PILOTS RESULTS: USAGE AND LESSON LEARNT WITHIN THE FIRST PILOTS IN EUROPE

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Abstract

Purpose of this paper is to show how the Up to University (Up2U) platform, our Next Generation Digital Learning Ecosystem (NGDLE) supports the latest pedagogical trends and helps students master the essential digital skills of the 21st century inside and beyond the regular classroom. Up2U uses a set of different tools and services to combine technology, infrastructure and pedagogy. In the pilots we run different learning scenarios in which the learner acquires theoretical knowledge through Open Educational Resources (OERs) and videos consultation, then discusses and applies that knowledge to critically analyze poetic texts and make connections through history, culture and literature, enhancing ICT and linguistic competencies while developing traversal skills. All lessons learned from these scenarios in pilot activities will be presented.

Keywords: Pilots, lesson learnt, education, team-based learning.

1 INTRODUCTION

Up2U [1] is an innovation project aimed at bridging the gap between secondary schools and higher education & research by better integrating formal and informal learning scenarios. Up2U platform is based on the Next Generation Digital Learning Environment (NGDLE) [2], as a way to support a more open, effective and efficient co-design, co-creation and use of digital content, tools and services specially adapted for personalised, collaborative or experimental learning by students preparing for university.

A number of pilot activities has launched in nine European countries. These activities intend to prove the applicability of the platform on an international scale and the creation of critical mass in the use of the platform in an educational environment, as well as its importance as a tool to support teaching and learning activities.

2 PILOT STATUS

Purpose of pilot is to assess impact and improve what needs to be changed. Pilot activities cover a wide range of activities. These include Continuous Professional Development Programme (CPD) [3], ongoing discussions with stakeholders and attempts to scale up to a target number of schools, wide-scale dissemination of the project and recommendations to national level policy-makers.

In this paper we describe how the design of CPD helps secondary school teachers to become familiar with the advanced platform and develop the skills and digital competences they need in order to better prepare their students for university. CPD consists of three consecutive modules. These modules are:

- Module 1 – Introduction and Orientation to main components of NGDLE: technological tools and teaching methods that effectively support pedagogical Skills.
- Module 2 – Hands-on implementation and practice: Teachers who choose to continue to the second module will apply what they learned in Module 1 in their own classrooms, with their own students. Teachers’ assignments, will be assessed based on the European Framework for the Digital Competence of Educators (DigCompEdu) [4], which introduces a peer review system of assessment to minimize costs and increase sustainability beyond the lifetime of a project.
• Module 3 – Teachers who submit their Module 2 assignment for assessment will be able to proceed to the third and final module. This module follows a Cascade or ‘train-the-trainer’ model to facilitate scaling up to the goal of reaching more schools across participating countries and beyond.

Two hundred schools participated in the first iteration of the pilots. One of the first issues we faced was GDPR [5] and an important lesson we learned was how to address this issue. The problem was resolved via existing school agreements with both the coordinators and Academic and Research Networks per pilot country. Most of the countries have already completed the first iteration of the CPD Module 1 and 2. There is also a case where it is currently running simultaneously the first two modules of the CPD.

The distribution of the CPD Modules’ courses by country on the Central instance of the Learning Platform until February 2019 is illustrated in Figure 1 (Hungary and Lithuania are not shown as they have set up their own instances of the Up2U Toolbox):

The aforementioned courses were created by teachers and are based on different learning scenarios in which the learner acquires theoretical knowledge through Open Educational Resources (OERs) and videos consultation, then discusses and applies that knowledge to critically analyse poetic texts and make connections through history, culture and literature, enhancing ICT and linguistic competencies while developing traversal skills.

These learning scenarios were implemented with the tools that Up2U NGDLE Learning Platform provides. The full list of tools is available here: https://up2university.eu/up2universe/

Regarding the evaluation of the pilot results, it is split into two sub-tasks: evaluation of the platform and evaluation of what students learn and teachers gain. Evaluation of the platform is performed by collecting user’s feedback and providing with recommendations for improvements on a regular basis. Usability surveys are also planned for general usability of tools as well as for scenario based usability testing. Tools for quantitative evaluation of the pilots are already in place and some initial data is collected and presented.

