

## BROADENING TEACHER EXPERIENCE THROUGH INTERNATIONAL RESEARCH AND TRAINING OPPORTUNITIES

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**Abstract:** *There is a constant focus on the performance of schools and teachers, how well do their students perform, what percentage attend university and how is the nation's intellectual capital being fostered. This attention on student learning has prompted a re-think on the use of technology, pedagogical structures and the adequacy of national curriculums. Complimenting this attention is the consideration addressing the needs of practicing and pre-service teachers, finding ways to help them discover and practise new methods, trial new technologies and explore new resources. This paper examines the training mechanisms developed in the context of a European project. Furthermore the paper details the procedure for selecting the teachers but more importantly outlines the synergetic training development that merges twin foci of pedagogy and technology and the validation planned at each stage of the project. Several poignant features such as communities of practice and a research underpinning are identified for their role in developing teacher experience and highlight the potential positive impact that such practices can have on teacher development and its influence on invigorating the education process for students.*

**Keywords:** *pedagogy, technology, blended learning, training, teacher training,*

### 1. INTRODUCTION

For many years there has been a vision that technology has a limitless potential to join in partnership with education and revitalise established learning structures to develop greater intellectual and learning capital. Whilst there have been numerous attempts to harness that vision it is only in recent times that a consensus has been realised in determining the required elements necessary for the successful integration of technology in the education process. For too long there has been a myth that technology alone could achieve a marked change in education culture and deliver required change in student performance ignoring not only the traditional and important roles that teachers had played but also the pivotal roles that teachers have as change agents. Overwhelming evidence pointed to the inadequacy of such an approach and the same research pointed to success factors that would be achieved by developing a common approach utilising a multi-faceted structure combining pedagogical theory, learning strategy, curriculum development and technological componentry.

Combining such strategies and theoretical movement into a multi-layer approach allows teachers to properly assess the impact of each particular strategy on learning [1] in their particular context and then combine the strategies for a rich learning tapestry. Harnessing such a complex structure is a relatively recent development in the area of teacher development but one that is allowing the intent of the learning design to impact on the learner [2]. Research is starting to emerge [3] about the sustainability and success of adopting such an educational development model that combines strategies.

In the carriage of the Open Discovery Space project, funded under the Competitiveness and Innovation Framework Programme, it is determined that such an approach will be realised by developing stylised educational topic scenarios across a range of subjects that utilises an eLearning framework, and creating a purpose built portal. The project facilitators will also be encouraging teachers to use the material, discuss the relevance of the material with redefined teaching practice, adapt the material to their individual needs, and trialling new practices and materials with students.

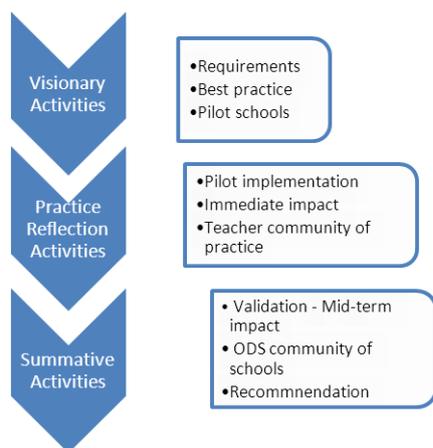
This paper will outline the strategies that have been planned for the carriage of this project in Austria. The paper details the proposed training, validation and research methods that have currently been planned and how these methods will meet an expected outcome for Austria and the ODS project.

### 2. TRAINING AND RESEARCH FOCUS

The training and research focus of this project are two succinct entities that will intertwine and assist in refining the process and eventual project outcome. The training focus allows the material and recommended practice that have been developed by the ODS consortia to be communicated to teachers by information, practice and evaluation sessions. The research component will allow for the evaluation of both the effectiveness of the training process and material that has been specifically developed for the project.

The engagement of teachers and the establishment of sustainable communities will be reached by training mechanisms that employ different levels (local, national,

international) and three gradual stages of participants' involvement (see Image 1).



**Image 1:** Training procedure

The main purpose of the illustrated training procedure is to foster teachers' pedagogical competencies and to constantly broaden the ODS teacher networks through a mix of training and engagement activities leading to the international ODS community of practice. The visionary activities start at the local and/or specific level by identifying best practices in technology integration and Resource-Based Learning [4] within the current national/regional pedagogical frameworks. During the large scale pilot implementation the selected and adapted best practice approaches will be tested by a higher number of schools under different pedagogical settings. This phase will be supported by the so called change agents, teachers who have the required skills and are able to share their knowledge with others and to influence their attitude towards the use of new learning approaches in school environments. The development of a powerful change implementation strategy will be one of the key success indicators of the project. The activities in this phase are accompanied by practice reflection workshops and a continuous requirements elicitation to further develop and refine the pilot-training framework.

