

D. 2.4. Local Report: DIY Lab Specifications - Primary School ZŠ Korunovační

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D. 2.4. Local report: DIY Lab Specifications – Primary School ZŠ Korunovačn

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1. Pedagogical DIYLab specification at ZŠ Korunovační

Six key requirements defined in WP01 were too general for our thinking about DIYLab design, therefore it was necessary to specify our inherent attributes which fit better in the pedagogical approach applied at ZŠ Korunovační and as well enrich it with DIY philosophy. When thinking about a shape of DIYLab at our ZŠ Korunovační we worked on the assumption to integrate DIYLab into didactic and organisational structure of teaching at our school into a conceptual framework of whole school with the aim to develop a current educational model of creative school. A pedagogical DIYLab concept DIYLab at ZŠ Korunovační is grounded in following specifics that have turned into fundamental features for all activities which will be designed and organised in a DIYLab framework:

- **Self-production**

Self-production of simple aids, direct contact and work with material is really very valuable (looking for solution, inquiry exploration, designing)

- Information Sharing

Within carrying out activities information are shared, pupils develop co-operatively common guidelines, pupils design method and technique what and how help junior pupils to learn and to understand some curriculum and schoolwork

- Self-organization

Pupils learn and teach mutually each other, they learn also self-organisation and self-study (they teach each other, they learn to learn)

- Testing effect

Some activities incorporate elements of experimentation and features of piloting (how ideas can be accepted, attractiveness, effects of methods, gaming, etc.)

- A teacher role: planning

A teacher designs a procedure for making tools and devices, sharing products and experiences, and s/he organises a „test“ an impact of particular methods.

- Implementation of new methods of learning

Into classes there will be gradually implemented learning methods including specific methods directed to:

- the verbal skills – skills to make clear or to comment
- extending vocabulary – improvement and extension of vocabulary
- comprehension – text understanding (searching in text, writing comments, searching by elimination ...)
- learning by heart – mastering learning from memory
- improve concentration – improvement of concentration
- improve learning conditions – improvement of conditions for learning at home and in schools

The school educational program deals with some problems marginally. Within the DIYLab we pursue to extend types of activities which can result an effective learning and deeper motivation. The activities in our school will focus and concentrate on:

- Creation of products for practice
To exploit topics and activities of specific subjects in the curriculum (Fine Art, Work Activities, Computing etc.) to produce practicable feasible products, for example a production of learning/teaching aids for junior pupils, to design a procedure or guidelines for more effective learning. Primary school pupils can together with their teachers to assign tasks (Question: Why to we need for improvement of teaching effects?)
- A new framework **for** project days
Project days will be utilized for sharing experiences between classes, for transmitting guidelines and practice, for common experiencing, gameplay and playing. We will test a new organisational scheme and concept of project days.
- Parental involvement
Application of parental experiences and ideas. We will open up and create opportunities for parents engagement in all phases of this process (option of topics, tools, procedures; collaboration in a project day) – parent’s involvement can serve as a criterion for quality assurance of activities.

Activities themselves can differ from a didactic and organisation point of view, for example in criterions of quality assurance, time lenght. A special attention will be given to monitoring and assessment of improvement in digital literacy according to following four principles:

1. choice of a tool
A choice of tools for a assignment performance (Question: Why did you choose just this digital tool/device?)
2. suitable tool
A pupil can operate a tool, s/he masters a competence to use it (Question: Will be the digital tool/instrument really the most suitable for the activity?)
3. functions and limits tools
A pupil looks for another appropriate tools for particular phases of the activity (Questions: Could you apply co-operation with othe schoolmates? If the tool is available, what are its functions and limits?)
4. I'm learning a new tool
A pupil can choose a new tool (Question: Is it for him/her and for the activity appropriate? How can you discover if the tool is appropriate? How can you learn to master working with it?)

Example (described from a pupil’s point of view):

I am designing a picture quiz

I can use standard tools which I master to work with them: text-processing, digital camera – the outcome will be a text document. Or I can search for a new tool, in such a case for a special SW for designing quizzes (for example Smart Notebook etc.)

An evaluation of improvement of didital literacy competence pursues a following process:

- Did a pupil need a new tool for the activity?

- Did s/he look for a new tool independently?
- Did s/he find for an appropriate purpose a tool which meets DIYLab requirements and criterions?
- Did a pupil master the tool?
- Did the tool serve its purpose and role, was it really available?
- Did the whole process have a collaborative quality?

