other comments

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5.3.2 WP2

Criteria related to WP2 for evaluating progress in DIYLab

Structure: I. Formal parameters
 II. Qualitative parameters
 III. Indicators following accomplishment of the main aim
 IV. Indicators related to another WPs
 V. Other comments

I. Formal parameters

Indicators - Questions	evaluators' comments	Score (0-10)
Has been involved the required number of teachers?		
Were implemented the required activities with the teachers?		
<i>Notice: Throughout, partners will work with local teachers and administrators who will be involved in the implementation of the DIY Lab in a series of weekly workshops. Each educational level will have its own workshop series involving around 60 teachers and administrators, involving a weekly time commitment of 2 hours for the workshop and 3 hours for individual preparation, per participant.</i>		
Did WP2 follow a determined schedule?		

II. Qualitative parameters

Indicators - Questions	evaluators' comments	Score (0-10)
Was created educational specification of DIY Lab?		
Was created technological specification of DIY Lab?		
Was proposed evaluation of digital competencies?		
How did conduct the cooperation on the outputs? (definition DIY output types, types of activities, monitoring of digital competencies)		
<i>Notice: The end result of the formation process will be the creation of DIY Lab Specifications, a pedagogical and technological approach for implementing a DIY Lab in each school (D2.1 - 2.5). The specification will include guidelines for assessing digital competence and a rubric (indicators) that will allow students and teachers to monitor progress during the implementation.</i>		
Did partners write D2.1-D2.5 in individual institutions and were D2.1-D2.5 translated into English?		
How did partners communicate and share information? (pedagogical and technological specifications of DIY including digital competences' evaluation)		

III. Indicators following accomplishment of the main aim		
Indicators - Questions	evaluators' comments	Score (0-10)
Did WP2 fulfill stated aims?		
<i>Notice: In addition of the aim: Partners will work with local teachers and administrators who will be involved in the implementation of the DIY Lab.</i>		

IV. Indicators related to another WPs		
Indicators - Questions	evaluators' comments	Score (0-10)
How does WP2 reflect and follow up WP1?		
<i>Notice: WP1: The main aim of WP1 was to identify what participant institutions recognize as best practices in developing key competences, and especially digital competence, taking into account their difficulty in providing students with purposeful learning experiences to foster lifelong and life-wide learning skills. Including: focus groups, curriculum analyses, focus groups content analyses, contrast with cutting-edge bibliography.</i>		
Does WP2 lead to complete specification to realize WP4?		
<i>Notice: WP4: The main aim of the WP4 was the implementation of DIY Labs in partner schools and universities, to foster the acquisition and development of digital competence.</i>		

V. Other comments

5.3.4 WP3

Criteria related to WP3 for evaluating progress in DIYLab

Structure: I. Formal parameters
II. Qualitative parameters
III. Indicators following accomplishment of the main aim
IV. Indicators related to another WPs
V. Other comments

I. Formal parameters

Indicators - Questions	evaluators' comments	Score (0-10)
Is the Hub online and working?		
Does the Hub reach the amount of visits per month described on the proposal?		
<i>Notice: 400 unique visitors per month during implementation; 100 unique visitors per month through the end of the project; 50 unique visitors per month after the project is over.</i>		
Is the Hub accessible in different languages (english, spanish, czech, finish)?		

II. Qualitative parameters

Indicators - Questions	evaluators' comments	Score (0-10)
Does the Hub comply with current standards on website design?		
Does the Hub allow to share the experience related to digital objects and implementation process (WP4) among the participants?		

III. Indicators following accomplishment of the main aim

Indicators - Questions	evaluators' comments	Score (0-10)
Did WP3 fulfill stated aims?		

IV. Indicators related to another WPs

Indicators - Questions	evaluators' comments	Score (0-10)
Does the Hub support sufficiently all publication activities related to digital objects and necessity of WP4?		

V. Other comments

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5.3.6 WP4

Criteria related to WP4 for evaluating progress in DIYLab

- Structure: I. Formal parameters
 II. Qualitative parameters
 III. Indicators following accomplishment of the main aim
 IV. Indicators related to another WPs
 V. Other comments

I. Formal parameters

Indicators - Questions	evaluators' comments	Score (0-10)
Has been involved the required number of students and teachers in activities within DIY Lab?		
Has been created the required number of digital objects and also published on HUB?		
Did WP4 follow a determined schedule?		
<i>Notice: The project started 4 months later. Because of this fact, each primary and secondary school should have implemented the DIY Lab for one calendar year (from January to June and September to December). They should have dedicated two school hours per week to work on the project (64 hours total). Each university should have implemented the project during one summer semester. They should have dedicated two course hours per week to the project (32 hours total). The winter semester should have been devoted to finish digital objects and writing the "The DIY labs in action" report.</i>		
Have partners P1, P2 and P3 done weekly monitoring at their institutions?		