3 LESSONS LEARNED

The paper presents the experience gained during the pilot implementation in nine European countries where the platform used in the classrooms by teachers and students covering different courses. The lessons learned centre around four main issues:

• More effective use of system-wide learning analytics to enable Up2U to answer different questions (what data needs to be collected and analysed, what insights can be gained from this data and what are the future plans for using these learning analytics tools)

• Ensuring sustainability by reaching a wider range of stakeholders, social networks and professional learning communities as well as independent teachers and students of schools

Figure 1. Distribution of CPD Modules’ courses by country
• Providing a stabilised platform of technological tools that teachers can leverage in order to develop their students’ Up2U core competences.

• Extending types of content to meet the needs of different communities in different countries.

A detailed description on lessons learned is presented on the next paragraphs of the paper.

3.1 Lessons Learned from Differences between Pilot Countries

One of the conclusions from the engagement with schools so far is that school innovation must be flexible, responsive to local needs, embedded in local contexts and open to the schools’ environments to better meet the needs of teachers and students, rather than using a ‘one-size-fits-all’ approach.

Also, in order to handle pre-pilot CPD and pilots according to local needs, it needs to bear in mind that pilot countries are using the Up2U Application Toolbox and other supporting contents and technology in very diverse ways, as described below. These differences between pilot countries center around three main issues:

• Central instance vs. multi-tenancy of Moodle: Greece, Italy, Poland, Portugal, and Spain use the instance of the Toolbox, while Hungary, Lithuania, and CERN have set up their own instances of the Toolbox.

• CPD feedback input to MVP (Minimum Viable Product): All pilot countries will provide online questionnaires to participating teachers to ensure ongoing data collection regarding their suggestions on possible changes they would like to see.

• Access to types of learning content on Moodle: The pilot countries have organized access to learning content in the central instance of Moodle in similar ways. The instance is split into country-level course categories that are managed by relevant national pilot coordinators. The national categories were used during CPD Module 1. For Module 2, the categories are split into subcategories for particular participating schools with separate school managers. In addition, Greece, Poland, Portugal, and Spain are also running their national mini-sites to support participating teachers in their national languages.

3.2 Lessons Learned from Pilot Activities

Teachers who participated during the pilot activities provided vital feedback regarding the ways which Module 1 and 2 can be expanded and engage more stakeholders. The table below summarizes the lessons learned from the first iteration of the pilot.

<table>
<thead>
<tr>
<th>Lesson Learned</th>
<th>Required Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Modules 1 and 2 should be integrated into one Module, in order to save time between the modules</td>
<td>Teachers present their learning scenarios, while the two modules are merged</td>
</tr>
<tr>
<td>Parents and other stakeholders should be also engaged</td>
<td>Presentation on Parents’ associations in all the participating pilot countries</td>
</tr>
<tr>
<td>Module 1 has to be implemented as a fully online course</td>
<td>Teachers from other regions will also participate on the Module’s 1 activities.</td>
</tr>
<tr>
<td>Each school should have some teachers that are eager to support their colleagues regarding the usage of the Learning Platform</td>
<td>Teachers that have successfully completed Module 1 and 2 activities, can train their colleagues. Recorded webinars and other support material can also be used.</td>
</tr>
</tbody>
</table>

3.3 Lessons Learned from Independent Learners

To enable independent teachers, the website needs to provide Getting Started user guides, tutorials and easily accessible content.

Up2U can also benefit independent students who require additional content for self-directed learning to smooth their transition to university, especially in ‘gateway’ subjects like Mathematics and English as a Foreign Languages. Some of Up2U’s University partners have developed - or have access to -
OERs produced by their universities to help first-year students, before they begin their studies, to engage in self-directed study to bridge their gaps in English or Mathematics. Three universities are currently developing new OERs and investigating how to make existing OERs for self-directed learning accessible to independent high school students.

### 3.4 Lessons Learned from Up2U Usage Data Sources

Some important lessons have emerged from the first three data sources (user feedback, website statistics on independent users and the post CPD module survey). The data collected provided very positive feedback and indicated that the tools increase teachers’ pedagogical and technological competencies and knowledge. The tables below report only lessons learned that require action.