The final validation phase ends with the summative workshops which will incorporate the feedback of the entire ODS community of practice. The resulting lessons learnt and recommendations will focus on how to transfer the ODS educational design to different contexts and how to extend and sustain the ODS community of best practice beyond the project duration.

The research component is designed to add to the validity of the process and the results. The research will be a mixed method approach employing on-line surveys, interviews, focus group discussions and a case study. The first three instruments are developed according to the validation methodology of the ValNet framework [5]. This framework was selected by the ODS consortium because it wadeveloped specifically to validate research and development projects associated with schools and second because it allows not only for measuring the direct effect of single implementation activities but also because of addressing the evaluation of the long-term impact of the entire training approach in schools. So this methodology

is designed to assess the immediate impact on teachers and the expected change of teaching behaviour on the long run and thereby indirectly also the effects on the students.

The core element of the ValNet framework is the on-line survey which assesses the direct-impact of ODS training and the mid-term effect of pilot implementation in real learning environment. The survey will be available on-line for teachers to complete at the end of workshop sessions and after a significant time of use in practice . The questionnaires encompass five distinct dimensions,

- Pedagogy
- Institutional/organisational
- Cultural/linguistic
- Technological and
- Economic

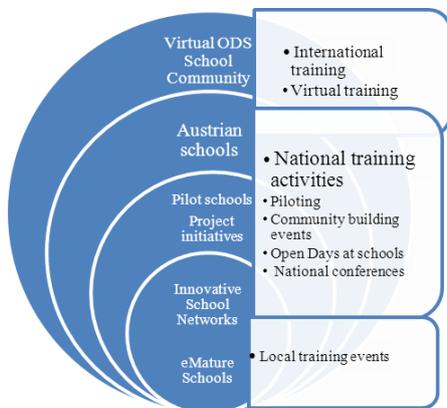
The ValNet framework identified these five clusters as the determining factors for the success of research and development projects in schools. By creating a dimensional lens in the survey the tool will collect data that will be then analysed for the innovative nature of the content of the scenarios, the portal and the process.

The second aspect of the research will follow eight teachers from four countries involved in the project, Ireland, Greece, Finland and Austria. These teachers will be selected from the eMature schools in those countries and will therefore be present from the start of the workshop and portal implementations. Using online portfolios to record teacher observations, the case studies will qualitatively assess the various characteristics of teachers' practice about the impact of the project over the three years. Portfolios were selected as a complimentary method to document teacher reflections and simultaneously show the efforts, progress and achievements of the teachers [6]. This case study approach was selected for its non-intrusive nature [7] and to allow observers to monitor the teachers' progress as well as the running of the project.

### 3. ENACTING THE PLAN

In Austria there are several communities of innovative schools, that are characterised by high competencies in technology use, well established IT-infrastructure in schools, the implementation of technology supported innovative pedagogical approaches (teaching scenarios, learning designs) in real teaching environments and the overall aim to transfer these competencies to other teachers and schools. From this pool the Austrian Partner will select the ODS eMature Schools [8]. One of the most noted innovative school initiatives is the European Network of Innovative Schools in Austria [9] (ENIS) that comprises approximately 50 national secondary schools. The representatives of this community have high competencies in technology, resource-based learning (RBL), pedagogical design and are developing and disseminating best practices in innovative teaching and learning since the network's foundation in 1997. The ODS project is not focusing on a particular learning style so the RBL approach adopted by the ENIS schools will

lend itself to the use of the portal and scenarios and merge well with the other approaches adopted by other countries and other institutions. The RBL approach should be a point of comparison with other approaches such as Inquiry Based Learning and promote discussion at the international conferences and summer schools organised under the auspices of the ODS project.



**Image 2:** National ODS approach

The figure above illustrates the Austrian ODS approach. At three local training events best practices will be evaluated from the specified school networks and a selection of training resources and pedagogical design from previous European projects and initiatives (Organic.Edunet1, OSR2, LD-Skills3). The main idea is to build on existing concepts in alignment with the Austrian school curriculum and pedagogical settings. The second aim is to engage teachers who will act as ODS change agents right from the beginning of the project.

The second level focuses on expanding the target group to the national level, on testing the selected resources and pedagogical concepts in different school environments and on the community building process. These objectives will be realised through a blend of specific (local or subject specific) and large scale activities in approximately 50 Austrian secondary schools with the final aim to get a clear picture of the impact and effectiveness and of amendment/improvement needs of the ODS training approach in Austria. The community engagement activities will comprise open days at schools and educational institutions (Pedagogical Universities, University of Vienna) and ODS demonstrations at national conferences.