II. Qualitative parameters

Indicators - Questions	evaluators' comments	Score (0-10)
Did students use their own technical equipment or other available at the institution for solving activities?		
<i>Notice: Activities should be designed to promote digital technologies that are commonly available to students of the institution, and preferably freely available</i>		
Are the digital objects characterized by sufficient level of cross-curriculum feature?		
Are the digital objects characterized by sufficient level of visualization?		
Are the digital objects characterized by sufficient level of multicultural transferability?		
How do partners communicate about individual digital objects published on HUB?		
<i>Notice: Individual partners should discuss published digital objects within the environment of the HUB.</i>		

III. Indicators following accomplishment of the main aim		
Indicators - Questions	evaluators' comments	Score (0-10)
Did WP4 fulfill stated aims?		
<i>Notice: In addition of the aim: The implementation of DIY Labs in partner schools and universities, to foster the acquisition and development of digital competence.</i>		

IV. Indicators related to another WPs		
Indicators - Questions	evaluators' comments	Score (0-10)
Does implementation of DIY Lab reflect the model of implementation of DIY Lab, which was designed in WP2?		
<i>Notice: Within WP2 should be designed a model of implementation DIY Lab into environment of individual institution, including technical and pedagogical specification of each region.</i>		

V. Other comments		

5.4 Annex 4: A set of indicators for Phase 2

5.4.1 WP5

Criteria related to WP5 for final evaluation of progress in project		
Structure: I. Formal parameters		
II. Qualitative parameters		
III. Indicators following accomplishment of the main aim		
IV. Indicators related to project context		
V. Other comments		

I. Formal parameters		
Indicators - Questions	evaluators' comments	Score (0-10)
How many focus groups were organised altogether?		
<i>Notice: It was planned to organise 22 focus groups.</i>		
How many focus groups were organised by local partner (P1, P2, or P3)?		
<i>Notice: Please, evaluate only the local partner related to you. P1 had to organise 8 focus groups: at primary: 3 focus groups with 54 people, at secondary: 3 focus groups with 54 people, at higher 2 focus groups with 24 people; P2 had to organise 6 focus groups: at primary: 3 focus groups with 54 people, 3 focus groups with 54 people; P3 had to organise 8 focus groups: at primary: 3 focus groups with 54 people, at secondary: 3 focus groups with 54 people, at higher 2 focus groups with 24 people</i>		
How many people were involved into focus groups at primary level?		
How many people were involved into focus groups at secondary level?		
How many people were involved into focus groups at higher education level?		
<i>Notice: For this calculation is possible to use list Table-1.</i>		
Did WP05 follow a schedule for WP05?		
7. Was the local report translated in English and local languages?		
<i>Notice: Please, evaluate only the local partner related to you.</i>		

II. Qualitative parameters		
Indicators - Questions	evaluators' comments	Score (0-10)
Did P2 develop the work schedule? Did P2 collect information from P1 and P3?		
Did focus groups analyse the strenghts and weaknesses of DIY Lab?		
<i>Notice: Please, evaluate only the local partner related to you.</i>		
Did focus groups make any recommendations for improving DIY Lab?		
Did results of focus groups reflects changes of design of DIY Lab for next implementation?		
Did the local report reflect the feedback from focus groups?		
Did final report 5.6 content the recommendations for improving the DIY Lab according to previous development (WP2) and implementation (WP4) of DIY Labs?		
Did final report 5.6 content the redefined DIY Lab specification?		
<i>Notice: according to the first DIY Lab specification in WP2.</i>		

III. Indicators following accomplishment of the main aim		
Indicators - Questions	evaluators' comments	Score (0-10)
Was the main aim of WP05 carried out?		
Does the local report clarify how to updated DIY Lab would be implemented at primary, secondary school or in higher education?		
Does the local report provide indicators for monitoring digital competence?		
Does local report provide the modified specification (WP2)?		

IV. Indicators related to project context		
Indicators - Questions	evaluators' comments	Score (0-10)
Do local partners intend to continue with DIY Lab at their institutions?		

V. Other comments