#### 3.4.1 Lessons Learned from Usage Data

These are the Lessons Learned from Usage Data:

**Table 2. Lessons Learned from Usage Data**

<table>
<thead>
<tr>
<th>Lesson Learned</th>
<th>Required Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tools are hardly used to collaborate with experts and peers from outside the</td>
<td>CPD needs to focus far more on raising awareness regarding the potential benefits of Professional Learning Communities (PLC), facilitating the establishment of PLCs on regional levels and national levels, as well as joining international networks such as Scientix [6] and European Schoolnet [7].</td>
</tr>
<tr>
<td>school.</td>
<td></td>
</tr>
<tr>
<td>Learning platform is expected to provide an easy way on how teachers can create</td>
<td>In the support material that is used during the CPD activities, more real-life use cases and learning scenarios should be added. These examples will provide a more concrete and efficient way on how they can use the Learning Platform.</td>
</tr>
<tr>
<td>content.</td>
<td></td>
</tr>
<tr>
<td>A considerable amount of teachers have not included OERs into their teaching.</td>
<td>Teachers should be further motivated to use OERs during their courses. As a result, they should have more hands-on experience on how they can use the repositories that Learning Platform provides</td>
</tr>
<tr>
<td>Moodle provides various data and reports for each course that can be used by</td>
<td>The material used on the CPD Modules, has to clearly show the way how teachers can gain a deep understanding regarding these issues:</td>
</tr>
<tr>
<td>teachers.</td>
<td>• Which students need more support</td>
</tr>
<tr>
<td></td>
<td>• How a group of students works</td>
</tr>
<tr>
<td>All the tools that have been integrated on the Learning Platform have to provide</td>
<td>Local partners and community members should use the content created on their national language, or translate it.</td>
</tr>
<tr>
<td>translations to the pilots’ national languages.</td>
<td></td>
</tr>
</tbody>
</table>

#### 3.4.2 Lessons Learned from Learning Analytics

These are the Lessons Learned from Learning Analytics:

**Table 3. Lessons Learned from Learning Analytics**

<table>
<thead>
<tr>
<th>Lesson Learned</th>
<th>Required Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>The majority of the tools that are integrated with Learning Platform provides</td>
<td>The installation of Learning Locker was only an implicit suggestion for tool developers and integrators to add xAPI support to them.</td>
</tr>
<tr>
<td>do not provide Learning Analytics data as xAPI [8] statements.</td>
<td></td>
</tr>
<tr>
<td>During the first iteration of the pilot activities, the users were trained on</td>
<td>Users are now using the production instances and their courses have been migrated from the test instance.</td>
</tr>
<tr>
<td>the test instance of the Learning Platform. As a result only a little of useful</td>
<td></td>
</tr>
<tr>
<td>data was collected.</td>
<td></td>
</tr>
</tbody>
</table>
3.5 Lessons Learned from OERs

According to a pre-pilot needs analysis surveys conducted in eight countries in the first year of the project, very few teachers are using OERs. We concluded that CPD modules need to guide subject area teachers on:

- Where to find OERs related to their subject area and how to integrate OERs into their classroom practice.
- Building PLCs that share OERs that teachers have field-tested in their classrooms.
- Advantages of curating vs. re-inventing the wheel by creating OERs very similar to OERs other teachers have already developed.
- How to store OERs to create learning paths.
- How to upload and share the scenarios they create as OERs.

3.6 Lessons Learned from CPD Content Usage

Storing and sharing CPD content for all countries to either use ‘as is’ or adapt and localise is key to the success of the CPD ‘Train the Trainer’ Module 3 in different countries. Adequate attention needs to be paid to the translation of CPD material to English and easy accessibility to these CPD materials therefore represents an essential condition for sustainability of Up2U after the life of the project. The high quality of CPD material is absolutely necessary and also an easily accessibility.

4 CONCLUSIONS

The main conclusions raised from the lessons learned during our pilots.

- We need to pay attention on the creation of Professional Learning Communities (PLCs) which could be fundamental to sustaining innovation in schools. These PLCs can be organised according to subject areas or inter-disciplinary and a key aspect of their role is to facilitate the levels of sustained motivation required to cope with the challenges of change. The ‘train the trainer’ model empowers teachers to provide their colleagues with ongoing long-term support which ensures continued teacher development.
- To enable large-scale implementation, we need to engage additional stakeholders at multiple levels and ensure buy-in at all levels of the policy-making and decision-taking hierarchy including education ministries, district-level administrators and school principals to mobilise ‘top-down’ support for the project in partner countries.
- The exceptionally broad range of strengths and resources of the different countries needs to be more effectively utilised in order to engage additional communities and ensure top-down support, as well as to provide the tools and content to meet the needs of these additional communities.

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