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**A vision to improve
European schools
towards 2030**

**- using the results
of the Open Discovery
Space project**

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Open School Learning

a vision to improve European schools towards 2030 – using the results of the Open Discovery Space project

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***Open School Learning** means engaging teachers, students, parents and policymakers to promote and realize more flexible and creative ways of schooling, through innovative scenarios, and sharing open educational practices and resources, using the unique approach for de-centralized and technology-enhanced communities championed by Open Discovery Space project.*

Open Discovery Space (ODS) focuses on the required modernisation of school education, based on the combination of **Open Education** and **Creative Classrooms** through the concept of **Open School Learning**. Open School Learning introduces and uses innovative scenarios, open educational practices and resources and can be realized through de-centralized and technology-enhanced communities. ODS cooperates since 2012 in a first of its kind effort with all school stakeholders to create a pan-European e-learning environment to promote more flexible and creative ways of learning. The project follows a unique approach to learning at school: supporting the development of self-esteem, an increased "sense of belonging", and an improved perception of one's own capacity to solve problems. In this approach, ODS addresses teachers as main target group and develops regional hubs, instruments and online services, which facilitate and improve Open School Learning and contribute to the "construction of the surrounding community".

1. The need for modernizing school education – the current situation

There are currently numerous education reform initiatives in Europe as policy makers try to make schools more effective and provide students an education that prepares them for life in the 21st century. Schools are being asked to increase the quality of education, notably by providing more students than in the past with advanced skills and the ability to be flexible thinkers and problem solvers. These reform initiatives vary and include: programmes to develop educational repositories with certified content; professional development opportunities to in-service teachers, networked laptop computers for all students, classrooms with interactive whiteboards to help make lessons come alive; wireless Internet access points in schools; large scale ambitious plans to remodel schools and create learning environments which inspire all young people to unlock their hidden talents and reach their full potential;

21st century work places for teachers; and provide access to facilities which can be used by all members of the local community.

All these efforts clearly serve – at different levels – the vision of Re-Schooling, towards schools as "Focused Learning Organisations" and "Core Social Centres", that is dynamic establishments in strong cultures of equity and consensus about their value, which follow system-wide, root-and-branch reform. This vision was elaborated back in 2004 by the International Schooling for Tomorrow Forum (OECD, 2004)⁴⁸. At the core of these reforms is an emphasis on 21st century teaching and learning in which eLearning and digital resources is not merely present, but is used in the most effective ways possible. In the OECD scenarios, schools are revitalised around a strong "knowledge" agenda, with far-reaching implications for the organisation of individual institutions and for the system as a whole. In the process of Re-Schooling (OECD, 2006)⁴⁹, eLearning and Open Educational Resources (OER) are fundamental support tools to allow educational establishments to comply with their central social function.

2. Open School Learning - Towards a vision for the 2030 European schools

By keeping the required integration and balance between learning innovation and well-proven educational approaches and designs, ODS promotes and realizes the concept of Open School Learning as the combination of Open Education and Creative Classrooms for opening up learning, contents and collaboration in the school sector to strengthen the learning of the students, the future citizens and finally the whole European society across all European countries and regions.⁵⁰ Thus, Open Discovery Space will support the vision of modernizing school education through Open Education and Creative Classrooms by technology-enhanced learning and online communities in particular by two major objectives identified as main requirements:

- Open Education: Improving the use of eLearning and Open Educational Resources
- Creative Classrooms: Developing a network of communities across Europe

Open Education - Improving the use of eLearning and Open Educational Resources

The fundamental barriers for Open Education are not technical or financial factors, but psychological, organizational and cultural. Powerful methods for scaling-up and transferring pilot implementations and for evolving the public's conceptions of learning and schooling are essential to take full advantage of the opportunities new technologies represent. The project is attempting to add its contribution to these ambitious goals and visions, by designing and developing a socially-empowered portal that will highlight significant opportunities and challenges for innovation enabling a more effective exploitation of the rich but disperse educational content available in the digital repositories across Europe. The work will focus on the exploitation of the learning context characteristics that educational resources are using and will propose methods for classifying and relating digital educational resources with the learning context of use. The proposed scheme enables practitioners to understand and

⁴⁸ OECD (2004), OECD Background Papers, International Schooling for Tomorrow Forum, June 6-8, 2004, Ontario, Canada.

⁴⁹ OECD (2006), Think Scenarios, Rethink Education – ISBN-92-64-02363-1 © OECD 2006.