The major challenge at the third level will be to establish the Austrian ODS network in a sustainable ODS community. For this purpose the teachers will be encouraged – facilitated by the change agents – to participate in international trainings, events, and conferences. The second challenge will be to provoke long-term attitude changes towards the use of resource based learning in Austrian teachers and stakeholders. These issues will be addressed by a continuous validation

of teachers' and stakeholders' requirements and by the involvement of national curriculum developers.

To summarize, the main objectives of the Austrian approach are to extensively test the selected tools and pedagogical approaches with Austrian schools and training communities, to validate the applied technologies, resources, and pedagogies in a national and international school context, to establish an internationally active community of practice and to provoke through an effective change implementation strategy a long-term effect on the teaching practice in Austria.

#### 4. PLANNED OUTCOMES

At the heart of the ODS project to provide quality resources in the form of educational templates and an easy to use portal containing a range of artefacts and to provide guidance and assistance that will ultimately improve teacher practice and increase the inspiration for students to learn. The main emphasis of the ODS project and hence in the Austrian version is to create the conditions for learning [10] for which teachers are the main change agents.

In terms of resources, it is anticipated that Austrian teachers will have access through a new custom designed portal, to curriculum-based templates in a number of fields as well as other artefacts in German In terms of practice there is much anticipation.

In the first stage teachers from eMature schools will participate in developing scenarios and will be involved for the duration of the project. One of the hoped for outcomes is that part of their involvement will be to act as mentors to teachers who are involved in later stages of the project as well as involving other teachers and other schools of the ENIS network in providing extra assistance and possibly acting as hubs for eLearning practice.

The second and third stages involve the pilot and large-scale implementation respectively. The teachers in both stages model better pedagogical practices and trial and evaluate the newly developed curriculum scenarios. With greater assistance from the portal developers as well as assistance from the ENIS network and the Austrian consortium partner it is hoped that the objective of implementing and using the ODS material and practice will be adopted and built on in the individual schools.

Throughout the implementation and workshops activities research will be taking place that will provide a window on teacher opinions as to the efficacy of the various strategies and materials being used in the project at the national and international levels. Research shows [11] that data made available during the course of a study or project to enable modification of strategies and/or material creates greater confidence amongst teachers as to the quality of the material and the process. Teachers are more likely to use the resources and adopt processes if they have professional confidence [12] in the created

<sup>1</sup> [www.portal.organic-edunet.eu](http://www.portal.organic-edunet.eu)

<sup>2</sup> [www.osrportal.eu](http://www.osrportal.eu)

<sup>3</sup> [www.ld-skills.eu](http://www.ld-skills.eu)

system and once that confidence grows then teachers will not only use but contribute to the development of the system.

The anticipated legacy of this project is not just a repository of material with an accumulative set of reports to reflect the nature of the project but a vibrant and growing network of teachers articulating and developing learning practice. So in Austria, the repository not only remains active but it is used in an increasing manner as well as growing according to curriculum changes that necessitate resource modification and creation. Teachers also will be greater proponents of eLearning integrating the use of technology with pedagogical strategies.

Lastly, the conducted research will add to the existing body of educational data. The validation will provide further insight into the practice of integrating technology with eLearning strategies combined with the particular workshops that have been developed to assist teachers' professional development. The case studies will also provide further data on the practices of teachers considered to be competent eLearning practitioners. Their insight on the use of certain materials and strategies will prove useful in future planning of workshops and the development of technological resources and teaching materials.

## 5. SUMMATIVE DISCUSSION

There has been a slow realisation settle upon the education landscape that one singular aspect cannot renovate educational strategies, practices and policies. Over the last few years learning design has gained in popularity with the increasing realisation that learning is a purposeful act and so the material to drive and motivate learning should be developed with vision. Hence the integration of technology with particular pedagogical steps that are linked to specific curricula.

What is proposed in this paper is not only a three-fold strategy to implement a combination of pedagogical training strategies and a suite of resources nested in a custom portal but also a research practice that will validate the various processes at every stage in the project. The paper describes the research, training and validation mechanism and the importance of the assessment of each implementation stage of the ODS project. The main part outlines how the project will be approached in Austria reflecting the international ODS approach. Of course certain elements will differ between countries, items such as the use of the ENIS network will only happen in a few countries as well as the use of certain portals due to the historic educational development and use of these educational structures in Austria. However, the main precepts remain constant and the outcomes anticipated for Austria will be consistent for the entire project, which is to create a fertile learning environment designed to stimulate and inspire.

## ACKNOWLEDGEMENT

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