2. Organisational scheme of DIYLab

The internal project scheme facilitates to involve all pupils of lower secondary school (aged in 11-15), i.e. about 80 pupils, and all pupils of primary education, i.e. about 250 pupils in a specific way.

The School Educational Program enables in subject Fine Art, Labour Activities, Informatics to make a choice of topics by a teacher and pupils, by all means subject fields follow out. For example observation of natural forms linked to drawing, painting or frottage enables to produce aids for younger pupils to learn Science. In most cases it will contribute to content enrichment by new form of work.

A schedule of each activity can take on school year at most (the 2nd term of 2014/15 and 1st term of 2015/16), although the activities will be supposed to take a few weeks up to one term from the organisational point of view in a frame of a school year and efforts to approach to activities like to projects.

3. Technological specifics DIYLab at ZS Korunovační

The school ZS Korunovační has following facilities and equipment:

- HW: network of 25x PCs, 5x IWB, 2x vizualisers, 3x digital cameras, 2x tablets
- SW: standard SW applications (MS Office, Photoshop elements, Irfan View, Zoner Calisto, Smart Notebook etc.)

Other free available SW which we would like to use newly in the DIYLab and to test its functionality and efficiency at the school:

[Slideroll Gallery AV 0.92b2](#) – Publishing of videos and photos on the Internet by flash animation

[UberIcon 1.0.3](#) – Animation of icons by various graphics effects

[JavaScript Animator Express 1.10](#) – Creation of simple animations for web based on GIF or JPG pictures

[Sgirlz Morph 2.1](#) – Smooth animated transitions between two or more pictures or photos

[Wink 2.0 #1000](#) – Creation of simple guides (tutorials) and presentations

[UnFREEz 2.1](#) - Easy creation of animated GIF files

[Qedoc Quiz Maker 2.0.3](#) – Creation of professional quizzes for knowledge tests

[Foto2Avi 4.2](#) – Creation of videos in formats AVI, MPEG or FLV based on own pictures and digital photos

[SViGio 1.289](#) – Creation of flow diagrams, graphs and other vector graphics in SVG format

[CU3OX](#) – Creation of flash 3D animations not only for web

[Math3D 1.0](#) – Application for comfortable visualisation and interactive manipulation with 3D mathematical objects

[Falco GIF Animator 3.5](#) – Easy creation of animated GIF files

[Powerbullet Presenter 1.44](#)

Particular attributes of individual SW which can be used will be specified for each DIYLab activity.

Mutual collaboration will proceed under support of publishing system Webgarden, principally in support of pupils and teachers across school subjects and within of certain activities. This system is used in ZŠ KorunovačnÍ in a free available version for publishing information for parents.

4. Characteristics of outcomes

Pupils' activities will be directed primarily to design and develop learning and teaching aids which will be as digital objects published on DIYLab Hub. In a case outcomes are not in a digital form the outcomes will be digitalized for consequent publishing on DIYLab Hub. At the present time we think about these following potential outcomes:

1. Teaching aids in paper or digital shape (e-book, poster, lamin. quiz, tutorial)
2. Videotutorial / video-recording
3. Study textbooks or teaching manuals; lesson plans
4. A set of photos/graphics, Web photogallery
5. Audio-recording (podcast)
6. Outcomes OpenSW (freeware, shareware, trial, demo) - models, objects for IWB
7. Web pages, wiki
8. Web applications, applets
9. Presentations (PPT etc.)
10. Project documentation
11. Others

5. Instructions for an activity design and its structure (Guideline for authors)

There is a draft of the structure for DIYLab activity description which has been prepared in order to uniformity ensurance and implementation of all required organisational demands:

- I. Name of the activity (Czech, English)**
- II. Motivation for pupils** (key question which will motivate pupils to participate in the activity)
- III. Number of pupils in the activity**
- IV. Connection with the activity**
- V. Character and features of the activity**
- VI. Accordance with DIY principles** (interdisciplinary relations, inquiry based learning, sharing and collaboration, etc.)
- VII. Accordance and connection with the curriculum**
- VIII. Practicle utilization of outcomes** (where, in which subject and in which class)
- IX. Activity description**
- X. Technologies** (tools, previous and expected dskills, choice of a new tool)
- XI. Time-schedule**
- XII. Course** (What process of activity is expected?)

6. Monitoring indicators for digital competency development

Assessment of outcomes, primarily designed teaching aids, will serve as a base for evaluation of digital competency development within particular activities. The assessment will be focused mainly on:

- Accordance with assignment and key principles for DIYLab activities
- Practical usability of the produced aids
- Universality of produced aids