⁵⁰ Stracke, Chr.M. (2012), "Learning Innovations and Learning Quality: Relations, Interdependences, and Future"; in: Stracke, Chr.M. (Ed.): *The Future of Learning Innovations and Learning Quality. How do they fit together?*, Berlin: Gito, p. 13-25. [also: www.learning-innovations.eu]

prioritize the challenges involved in the implementation of eLearning, design school-based change initiatives, and facilitates constructive dialogues and consensus building in the school community. From a content and pedagogical perspective, the Open Discovery Space learning environment will provide teachers with an access point to select resources (e.g., lesson materials, teaching plans) to support innovative forms of eLearning. The Open Discovery Space Educational Design will be based on the main components of Resource Based Learning: enabling contexts, resources, tools, and scaffolds. Taken together these components enable teachers to create and implement learning environments of considerable diversity and flexibility. The proposed methodology aims to optimise the use of learning content by linking supply-side (digital content and applications) with the demand-side (teachers, students and parents).

There are identified barriers to wide spread the adoption of OER⁵¹. Some schools have their own repositories and are disinclined to change them for new open repositories. The variety of European, national and regional OER repositories that have been started in recent years should be sustainable, both financially and technically. Therefore a funding model and a technical model are required for the repositories. A content model and a staffing model are also necessary⁵². The nature of contents is especially relevant, as long as proprietary formats can limit the adoption of ODS innovations. The staffing model has to be adapted to the actual schools that take part in the ODS experiences in the long term – bearing in mind that many existing structures may be indifferent to or even hostile to innovation and pioneering ICT innovations. The open and social federation of eLearning resource repositories of ODS can facilitate the required changes. The open access philosophy is based on open licensing modes for OER repositories, the use of open formats of eLearning resources, and their availability through open access protocols. The integration with social platforms can be helpful to foster the educational innovations that ODS teachers and schools will construct.

Creative Classrooms – Developing a network of communities across Europe

Although most of the European educational systems remain highly centralized, implementations of policies related to school modernization by innovation through online communities and technology-enhanced learning (often called eLearning) remain optional and allow for substantial discretion to the implementers, and for a "backward approach" leading to goal and role definitions in the field. In the light of such open-ended and general policies, practitioners at the micro level and local and regional communities of implementation they generate are crucial and critical for modernizing school education. ODS aims to establish and enhance such communities of implementation (a kind of community of practice). Communities of implementation will be regarded as self-reproducing, and evolving entities emerging within the school settings as a response to an externally developed policy. Various authors emphasize the importance of communities of practice for organizations (Lesser and Storck, 2001⁵³; Wenger, McDermott, and Snyder, 2002⁵⁴), and therefore communities of implementation are considered as a purposeful strategy for spreading innovations. ODS

⁵¹ D'Antoni, S. (2009), "Open Educational Resources: reviewing initiatives and issues". *The Journal of Open and Distance Learning*, Vol. 24, No. 1.

⁵² Downes, S. (2007), "Models for Sustainable Open Educational Resources". *Interdisciplinary Journal of e-Learning and Learning Objects*, Vol. 3, pp. 29-44.

⁵³ Lesser, E. and Storck, J. (2001), "Communities of practice and organisational performanc", *IBM Systems Journal*, Vol 40, No 4.

⁵⁴ Wenger, E., McDermott, R. & Snyder, W., (2002), *Cultivating Communities of Practice, A Guide to Managing Knowledge*, Harvard Business School Press, Boston Mass.

promotes local awareness raising and appropriate content development and use. The development and the establishment of a decentralized network of nodes will build upon and extend the work of the community of practice. And perhaps, more importantly, nodes will operate in the local language and culture to stimulate and enable development and use of eLearning resources as befits local need. Although nodes may act largely independently, those active in the node will have experiences and resources to share with the Open Discovery Space community, which will remain active as a platform for on-going interaction at the international level.

3. Conclusion: Reflections on the School of 2030

Our vision on the future of modernizing school education through Open Education and Creative Classrooms in 2030 is to facilitate Open School Learning, seamlessly by engaging all stakeholders and meeting the new challenges faced by EU, including economic and social threats. Open School Learning provides many advantageous characteristics:

- **Innovation:** Open School Learning will be innovative offering the best mix of different learning designs including e. g., inquiry-based collaboration, group work, online collaboration and communities but also teaching in front of the group if appropriate.
- **Policy:** There will be uniform, common, and at the same time locally adaptable educational policies across EU.
- **Quality:** The school systems will provide quality education at global level: Instead of classical lesson- and subject-oriented education the school education will be based on tailor-developed and adapted learning scenarios that can range from short units to overarching group work during several days and more.
- **Engagement:** Open School Learning will engage all stakeholders: The role of teachers will change to a mixture of facilitator, moderator, tutor and of course traditional teachers depending on the best approach and solution for the given situation and learning objective to engage the students.
- **Creativity support:** Open learning will enable creative thinking, competence and skill development, as well as creation of new knowledge in the classroom, transforming the school into a truly creative learning environment which is risk taking, open, and ever-improving and adaptive (to individual learners, local community, and social context).
- **Accessibility:** Educational materials of the highest quality and of new capabilities (highly interactive and learners' immersing and engaging) will be accessible seamlessly *to anyone at any place and any time*. Top-spec smart and personalised mobile devices, and high-end technology in general (including next-generation broadband internet access), will be mainstream and accessible for *use and ownership to anyone at any place*, to support seamless learning inside and outside of the school, as well as new - more effective and valuable - forms of learning, with active collaboration of the parents and the engagement of the local community.
- **Seamless learning:** Providing seamless integration between school- and home-based learning activities, providing a seamless learning experience for the students, supported by both teachers and parents. 'Seamless learning' occurs across formal, non-formal, and informal 'collaborative learning' settings activated in and out of the

‘connected’ school of 2030⁵⁵. Seamless School also includes the notion of ‘seamless integrated formative assessment’, which promotes self-awareness of learning path and achievement for all students, by means of new, formative forms of assessment capable of assessing new competences.

- Rich data for learning and decision support: The collection and processing of rich data on learner and teacher activities will provide useful information for learning, assessment and pedagogical decision making⁵⁶ (see TEL-Map School roadmap recommendations www.learningfrontiers.eu).
- Interoperability: OER will be interoperable with all systems, devices, technologies, standards and languages.
- Adaptability and usability: OER will be adaptable, easily useable and portable.
- Sustainability: Open School Learning will be sustainable economically and technologically using modern school and education models and technologies.
- Social responsiveness: Open learning in 2030 will meet the societal, socio-economic and market demands and provide equal education opportunities to all EU citizens, minimising social inequalities. High quality learning and education will be a freely available public good for all citizens.

ODS provides a gateway for the realisation of our 2030 Vision for Open School Learning:

The large-scale implementation of Open Discovery Space⁵⁷ (www.opendiscoveryspace.eu) aims to support the mainstreaming of eLearning in the EU Member States in school education and make a substantial contribution to major EU initiatives, including Digital Agenda for Europe (mainstreaming e-learning), Opening Up Education and Up-scaling Creative Classrooms in Europe. In the field of compulsory education, we believe that ICT can offer schools unprecedented opportunities to improve teaching and learning for students of every age. To date however, and despite several actions to harness this potential undertaken at EU and national levels over the years such efforts have suffered from fragmentation and short-termism.

In the near future such solutions will form part of the basic infrastructure of schools, which will be transparent "resource centres" open to the community, operating under a management structure geared to organising teaching and learning activities for and with the community. And in the distant future, ICT will most probably be used in radically different ways for everyday school activities, underpinned by the use of ubiquitous devices for developing structured curricular activities, sophisticated environments for remote collaboration and creative activities, and continuous seamless virtual presence of the learners and teachers in a highly dynamic, synergetic and collaborative educational nexus.

Thus, the classroom of 2030 will be a 'blended learning space' (made of physical space and virtual space), woven up together through technologies such as augmented reality, gesture-

⁵⁵ Taken from the definition of the TEL-Map School Roadmapping Group. [www.learningfrontiers.eu]

⁵⁶ See TEL-Map School roadmap recommendations. [www.learningfrontiers.eu]

⁵⁷ Policy Support Action “Open Discovery Space: A socially-powered and multilingual open learning infrastructure to boost the adoption of e-learning resources”, funded by the CIP-ICT-PSP-2011-5, Theme 2: Digital Content, Objective 2.4: e-learning Objective 2.4, 1/4/2012 – 31/3/2015, with a consortium of more than 50 partners across Europe.

based, cloud and mobile services. Individual profile will contain life-long story-telling data, which can be used to negotiate the learner's learning and can be shared with others. Learners will have access to distributed learning material (open repository of knowledge), a resource that will be shared by many other institutions. Teachers and learners will be co-creators and pro-sumers of learning resources.

Open School Learning will modernize school education by opening up education for the future generation of students and for all communities and societies across Europe.